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| **B.Ed. ODL PROGRAMME** |

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| **Programme Offerd from: 2003** | **AC Minutes: pont no. 03, Dated 04/05/2003** |

***Programme Objectives***

The Bachelor of Education (B.Ed.) Degree Programme to be conducted by the U.P.Rajarshi Tandon Open University, Prayaggraj through open and distance learning system shall aim to enable the untrained working teachers to achieve the following objectives-

1. To systematize experiences and strengthen the professional competency of in service teachers.
2. To imbibe the knowledge and develop understanding of various methods and approaches of organizing learing experiences of secondary school students.
3. To develop skills required in selection and organizing learning experiences.
4. To understand the nature of the learner and the learning processes.
5. To develop skills required for dealing of various academic and personal problems of the students.
6. To develop skills involved in dealing with the academic and personal problems of learners.
7. To acquire knowledge and develop understanding about the various procedures and techniques of evaluation and their classroom application.
8. To develop skills involved in selecting, developing and using evaluation tools
9. To provide knowledge and develop understaning about various aspects of school management.
10. To develop competencies for organizing verious instructional and student –support activities.
11. To develop an appereciation of the role of the teacher in the prevailing socio-cultural and political context in general and the educational system in particular.

***Programme Outcomes***

After completion of the Bachelor of Education (B.Ed.) ODL Programme the student teacher will be able-

**PO1:** To understand various methods and approaches of organizing learing experiences.

**PO2:** To explain the nature of the learner and the learning processes.

**PO3:** To select and use skills in organizing learning experiences.

**PO4:** To deal the academic and personal problems of learners.

**PO5:** To assess the learners performance.

**PO6:** To use the procedures and techniques of assessement and evaluation

**PO7:** To explain various aspects of school management.

**PO8:** To compare the role of teacher and other professions.

**PO9:** To recognize the role of teacher in socio-cultural and political context in general and the educational system in particular.

**PO10:** To demonstrate teaching competencies in teaching.

***Utility of the Programme***

* The skills, competencies and values may be enriched the prospect teachers of secondary level Education.
* The professional competency may be strengthen in In-service and Pre-service secondary teachers.
* The opportunities for Higher Education and Research in the field of Education may be arise.

***Job Opportunities***

* In the field of teaching at secondary level Education.
* In the field of Educational Administration.

***Social Effect***

* It is a most popular Programme in the field of Teaching and Learning.

**Structer of the Programme**

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| ***Semester*** | ***Paper Nature*** | **Paper Code** | **Title of the Paper** | **Credit** | **Marks** |
| ***First Semester*** | Theory Compulsory | B.Ed. E-01 | Childhood and Growing Up | 8 | 100 |
| B.Ed. E-02 | Contemporary India and Education | 8 | 100 |
| B.Ed. E-03 | Assessment for Learning | 8 | 100 |
| Practical | B.Ed. EPC-I | Reading and Reflecting on texts | 4 | 50 |
| ***Second Semester*** | Theory Compulsory | B.Ed. E-04 | Learning and Teaching | 8 | 100 |
| B.Ed. E-05 | Language across the Curriculum | 4 | 50 |
| B.Ed. E-06 | Understanding Disciplines and Subjects | 4 | 50 |
| Theory Elective  (Any one) | B.Ed. E-21 | Vocational Education and Work Education | 8 | 100 |
| B.Ed. E-22 | Health and Physical Education | 8 | 100 |
| B.Ed. E-23 | Peace Education | 8 | 100 |
| B.Ed. E-24 | Guidance and Counseling | 8 | 100 |
| Practical | B.Ed. EPC-II | Drama and Art in Education | 4 | 50 |
| ***Third Semester*** | Theory Compulsory | B.Ed. E-07 | Creating an Inclusive School | 8 | 100 |
| B.Ed. E-08 | Knowledge and Curriculum- I | 4 | 50 |
| B.Ed. -0E9 | Knowledge and Curriculum- II | 4 | 50 |
| Theory Elective-I  (Any one) | B.Ed. E-31 | Pedagogy of Hindi | 4 | 50 |
| B.Ed. E-32 | Pedagogy of English | 4 | 50 |
| B.Ed. E-33 | Pedagogy of Mathematics | 4 | 50 |
| B.Ed. E-34 | Pedagogy of Biological Science | 4 | 50 |
| Theory Elective-II  (Any one) | B.Ed. E-41 | Pedagogy of Social Studies | 4 | 50 |
| B.Ed. E-42 | Pedagogy of Physical Sciences | 4 | 50 |
| B.Ed. E-43 | Pedagogy of Commerce | 4 | 50 |
| B.Ed. E-44 | Pedagogy of Home Science | 4 | 50 |
| Practical | B.Ed. EPC-III | Understanding ICT | 4 | 50 |
| ***Fourth Semester*** | Theory Compulsory | B.Ed. E10 | Gender, School and Society | 4 | 50 |
| Practical | EPC-IV | Understanding the Self | 4 | 50 |
| B.Ed. EPC-V | School Internship | 20 | 250 |

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| **COURSE CONTENTS** |

**B Ed E-01: Childhood and Growing Up**

***Course Outcomes***

After completion of this course the learner will be able –

**CO1 :** To understand the process of human development.

**CO2 :** To explain theoretical perspectives and dimensions of human development

**CO3 :** To recognize individual differences among the learners

**CO4 :** To Understand the various of variable of psychology

**CO5 :** To analyse the implications of group psychology

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| **Block** | **Unit** | **Title** |
| **1**  **Basics of Educational Psychology** | 1 | Educational Psychology : Meaning and Concepts |
| 2 | Schools and Methods of Educational Psychology |
| 3 | Principles and Stages of Growth and Development |
| **2**  **Psychology of Development** | 4 | Physical and Emotional Development |
| 5 | Cognitive and Language Development |
| 6 | Social and Moral Development |
| **3**  **Intelligence, Personality and Creativity** | 7 | Intelligence : Concept, Theories and Measurement |
| 8 | Personality : Concept, Theories and Measurement |
| 9 | Creativity : Concept and Measurement |
| **4**  **Motivation, Memory and Conflict** | 10 | Thinking, Reasoning and Problem Solving |
| 11 | Remembering, Forgetting, Habit Formation and Discipline |
| 12 | Tension, Frustration and Conflict |
| **5**  **Exceptional Child, Mental Health and Group Psychology** | 13 | Exceptional Children |
| 14 | Mental Health & Hygiene and Adjustment |
| 15 | Group Psychology |

**B Ed E-02: Contemporary India and Education**

***Course Outcomes***

After completion of this course the learner will be able –

**CO1 :** To understanding the philosophy and educational views of Indian and Western thinkers

**CO2 :** To appreciate the unity and strengths of Indian diversities.

**CO3 :** To acquire knowledge about the salient features of Indian Constitution.

**CO4 :** To explain the various educational issues in contemporary India.

**CO5 :** To appraise about the policy initiatives taken in educational reforms in India.

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| **Block** | **Unit** | **Title** |
| **1**  **Educational Development** | 1 | Meaning and Concept of Education : Ancient to Present |
| 2 | National System of Education : Role of State-Centre |
| 3 | Constitutional Provisions of Education |
| **2**  **Indian Educational Thinkers** | 4 | Educational Thoughts of Gandhi and Tagore |
| 5 | Educational Thoughts of Aurobindo and Vivekanand |
| 6 | Educational Thoughts of Krishnamurti and Gijju Bhai |
| **3**  **Schools of Educational Philosophy** | 7 | Indian Philosophical Ideas |
| 8 | Idealism and Naturalism |
| 9 | Realism, Pragmatism and Existentialism |
| **4**  **Contemporary Issues of Education** | 10 | Universalization of Elementary and Secondary Education |
| 11 | Education for development of Responsible Citizens |
| 12 | Education for Conservation of Environment |
| **5**  **Quality in Education** | 13 | Quality in Education : Meaning, Indicators and Standards for Performance |
| 14 | Liberalization, Privatization and Globalization in Education |
| 15 | Enhancement of Quality in Secondary Education |

**B Ed E-03: Assessment for Learning**

***Course Outcomes***

After completion of this course the learner will be able –

**CO1 :** To explain the concepts of measurement assessment and evaluation.

**CO2 :** To understand the various issues in assessment and evaluation.

**CO3 :** To elaborate different kinds and forms of assessment of learning.

**CO4 :** To applieda wide range of assessment tools.

**CO5 :** To analyse Policy Perspective and Trend in Assessment.

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| **Block** | **Unit** | **Title** |
| **1**  **Perspectives of Assessment** | 1 | Meaning and Concepts of Assessment, Measurement and Evaluation |
| 2 | Purposes of Assessment |
| 3 | Classification of Assessment |
| **2**  **Programme for Assessment** | 4 | Taxonomies of Educational Objectives |
| 5 | Behavioral Objectives |
| 6 | Construction of Assessment Programme |
| **3**  **Tools and Techniques for Assessment** | 4 | Techniques and Tools for Assessment |
| 5 | Assessment Devices |
| 6 | Qualities of a Good Measuring Tool |
| **4**  **Tests and its Standardization** | 10 | Tests and Types of Tests Items |
| 11 | Construction of Achievement Test |
| 12 | Processing and Reporting Students Performance |
| **5**  **Existing Practices and Issues of Assessment** | 13 | Grading and Scaling |
| 14 | Problems and Issues of Examination |
| 15 | Policy Perspective and Trend in Assessment |

**B Ed E-04: Learning and Teaching**

***Course Outcomes***

After completion of this course the learner will be able –

**CO1 :** To understand the concept of learing and various leaning theorise.

**CO2 :** ToAcquired understanding the Factors of Influencing Learning.

**CO3 :** To explain the concept of teaching from various perspectives.

**CO4 :** To illustrated variousApproaches of Learning

**CO5 :** To analyse teaching strategies to address diversity of students in a classroom.

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| **Block** | **Unit** | **Title** |
| **1**  **Understanding**  **Learning** | 1 | Learning: Concept, Nature, Types |
| 2 | Learning Theories of Skinner and Pavlov |
| 3 | Learning Theories of Thorndike, Koehler and Gagne |
| **2**  **Factors Influencing Learning** | 4 | Factors Influencing Learning |
| 5 | Transfer of learning |
| 6 | Approaches of Learning |
| **3**  **Nature of Teaching** | 7 | Teaching: Concept, Levels and Phases |
| 8 | Teaching skills and Micro Teaching |
| 9 | Teachers’ Roles and functions in the phases of teaching |
| **4**  **Approaches and strategies of Teaching** | 10 | Learner centric approaches |
| 11 | Teachers centric strategies |
| 12 | Group centric approaches and strategies |
| **5**  **Teaching organizing of Learning Process** | 13 | Planning and Decision making in Teaching |
| 14 | Issues and concerns in classroom learning |
| 15 | Maxim of teaching, Issues of Media and Professionalism. |

**B Ed E-05: Language across the Curriculum**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand the Origin and Development of Language

**CO2:** To understand various medium of instruction of language

**CO3:** To differentiate Various Language issues in classroom

**CO4:** To generalized Various Skills of Language diversity in classroom.

**CO5:** To analyse the nature of classroom interaction.

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| **Block** | **Unit** | **Title** |
| 1  **Origin and Development of Language** | 1 | Origin of Indian Language |
| 2 | Development of Language |
| 3 | Norms of Standard Language |
| **2**  **Instructional Language** | 4 | National and Regional Language |
| 5 | Medium of Instruction |
| 6 | Three Language formula |
| **3**  **Understanding the Language** | 7 | Language diversity in classroom |
| 8 | Language Proficiency |
| 9 | Language issues in schools |
| **4**  **Skills of Language** | 10 | Reading and Writing Skills |
| 11 | Listening and Speaking Skills |
| 12 | School of Writing |
| **5**  **Understanding the nature of classroom interaction** | 13 | Communication Skills in Language |
| 14 | Classroom Interaction |
| 15 | Use of ICT in Classroom |

**B Ed E-06: Understanding Disciplines and Subjects**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand theNature and Role of Discipline**.**

**CO2 :** To analyze the School curriculum in Languages.

**CO3 :** To analyze the School curriculum in Social sciences

**CO4 :** To analyse School curriculum in Sciences

**CO5 :** To analyse School curriculum in MATHMETICS

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| **Block** | **Unit** | **Title** |
| **1**  **Nature and Role of Discipline Knowledge** | 1 | Nature of Disciplines |
| 2 | Role of Disciplines in Knowledge Development |
| 3 | Paradigm shift in Disciplines |
| **2**  **Analysis of School curriculum in Languages** | 4 | Salient features of School Curriculum in Languages |
| 5 | Methods of Languages |
| 6 | Relevance of Languages in School Curriculum |
| **3**  **Analysis of School curriculum in Social sciences** | 7 | Salient features of School Curriculum in Social Sciences |
| 8 | Methods of Social Sciences |
| 9 | Relevance of Social Sciences in School Curriculum |
| **4**  **Analysis of School curriculum in Sciences** | 10 | Salient features of School Curriculum in Sciences |
| 11 | Methods of Sciences |
| 12 | Relevance of Sciences in School Curriculum |
| **5**  **Analysis of School curriculum in Mathematics** | 13 | Salient features of School Curriculum in Mathematics |
| 14 | Methods of Mathematics |
| 15 | Relevance of Mathematics in School Curriculum |

**B Ed E-21: Vocational and Work Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand of vocational education & its relevance.

**CO2 :** To analyse vocational assessment and make vocational training plan.

**CO3 :** To explain plan for transition from School to job.

**CO4 :** To classify various avenues for job placement.

**CO5 :** To facilitate in making choice of vocational trades.

**CO6 :** To acquire the concept of independent living and empowerment.

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| **Block** | **Unit** | **Title** |
| **1**  **Vocational Education** | 1 | Vocational Education; Nature, Relevance and Types |
| 2 | Scope and Need for Vocational Education |
| 3 | Agencies for Vocational Education |
| **2**  **Work Education** | 4 | Nature of work Education |
| 5 | Principles of Work Education |
| 6 | SUPW |
| **3**  **Vocational and Work Education** | 7 | Identification of Vocation and Work |
| 8 | Selection of Vocation and Work |
| 9 | Follow –up |
| **4**  **Role of School in vocational & work Education** | 10 | Career Information |
| 11 | Career Guidance |
| 12 | Training for Special Groups |
| **5**  **Recent trends of Vocational and work education** | 13 | Role of other Agencies |
| 14 | Employment Bureau/Schemes of self employment/ Placement Services |
| 15 | Recent trends of Vocation and Work Education |

**B Ed E-22: Health and Physical Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the concept of holistic health, its various dimensions and determinants

**CO2 :** To develop positive attitude towards health and physical education as individual.

**CO3 :** To sensitise, motivate and help them to acquire the skills for physical fitness, learn correct postural habits and activities.

**CO4 :** To understand various policies and programmes related to health and physical education.

**CO5 :** To create interest for the practice of yogasanas and meditations.

**CO6 :** To use the process of assessment of health and physical fitness.

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| **Block** | **Unit** | **Title** |
| **1**  **Health and Hygiene** | 1 | Health: Meaning, Types and Factors Influencing Health |
| 2 | Health Indicators an Technique |
| 3 | Hygiene: Meaning, Scope and Importance |
| **2**  **Health Education** | 4 | Health Education: Meaning, Scope and Need |
| 5 | Objectives and Curriculum of Health Education |
| 6 | Methods and Techniques of Health Education |
| **3**  **Food and Nutrition** | 7 | Health and Nutrition |
| 8 | Diet Therapy |
| 9 | Advanced Nutrition, Recommended, Dietary Allowances |
| **4**  **Health services** | 10 | Public health: Nature, scope, Significance and Types |
| 11 | Community Nutrition |
| 12 | Health Programmes- Prevention from Community Diseases |
| **5**  **Physical Education** | 13 | Physical Exercise in Schools |
| 14 | Meditation & Yogic Asans |
| 15 | Martial Arts |

**B Ed E-23: Peace Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the Concept and Relevance of Peace Education in India.

**CO2 :** To develoPositive attitude towards Promotion of Peace for Social Security

**CO3 :** To understand various policies and programmes related to Peace education.

**CO4 :** To understand sensitise, motivate and help in Society for Peace

**CO5 :** To create interest for the practice of major issues in Education for Peace

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| **Block** | **Unit** | **Title** |
| **1**  **Concept and Relevance of Peace Education** | 1 | Peace Education: Meaning, Relevance and Significance of Peace Education |
| 2 | Historical Perspective of Peace Education |
| 3 | Indian Perspective in Peace Education |
| **2**  **Dangers to Social Security** | 4 | Terrorism, Wars and Naxalism |
| 5 | Natural Calamities |
| 6 | Promotion of Peace for Social Security |
| **3**  **Education for Peace** | 7 | Meaning and Concept of Difference in Education for Peace |
| 8 | Strategies for Education for Peace |
| 9 | International Efforts for Peace Education |
| **4**  **Role of teacher in Education for Peace** | 10 | Role of Teacher in the Context of Education for Peace |
| 11 | Need for sensitizing learner for peace |
| 12 | Role of Media in Peace Education |
| **5**  **Major issues in Education for Peace** | 13 | Legal aspects of Peace Education |
| 14 | Factors influencing Education for Peace |
| 15 | Training of Teachers for Education for Peace |

**B Ed E-24: Guidance and Counseling**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the skills of guidance and counseling in classroom situations.

**CO2 :** To describe the process of development of self-image and self-esteem.

**CO3 :** To appreciate the types and issues of counseling and guidance in inclusive settings.

**CO4 :** To acquaint the aims of vocational guidance and career counseling programme.

**CO5 :** To develop the understanding of various procedures of organizing various vocational guidance and career counseling services.

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| **Block** | **Unit** | **Title** |
| **1**  **Nature and Scope of Guidance** | 1 | Guidance; Meaning, Scope, Need and Significance |
| 2 | Psychological Basis of Guidance |
| 3 | Models of Guidance |
| **2**  **Types of Guidance** | 4 | Personal Guidance |
| 5 | Vocational Guidance |
| 6 | Educational Guidance |
| **3**  **Basis of Counseling** | 7 | Meaning and Approaches to counseling |
| 8 | The Counselor |
| 9 | Types of counseling |
| **4**  **School Guidance and counseling services** | 10 | Theories of Guidance and Counseling |
| 11 | School Guidance and counseling services |
| 12 | Guidance and counseling at various stages of schools |
| **5**  **Recent trends in guidance and counseling** | 13 | Follow-up Services |
| 14 | Use of ICT |
| 15 | Guidance and Counseling for special groups |

**B Ed E-07: Creating an Inclusive School**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the meaning and significance of Inclusive education

**CO2 :** To achive knowledge on Policy and legislative frameworks promoting inclusion

**CO3 :** To create inclusive classrooms and use inclusive pedagogy

**CO4 :** To understand the linkages and collaborations for resource mobilization.

**CO5 :** To better understanding about inclusive school

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| **Block** | **Unit** | **Title** |
| **1**  **Introduction to Inclusive Education** | 1 | Marginalization vs Inclusive Education, Segregation and Integrations |
| 2 | Principles of Inclusive Education and Diversity in Classroom |
| 3 | Barriers to inclusive Education |
| **2**  **Policies & Frameworks Facilitating Inclusive Education** | 4 | Universal Declaration of Human Rights |
| 5 | International Conventions and Frameworks |
| 6 | National policies, Programmes, Acts and Commission |
| **3**  **Adaptations, Accommodations and Modifications** | 7 | Meaning, Difference, Needs and Steps |
| 8 | Children with Sensory, Neuro-developmental, Loco Motor & Multiple Disabilities |
| 9 | Gifted Children |
| **4**  **Inclusive Academic Instructions** | 10 | Universal Design for learning |
| 11 | Differentiated and Peer Mediated instructions |
| 12 | ICT for instructions |
| **5**  **Supports and Collaborations for Inclusive Education** | 13 | Stakeholders of Inclusive Education, Advocacy & Leadership for Inclusion |
| 14 | Family & Community support involvement for Inclusion |
| 15 | Resource Mobilization for Inclusive Education |

**B Ed E-08: Knowledge and Curriculum- I**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the Philosophical Perspective of Knowledge

**CO2 :** To develop Construction process of Knowledge

**CO3 :** To defferatiate the knowledge, aulturaly, symbols, values and child-friendly in pedagogy.

**CO4 :** To Aquired Knowledge of Inclusion and Exclusion of Different Social Groups in Curriculum.

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| **Block** | **Unit** | **Title** |
| **1**  **Understanding the Knowledge** | 1 | Knowledge- Concept, Nature and its Kinds |
| 2 | Sources of Knowledge |
| 3 | Methods of obtaining Knowledge |
| **2**  **Philosophical Perspective of Knowledge** | 4 | Metaphysics - Meaning, Concepts and it Implication in Education |
| 5 | Epistemology - Meaning, Concepts and it Implication in Education |
| 6 | Axiology - Meaning, Concepts and it Implication in Education |
| **3**  **Construction of Knowledge** | 7 | Paradigm Shift of Knowledge |
| 8 | Knowledge and Pedagogy: Constructivist, Alternative and Blended |
| 9 | Construction process of Knowledge |
| **4**  **Educationa and Knowledge** | 10 | The Four Pillars of Education (Delores Commission Report) |
| 11 | Futurology of Education |
| 12 | Creators of Knowledge |
| **5**  **Knowledge and Power** | 13 | Sociological Perspective of Knowledge |
| 14 | Inclusion and Exclusion of Knowledge of Different Social Groups in Curriculum |
| 15 | Role of Education to Remove Diversities |

**B Ed E-09: Knowledge and Curriculum- II**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the basic concepts and process of curriculum

**CO2 :** To analyze text books objectives of education and learning outcome.

**CO3 :** To analyze various curriculum framework related to teacher education

**CO4 :** To organized the Curriculum Engagement and Transduction

**CO5 :** To understand Curriculum Evaluation and Research

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| **Block** | **Unit** | **Title** |
| **1**  **Curriculum and Related Concepts** | 1 | Curriculum: Meaning, Nature, Need and Types |
| 2 | Differences between (i)Curriculum, Syllabus and Content (ii)Teaching and Instruction (iii)Text Books and Reference Books (iv)Supplementary Books and Work Books |
| 3 | Curriculum Determinants |
| **2**  **Critical Appraisal of Curriculum** | 4 | National Curriculum Framework- 2005 (NCF 2005) |
| 5 | National Curriculum Framework for Teacher Edcuation-2009 (NCFTE 2009) |
| 6 | International Consideration for Curriculum Development |
| **3**  **Curriculum Planning** | 7 | Curriculum Planning: Concept, Need and Objectives |
| 8 | Approaches of Curriculum |
| 9 | Models of Curriculum |
| **4**  **Curriculum Engagement and Transduction** | 10 | Role of School philosophy for Curriculum Engagement |
| 11 | Infrastructural Support and Curriculum Engagement |
| 12 | Curriculum Transduction |
| **5**  **Curriculum Evaluation and Research** | 13 | Curriculum Evaluation |
| 14 | Contemporary Issues of Curriculum |
| 15 | Research in Curriculum |

**B Ed E-31: Pedagogy of Hindi**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To explain the contributiuon of language in the development of individual and society development.

**CO2 :** To identify the skills of using Hindi language.

**CO3 :** To understand behavioural objective of Hindi teaching

**CO4 :** To develop unit plan and lesson planning.

**CO5:** To comptent to use various teaching methods and techniques

**CO6 :** To use various techniques to evaluate the achievement of the learner in Hindi language.

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| **Block** | **Unit** | **Title** |
| **1**  **fgUnh Hkk’kk ds vk/kkj** | 1 | fgUnh Hkk’kk dh izd`fr vkSj izdk;Z |
| 2 | fgUnh Hkk’kk dh vf/kxe izfØ;k |
| 3 | fo|ky;h Lrj ij fgUnh Hkk’kk dh ikB~;p;kZ ,oa mlesa lq/kkj |
| **2**  **fgUnh Hkk’kk f”k{k.k ds fy, O;wg jpuk& izFke** | 4 | fgUnh ds Hkkf’kd rRo |
| 5 | Jo.k ,oa ekSf[kd vfHkO;fDr ds dkS”ky dk fodkl |
| 6 | iBu ;ksX;rk ,oa fyf[kr vfHkO;fDr dkS”ky dk fodkl |
| **3**  **fgUnh Hkk’kk f”k{k.k ds fy, O;wg jpuk& f}rh;** | 7 | dfork f”k{k.k |
| 8 | x| dh vU; fo/kkvksa dk f”k{k.k |
| 9 | O;kdj.k f”k{k.k |
| **4**  **fgUnh Hkk’kk vf/kxe dk ewY; fu/kkZj.k** | 10 | Hkk’kk lEizkfIr ewY;kadu |
| 11 | Hkk’kk ijh{k.k ,oa ijh{k.k inksa dh jpuk |
| 12 | funkukRed ,oa mipkjkRed dk;Z |
| **5**  **fgUnh Hkk’kk eas vf/kxe lalk/ku** | 13 | vf/kxe lalk/ku% vFkZ] izdkj] dk;Z] fuekZ.k ,oa mi;ksx |
| 14 | Hkk’kk iz;ksx”kkyk vkSj Hkk’kk f”k{kd |
| 15 | fØ;kRed “kks/k vkSj leqUu;u dk;Z |

**B Ed E-32: Pedagogy of English**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the principles of language teaching, evolution and trends in English literature.

**CO2 :** To prepare an instructional plan in English.

**CO3 :** To adapt various approaches and methods to teach English language.

**CO4 :** To use various techniques to evaluate the achievement of the learner in English.

**CO5 :** To know the criteria of good book of English.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of English Language** | 1 | Nature of English Language |
| 2 | Learning of English Language |
| 3 | Curriculum Reforms in School English Language |
| **2**  **Strategies for Teaching English Language-1** | 4 | Teaching of Listening |
| 5 | Developing Speaking/ Oral Activities |
| 6 | Speaking Activities and Listening Comprehensive |
| **3**  **Strategies for Teaching English Language -II** | 7 | The Reading Process and Developing Reading Skills |
| 8 | Teaching Writing and Study Skills |
| 9 | Teaching Grammar |
| **4**  **Assessment of and for English Language Learning** | 10 | Stating Measurable Objectives |
| 11 | Construction of Test Items and Test |
| 12 | Diagnosing and Remedial Work in English Language Teaching |
| **5**  **Learning Resource in English Language** | 13 | Meaning, Types, function, Preparation and Utilization of Learning Resources |
| 14 | Text Book, Drama, Debate and Speech Programme |
| 15 | Language Laboratory and English Language Teacher |

**B Ed E 33: Pedagogy of Mathematics**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To Explain the nature of Mathematics and its historical development with contribution of Mathematicians.

**CO2:** To describe the aims and objectives of teaching Mathematics at school level.

**CO3:** To demonstrate and apply skills to select and use different methods of teaching Mathematics.

**CO4:** To demonstrate competencies of planning for teaching Mathematics, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.

**CO5:** To demonstrate skills to design and use various evaluation tools to measure learner achievement in Mathematics.

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| **Block** | **Unit** | **Title** |
| **Block- 1**  **Foundations of Mathematics** | 1 | Nature of Mathematics |
| 2 | Learning of Mathematics, Psychology of Learning and Teaching of Mathematics Constructivism and Enactivisms |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Mathematics |
| **Block- 2**  **Strategies for Teaching Mathematics-I** | 4 | Teaching of Mathematical Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Mathematics in Groups, Group Work and Cooperative or Collaborative Strategies |
| **Block- 3**  **Strategies for Teaching Mathematics-II** | 7 | Teaching for Understanding Proof |
| 8 | Teaching Problem Solving in Mathematics, Definition and Importance |
| 9 | Problem Solving in Algebra and Geometry |
| **Block- 4**  **Assessment of and for Mathematics Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Proof |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **Block- 5**  **Learning Resource in Mathematics** | 13 | Learning Resources; Meaning, Types Preparation and Utilization of Resources |
| 14 | Text Book, Calculators, Models and Computers, Graphic Calculators |
| 15 | The Mathematics Laboratory, Mathematics Outside and in the Classroom |

**B Ed E-34: Pedagogy of Biological Science**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To explain the role of science in day to day life and its relevance to modern society.

**CO2 :** To describe the aims and objectives of teaching science at school level.

**CO3 :** To demonstrate and apply skills to select and use different methods of teaching the content of sciences.

**CO4 :** To demonstrate competencies of planning for teaching sciences, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.

**CO5 :** To demonstrate skills to design and use various evaluation tools to measure learner achievement in sciences.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Biological Sciences** | 1 | Nature of Biological Sciences |
| 2 | Learning of Biological Sciences, Psychology of Learning and Teaching of Biological Sciences, Constructivism and Enactivism |
| 3 | Curriculum Reforms; Aims and objectives of Teaching Biological Sciences |
| **2**  **Strategies for Teaching Biological l Sciences -I** | 4 | Teaching of Biological Sciences Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Biological Sciences in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Biological Sciences -II** | 7 | Co-Curricular and Non Formal Approaches in Biological Science Learning |
| 8 | Programmed Instruction in Biological Science Learning |
| 9 | New Approaches in Biological Science Teaching |
| **4**  **Assessment of and for Biological Sciences Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items For Assessing of Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Constructions of Question Paper |
| **5**  **Learning Resource in Biological Sciences** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Biological Sciences Laboratory, Biological Sciences Outside And in the Classroom |

**B Ed E-41: Pedagogy of Social Studies**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of social science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for social science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective social science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting social science learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Social Studies** | 1 | Nature of Social Studies |
| 2 | Learning of Social Studies, Psychology of Social Studies, Learning and Teaching of Social Studies, Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Social Studies |
| **2**  **Strategies for Teaching Social Studies -I** | 4 | Teaching of Social Studies Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Social Studies in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Social Studies-II** | 7 | Co-Curricular and Non Formal Approaches in Social Studies Learning |
| 8 | Programmed Instruction in Social Studies Learning |
| 9 | New Approach in Social Studies Teaching |
| **4**  **Assessment of and for Social Studies** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print,  Construction of Question Paper |
| **5**  **Learning Resource in Social Studies** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Social Studies Laboratory, Social Studies Out Side and in the Classroom |

**B Ed E-42: Pedagogy of Physical Science**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of physical science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for physical science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective physical science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting physical science learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Physical Sciences** | 1 | Nature of Physical Sciences |
| 2 | Learning of Physical Sciences, Psychology of Learning and Teaching of Physical Sciences, Constructivism and Enactivism |
| 3 | Curriculum Reforms; Aims and Objectives of Teaching Physical Sciences |
| **2**  **Strategies for Teaching Physical Sciences -I** | 4 | Teaching of Physical Sciences Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Physical Sciences in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Physical Sciences -II** | 7 | Co-Curricular and Non Formal Approaches in Physical Science Learning |
| 8 | Programmed Instruction in Physical Science Learning |
| 9 | New Approaches in Physical Science Teaching |
| **4**  **Assessment of and for Physical Sciences Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing of Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Test Constructions and Question Paper |
| **5**  **Learning Resource in Physical Sciences** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Physical Sciences Laboratory, Physical Sciences Outside and in the Classroom |

**B Ed E-43: Pedagogy of Commerce**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of commerce.

**CO2:** To understand the function of commerce.

**CO3:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for commerce teaching.

**CO4:** To develop skills in preparation and use of support materials for effective commerce teaching.

**CO5:** To develop the ability to organize co-curricular activities and community resources for promoting commerce learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Commerce** | 1 | Nature of Commerce |
| 2 | Learning of Commerce, Psychology of Learning and Teaching of Commerce Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Commerce |
| **2**  **Strategies for Teaching**  **Commerce -I** | 4 | Teaching of Commerce Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Commerce in Groups, Group work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching**  **Commerce -II** | 7 | Co-Curricular and Non Formal Approaches in Commerce Learning |
| 8 | Programmed Instruction in Commerce Learning |
| 9 | New Approach in Commerce Teaching |
| **4**  **Assessment of and for Commerce Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method. |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching. |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **5**  **Learning Resource in Commerce** | 13 | Learning Resources Meaning, Types Preparation and Utilization of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | Commerce Laboratory, Commerce Out side and in the Classroom |

**B Ed E-44: Pedagogy of Home Science**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of home science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for home science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective home science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting home science learning.

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| **Block** | **Unit** | **Title** |
| **Block- 1**  **Foundations of Home Science** | 1 | Nature of Home Science |
| 2 | Learning of Home Science, Psychology of Learning and Teaching of Home Science, Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objective, of Teaching Home Science |
| **Block- 2**  **Strategies for Teaching Home Science-I** | 4 | Teaching of Home Science Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Home Science in Groups, Group Work and Cooperative or Collaborative Strategies |
| **Block- 3**  **Strategies for Teaching Home Science-II** | 7 | Co-Curricular and Non Formal Approaches in Home Science Learning |
| 8 | Programmed Instruction in Home Science Learning |
| 9 | New Approach in Home Science Teaching |
| **Block- 4**  **Assessment of and for Home Science Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **Block- 5**  **Learning Resource in Home Science** | 13 | Learning Resources; Meaning, Types, Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Home Science Laboratory, Home Science Outside and in the Classroom. |

**B Ed E-10: Gender, School and Society**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand familiarity with key concepts related gender issue.

**CO2:** To know about policies, plans and schemes of the government for addressing all forms of disparities and inequalities existing in the society

**CO3:** To understand gender issues in curriculum, school and society.

**CO4:** To explain gender based violence in society and evolve strategies for addressing it.

**CO5:** To promoting the gender equity in society.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Gender: Concepts and Issues** | 1 | Concepts of Gender, Sex and Sexuality, Types of Gender |
| 2 | Equity and Equality in Education with Respect to Gender |
| 3 | Gender Bias: Concept, Factors and Remedies for Removing Gender Bias |
| **2**  **Gender Studies: Paradigm Shift** | 4 | Historical Perspective of Gender Studies |
| 5 | Theories of Gender Studies |
| 6 | Factors Influencing Paradigm Shift in Gender Studies |
| **3**  **Gender, Power and Education** | 7 | Gender Identities and Social Practices |
| 8 | Inequalities in Education of Girls |
| 9 | Legal Right for Women |
| **4**  **Gender Issues in Curriculum** | 10 | Gender Disparities in Curriculum |
| 11 | Gender Equality in School: Need and strategies |
| 12 | Committees and Commissions on Women Education |
| **5**  **Woman Empowerment** | 13 | Concept, Strategies and Issues of Women Empowerment |
| 14 | Current Social Structure and Girls Education |
| 15 | Role of Education and Society in Woman Empowerment |

**B.Ed. ODL Practicals**

***First Semester***

**B Ed EPC-01: Reading and Reflecting on texts**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To read and respond to written texts in a right way.

**CO2:** To examine and appreciate authentic literary and non-literary texts.

**CO3:** To develop study and reference skills

**CO4:** To reflect his/her thoughts on the ideas expressed in the texts.

**CO5:** To demonstrate plan, draft, edit and present a piece of writing.

**Required Activities**

All the activities will be recorded in practical files.

1. Collect two views/articles from news papers/magazines on burning issues of education and write your comments on each collected article or views.
2. Review of any education related books or autobiography of some educationist

***Second Semester***

**B Ed EPC-02: Drama and Art in Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To find basics differences in art and drama.

**CO2:** To discriminate artistic and aesthetic sensibility.

**CO3:** To judge the beauty in different art forms, through genuine exploration, experience and free expression.

**CO4:** To develop skills for integrating different art forms across school curriculum.

**CO5:** To site the rich cultural heritage of the country.

**Required Activities**

All the activities will be recorded in practical files.

1. Students will write an essay on the local culture and art forms/ famous educational T V shows
2. Prepare a report of Cultural Activities/ Visit to a art gallery, exhibition and cultural festivals

***Third Semester***

**B Ed EPC-03: Understanding ICT**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explained the basics concept of ICT.

**CO2:** To demonstrate the main components of the computer hardware.

**CO3:** To use the computer and its applications in his/her teaching-learning activitis.

**CO4:** To construct of ICT based Teaching Aids.

**CO5:** To use the ICT in measurement and evaluation.

**Required Activities**

All the activities will be recorded in practical files. The list of acitivites is as follows:-

Understanding Basics of ICT, Basic Structure of Computer and Operating Computer

1. MS Word-Creating, Opening and Saving Documents
2. Preparation of Excel Sheets, Power Point Presentation
3. Editing and Formatting Text, Viewing and Formatting and Proofing a Documents
4. Installation of Software, Antivirus etc.
5. Data Storage
6. Use of MS Word, Excel and Access in Education
7. Using Internet
8. Computer, Networks, Distributed Processing
9. Preparation of ICT Based Teaching Aids

***Fourth Semester***

**B Ed EPC-04: Understanding the Self**

***Course Outcomes:***

After completion of this course the learner will be able

**CO1:** To explain the concepts of self and identity.

**CO2:** To develop his/her understanding of self.

**CO3:** To use Soft Skills in his/ her life.

**CO4:** To organize different programmes for Conservation of Environment and health consciousness.

**CO5:** To appreciate the critical role of teachers in promoting self and students’ well-being.

**Required Activities**

All the activities will be recorded in practical files. The list of acitivites is as follows:-

* Workshop for Soft Skill Development
* Journal Writing
* Participation of Social Activities
* Participation in Vriksharopan and Swachchhata Abhiyan
* Visit to Rural and Slum Areas

**B Ed EPC-05: School Internship**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To construct Unit Plans, Micro Teaching Plans and Lesson Plans.

**CO2:** To develop Learning Resources.

**CO3:** To organize Sports and Games activities in the institution.

**CO4:** To organize Academic and Cultural Activities in the institution.

**CO5:** To teach, examine the student performance anddocumentationin an effective manner.

**Required Activities**

All the activities will be recorded in practical files. The list of activates is as follows:-

* **Workshop-1** (One Week)

Preparation of Skill Plan, Preparation Unit plan, Micro Teaching and Lesson Planning

* **Workshop-2** (One Week)

Development of Learning Resources (Charts & Diagrams Development, Graphs and Figures Development, Models Development, Audio, Video and Audio- Video Aids, Multi Media Presentation)

* **Participation in All School Activities** (60 Day)

Morning Assembly, Attendance, School Library, Administration of Psychological Tool, Staff and Parents Meetings, Maintenance of school Records, Health Checkup and its Records, Letters to the Parents and others, Organization of Sports and Games, Organization of Group Discussion / Debates / Symposium / Seminar, Cultural Activities, Construction of Question Papers, Observation of School and its Classroom, Participate in Planning, Teaching, Examination, Assessment, Evaluation, Interaction with School Teachers, Assessment of Teaching Learning Process in School and Peer Group etc.

* **Practice Teaching**

20 Lessons in Each School Subject (10 Lessons under the Supervision of Mentor in Each School Subject, 05 Lessons under the Supervision of School Principal and 05 Lessons under the Supervision of Teacher Educator).

**Mapping of Curricula to Programme Outcomes**

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| CP35 |  |  |  |  |  |  |  |  |  |  |
| CP41 |  |  |  |  |  |  |  |  |  |  |
| CP42 |  |  |  |  |  |  |  |  |  |  |
| CP43 |  |  |  |  |  |  |  |  |  |  |
| CP44 |  |  |  |  |  |  |  |  |  |  |
| CP45 |  |  |  |  |  |  |  |  |  |  |
| CP51 |  |  |  |  |  |  |  |  |  |  |
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| CP53 |  |  |  |  |  |  |  |  |  |  |
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| CP55 |  |  |  |  |  |  |  |  |  |  |

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| **B.Ed. (Spl. ODL.) PROGRAMME** |

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| **Programme Offerd from: 2005** | **AC Minutes: pont no. 05, Dated 30/06/2004** |

**Programme Objectives**

The Bachelor of Education Special Education (B.Ed. Special Education) Degree programme shall enable the practicing individuals, in the field of rehabilitation, to achieve the following objectives-

* 1. Provide individuals with positive attitude towards disabled persons an opportunity of promotion in their professional career.
  2. To develop positive attitude and support towards disabled individuals.
  3. To develop skills required for dealing of various academic social and personal problems of the disabled students.
  4. To understand the nature of the developmental characteristics, peronality and learning process of the general as well as disabled students of different age groups.
  5. To stengthen the professional commpetencies of the teachers of disabled students.
  6. To imbibe knowledge and develop an understanding of the various methods and approaches of organizing learning experiences of students expecially with disability.
  7. To aquire knowledge and understanding of the various procedures and techniques of evaluation.
  8. To acquire skill of applying the various procedures and techniques of evaluation in the clessroom situations.
  9. To develop skill involved in selecting, developing, and ising various evaluation tools.
  10. To develop competencies for organizing various types of curricular and co-curricular activities.
  11. To acquire knowledge and competencies for organizing various types of instructional and student support activiities.

***Programme Outcomes:***

After the completion of the programme learner will be able –

**PO1:** To positive attitude towards disabled persons and opportunity of promotion in their professional career.

**PO2:** To develop positive attitude and support towards disabled individuals.

**PO3:** To required skill develop for dealing of various academic social and personal problems of the disabled students.

**PO4:** To understand the nature of the developmental characteristics, personality and learning process of the general as well as disabled students of different age groups.

**PO5:** To strengthen the professional competencies of the teachers of disabled students.

**PO6:** To imbibe knowledge and develop an understanding of the various methods and approaches of organizing learning experiences of students especially with disability.

**PO7:** To acquire knowledge and understanding of the various procedures and techniques of evaluation.

**PO8:** To acquire skill of applying the various procedures and techniques of evaluation in the classroom situations.

**PO9:** To develop skill involved in selecting, developing, and using various evaluation tools.

**PO10:** To develop competencies for organizing various types of curricular and co-curricular activities.

**PO11:** To acquire knowledge and competencies for organizing various types of instructional and student support activities.

***Utility of the Programme***

* The skills, competencies and values may be enriched the prospect teachers in field of Special and Inclusive Education.
* The professional competency may be strengthen in teachers in field of Special and Inclusive Education.
* The opportunity for Higher Education and Research in the field of Special Education may be arises.

***Job Opportunities***

* In the field of Teaching and Rehabilitation.
* In the field of Educational Administration.
* In the field of counselling of Special Need Persons.

***Social Effect***

* It is a much popular Programme in the field of Teaching-Learning and Rehabilitation**.**

**Programme Structure**

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| --- | --- | --- | --- | --- | --- |
| ***Semester*** | ***Paper Nature*** | **Paper Code** | **Title of the Paper** | **Credit** | **Marks** |
| ***First Semester*** | Theory Compulsory | B. Ed. SE-01 | Human Growth and Development | 4 | 100 |
| B. Ed. SE-02 | Contemporary India and Education | 4 | 100 |
| B. Ed. SE-03 | Introduction to Sensory Disabilities | 2 | 50 |
| B. Ed. SE-04 | Introduction to Neuro Developmental Disabilities | 2 | 50 |
| B. Ed. SE-05 | Introduction to Locomotor and Multiple Disabilities | 2 | 50 |
| Practical | B. Ed. SE-PE-01 | Cross Disability and Inclusion ( Part of area-B) | 2 | 50 |
| ***Second Semester*** | Theory Compulsory | B. Ed. SE-06 | Learning Teaching and Assessment | 4 | 100 |
| B. Ed. SE-07 | Inclusive Education | 2 | 50 |
| Theory Elective  (Any one) | B. Ed. SE-71 | Assessment and Identification of Needs (HI) | 4 | 100 |
| B. Ed. SE-81 | Assessment and Identification of Needs (VI) | 4 | 100 |
| B. Ed. SE-91 | Assessment and Identification of Needs (ID) | 4 | 100 |
| Theory Elective  (Any one) | B. Ed. E-31 | Pedagogy of Hindi | 4 | 100 |
| B. Ed. E-32 | Pedagogy of English | 4 | 100 |
| B. Ed. E-33 | Pedagogy of Mathematics | 4 | 100 |
| B. Ed. E-34 | Pedagogy of Biological Sciences | 4 | 100 |
| Practical | B. Ed. SE-PE-02 | Disability Specialization (Part of area C) | 2 | 50 |
| ***Third Semester*** | Theory Elective  (Any one) | B. Ed. SE-72 | Curriculum Design Adaptation and Evaluation (HI) | 4 | 100 |
| B. Ed. SE-82 | Curriculum Design Adaptation and Evaluation (VI) | 4 | 100 |
| B. Ed. SE-92 | Curriculum Design Adaptation and Evaluation (ID) | 4 | 100 |
| Theory Elective  (Any one) | B. Ed. SE-73 | Intervention and Teaching Strategies (HI) | 4 | 100 |
| B. Ed. SE-83 | Intervention and Teaching Strategies (VI) | 4 | 100 |
| B. Ed. SE-93 | Intervention and Teaching Strategies (ID) | 4 | 100 |
| Theory Elective  (Any one) | B. Ed. E-41 | Pedagogy of Social Studies | 4 | 100 |
| B. Ed. E-42 | Pedagogy of Physical Sciences | 4 | 100 |
| B. Ed. E-43 | Pedagogy of Commerce | 4 | 100 |
| B. Ed. E-44 | Pedagogy of Home Science | 4 | 100 |
| Practical | B. Ed. SE-PE-03 | Part II Disability Specialization (Part of area C) | 4 | 100 |
| ***Fourth Semester*** | Theory Elective  (Any one) | B. Ed. SE-101 | Guidance and Counseling | 2 | 50 |
| B. Ed. SE-102 | Childhood care and Education | 2 | 50 |
| B. Ed. SE-103 | Applied Behavior analysis (Postponed) | 2 | 50 |
| B. Ed. SE-104 | Community based Rehabilitation | 2 | 50 |
| B. Ed. SE-105 | Application of ICT in Classroom (Postponed) | 2 | 50 |
| B. Ed. SE-106 | Gender and Disability (Postponed) | 2 | 50 |
| B. Ed. SE-107 | Braille and Assistive Devices (Postponed) | 2 | 50 |
| Theory Elective  (Any one) | B. Ed. SE-74 | Technology and Disability : HI | 4 | 100 |
| B. Ed. SE-84 | Technology and Education of the Visually Impaired | 4 | 100 |
| B. Ed. SE-94 | Technology and Disability : ID | 4 | 100 |
| Theory Elective  (Any one) | B. Ed. SE-75 | Psycho Social and Family Issues : HI | 2 | 50 |
| B. Ed. SE-85 | Psycho Social and Family Issues : VI | 2 | 50 |
| B. Ed. SE-95 | Psycho Social and Family Issues : ID | 2 | 50 |
| Practical | B. Ed. SE-PE-04 | Main disability special school Related area C | 4 | 100 |
| B. Ed. SE-PE-05 | Reading and Reflecting on texts | 2 | 50 |
| B. Ed. SE-PE-06 | Drama and Art in Education | 2 | 50 |
| ***Fifth Semester*** | Theory Compulsory | B. Ed. SE-08 | Basic Research & Basic Statistics | 2 | 50 |
| Theory Elective  (Any one) | B. Ed. SE-111 | Orientation and Mobility | 2 | 50 |
| B. Ed. SE-112 | Communication options : Oralism/ Aural Rehabilitation and Auditory Approach (Postponed) | 2 | 50 |
| B. Ed. SE-113 | Communication options : Manual options | 2 | 50 |
| B. Ed. SE-114 | Management of Learning Disability (Postponed) | 2 | 50 |
| B. Ed. SE-115 | Vocation Training, Transition and Job Placement | 2 | 50 |
| Practical | B. Ed. SE-PE-07 | Field Engagement/Internship-Main disability special School (Related to area C) | 4 | 100 |
| B. Ed. SE-PE-08 | Field Engagement/Internship-Other disability special school (Related to area B) | 4 | 100 |
| B. Ed. SE-PE-09 | Field Engagement/Internship-Inclusive Education (Related to area B&C) | 4 | 100 |

***COURSE CONTENTS***

**B. Ed. SE-01: Human Growth & Development**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the process of development with special focus on infancy, childhood and adolescence.

**CO2:** To critically analyze developmental variations among children.

**CO3:** To comprehend adolescence as a period of transition and threshold of adulthood.

**CO4:** To analyze different factors influencing child development.

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| **Block** | **Unit** | **Title** |
| **1**  **Approaches to Human Development** | 1 | Concepts and Principles of growth and development |
| 2 | Stages of Human Development |
| 3 | Developmental Domains |
| **2**  **Theoretical approaches to development** | 4 | Cognitive & Social-cognitive theories (Piaget, Vygotsky, Bruner, Bandura) |
| 5 | Psychosocial theory (Erikson) and Psychoanalytic theory (Freud) |
| 6 | Bio Ecological Theory (Bronfrenbrenner) and Holistic theory of Development (Steiner) |
| **3**  **The Early Years (Birth to Eight Years)** | 7 | Prenatal Birth and Neonatal Development |
| 8 | Milestones in Development |
| 9 | Environmental factors influencing early childhood development |
| **4**  **Middle childhood to adolescence (From nine years to eighteen years)** | 10 | Emerging capabilities across domains related to physical, social, Emotional, cognitive, creativity and ethics |
| 11 | Issues related to puberty |
| 12 | Influence of the environment (Social, cultural, political) on the growing child |
| **5**  **Transitions into Adulthood** | 13 | Psychological Well-being, Formation of identity and Self-concept |
| 14 | Emerging roles and responsibilities |
| 15 | Life Skills and Career Choices |

**B. Ed. SE-02: Contemporary India and Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the history, nature and process and Philosophy of education.

**CO2:** To analyze the role of educational system in the context of Modern Ethos.

**CO3:** To understand the concept of diversity.

**CO4:**To develop an understanding of the trends, issues, and challenges faced by the contemporary Indian Education in global context.

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| **Block** | **Unit** | **Title** |
| **1**  **Philosophical Foundations of Education** | 1 | Education: Concept, scope and Agencies of Education: School, family, community and media |
| 2 | Philosophies of Education: idealism, naturalism, pragmatism, existentialism, humanism, constructivism and connectionism |
| 3 | Indian thinkers (Gandhi, Tagore, Krishna Murthy, Aurobindo) and Contemporary Indian Perspective |
| **2**  **Understanding Diversity** | 4 | Concept and Types of Diversity: Gender, linguistic, cultural, socio-economic and disability |
| 5 | Diversity in learning and play |
| 6 | Addressing diverse learning needs and Global Perspective of Diversity |
| **3**  **Contemporary Issues and Concerns** | 7 | Universalisation of School Education and its related issues, Rights to Education and Universal Access |
| 8 | Issues of quality and equity: Physical, economic, social, cultural and linguistic, particularly w.r.t girl child, weaker sections and disabled |
| 9 | Equal Educational Opportunity and Inequality in Schooling |
| **4**  **Education Commissions and Policy** | 10 | Constitutional provisions on education |
| 11 | National Commissions and Acts, Policies on Disability Commission (1964), NPE and POA (1986, 1992), National Policy for Persons with Disabilities (2006) |
| 12 | Programmes, Schemes, International Conventions and policies |
| **5**  **Issues and Trends in Education** | 13 | Challenges and issues of Education from preschool to senior secondary |
| 14 | Inclusive education and special schools |
| 15 | Community participation and community based education |

**B. Ed. SE-03: Introduction to Sensory Disabilities**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand the different types of sensory impairments and its prevalence and describe the process of hearing & implications of various types of hearing loss.

**CO2:** To explain the issues & ways to address challenges in educating students with hearing loss.

**CO3:** To describe nature, characteristics & assessment of students with low vision & visual impairment.

**CO4:** To suggest educational placement and curricular strategies for students with low vision & visual impairment.

**CO5:** To explicate the impact of deaf-blindness & practices for functional development.

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| **Block** | **Unit** | **Title** |
| **1**  **Hearing Impairment: Nature & Classification** | 1 | Importance of hearing and Types of sensory impairments: Single (Hearing Impairment & visual Impairment) & Dual sensory impairment (Deaf-blindness) |
| 2 | Process of hearing & its impediment leading to different types of hearing loss |
| 3 | Hearing loss: Definitions and Challenges arising due to congenital and acquired hearing loss |
| **2**  **Impact of Hearing Loss** | 4 | Characteristics and impact of hearing impairment on communication and issues of hearing loss |
| 5 | Communication options, preferences & facilitators of individuals with hearing loss |
| 6 | Literacy development and scholastic achievement of students with hearing loss and technological support |
| **3**  **Visual Impairment- Nature and Assessment** | 7 | Process of Seeing, Blindness and Low Vision- Definition, Classification |
| 8 | Demographic Information- NSSO and Census 2011 |
| 9 | Importance of Early Identification, Intervention and Functional Assessment Procedures |
| **4**  **Educational Implications of Visual Impairment** | 10 | Effects of Blindness and Selective Educational Placement |
| 11 | Teaching Principles |
| 12 | Expanded Core Curriculum and Assistive Devices Concept and Areas |
| **5**  **Deaf-blindness** | 13 | Definition, causes, classification, prevalence and characteristics of deaf blindness, Effects and Implications of deaf-blindness on activities of daily living & education |
| 14 | Screening, Assessment, Identification & Interventional strategies of deaf blindness |
| 15 | Educational needs of students with deaf-blindness |

**B. Ed. SE-04: Introduction to Neuro Developmental Disabilities**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To discuss the characteristics and types of learning disability.

**CO2:** To describe the tools, areas of assessment and apply intervention strategies to enhance learning.

**CO3:** To explain the characteristics and types of Intellectual disability.

**CO4:** To describe the tools, areas of assessment and prepare and apply intervention strategies for independent living.

**CO5:** To explain the characteristics and types of Autism Spectrum Disorder.

**CO6:** To describe the tools, areas of assessment and apply intervention strategies.

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| **Block** | **Unit** | **Title** |
| **1**  **Learning Disability: Nature, Needs and Intervention** | 1 | Definition, Types and Characteristics |
| 2 | Tools and Areas of assessment |
| 3 | Strategies for reading, writing and maths |
| 4 | Curricular adaptation, IEP, Further Education |
| 5 | Transition Education, life long Education |
| **2**  **Intellectual Disability: Nature, needs and intervention** | 6 | Definition, Types and Characteristics |
| 7 | Tools and Areas of assessment |
| 8 | Strategies for functional academics and social skills |
| 9 | Assistive devices, Adaptations, Individualized Education Plan, Person centered plan, Life skill Education |
| 10 | Vocational training and independent living |
| **3**  **Autism Spectrum Disorder: Nature, needs and intervention** | 11 | Definition, Types and Characteristics |
| 12 | Tools and Areas of assessment |
| 13 | Instructional Approaches |
| 14 | Teaching Methods |
| 15 | Vocational training and career opportunities |

**B. Ed. SE-05: Locomotor and Multiple Disabilities**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To identify the persons with Locomotor disabilities such as Cerebral Palsy, Amputees, Polio, Leprosy cured, Muscular dystrophies, Neural and spinal defects and Multiple disabilities.

**CO2:** To plan an effective programme for creating awareness about the persons with Locomotor disabilities and Multiple disabilities.

**CO3:** To plan an effective therapeutic and programme for the persons with Locomotor disabilities and Multiple disabilities and to refer for medical intervention if necessary.

**CO4:** To plan an effective educational programme and functional activities for the persons with Locomotor disabilities and Multiple disabilities.

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| **Block** | **Unit** | **Title** |
| **1**  **Cerebral Palsy (CP)** | 1 | CP: Nature, Types and its Associated Conditions; |
| 2 | Assessment of Functional Difficulties of CP including Abnormalities of Joints and Movements (Gaits); |
| 3 | Provision of Therapeutic Intervention and Referral of Children with CP; |
| 4 | Implications of Functional Limitations of Children with CP in Education and Creating Prosthetic Environment in School and Home: Seating Arrangements, Positioning and Handling Techniques at Home and School; |
| 5 | Facilitating Teaching- Learning of Children with CP in school, IEP, Developing TLM; Assistive Technology to Facilitate Learning and Functional Activities. |
| **2**  **Amputees, Polio, Spinal Cord Injuries Spina-bifida and Muscular Dystrophy** | 6 | Definition, Meaning and Classification |
| 7 | Assessment of Functional Difficulties |
| 8 | Provision of Therapeutic Intervention and Referral |
| 9 | Implications of Functional Limitations for Education and Creating Prosthetic Environment in School and Home: Seating Arrangements, Positioning and Handling Techniques at Home and School |
| 10 | Facilitating Teaching- Learning: IEP, Developing TLM; Assistive technology |
| **3**  **Multiple Disabilities and Other Disabling Conditions** | 11 | Multiple Disabilities: Meaning and Classifications |
| 12 | Various Combinations of Multiple Disabilities and Associated Conditions Such as Epilepsy, Motor an Sensory Conditions, |
| 13 | Other Disabling Conditions Such as Leprosy Cured Students, Tuberous Sclerosis and Multiple Sclerosis |
| 14 | Implications of Functional Limitations for Education and Creating Prosthetic Environment in School and Home: Seating Arrangements, Positioning and Handling Techniques at Home and School |
| 15 | Facilitating Teaching- Learning: IEP, Developing TLM; Assistive technology |

**B. Ed. SE-06: Learning, Teaching and Assessment**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To comprehend the theories of learning and intelligence and their applications for teaching children

**CO2:** To analyze the learning process, nature and theory of motivation

**CO3:** To describe the stages of teaching and learning and the role of teacher

**CO4:** To situate self in the teaching learning process

**CO5:** To analyze the scope and role of assessment in teaching learning process in order to introduce dynamic assessment scheme for educational set up towards enhanced learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Human Learning and intelligence** | 1 | Human learning: Meaning, definition and concept formation |
| 2 | Learning Theories- Behaviorism: Thorndike, Skinner, Concerns for Cognitivism and Social constructism |
| 3 | Intelligence and Creativity: Concept and Theories |
| **2**  **Learning process and motivation** | 4 | Sensation, Attention and Perception |
| 5 | Memory and Thinking and Problem Solving |
| 6 | Motivation: Nature and Theories |
| **3**  **Teaching learning Process** | 7 | Maxims and Methods of Teaching |
| 8 | Stages and Models of Teaching |
| 9 | Leadership and role of Teacher in classroom, School and Community |
| **4**  **Overview assessment and school system** | 10 | Concepts in School Evaluation |
| 11 | Taxonomy of Educational Objectives |
| 12 | Formative and summative evaluation |
| **5**  **Assessment: Strategies and Practices** | 13 | Strategies and Procedures |
| 14 | Assessment of diverse learners |
| 15 | Schools examinations |

**B. Ed. SE-07: Inclusive Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the construct of inclusive education & the progression from segregation towards valuing & appreciating diversity in inclusive education.

**CO2:** To explicate the national & key international policies & frameworks facilitating inclusive education.

**CO3:** To enumerate the skills in adapting instructional strategies for teaching in mainstream classrooms.

**CO4:** To describe the inclusive pedagogical practices & its relation to good teaching.

**CO5:** To expound strategies for collaborative working and stakeholders support in implementing inclusive education.

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| **Block** | **Unit** | **Title** |
| **1**  **Introduction to Inclusive Education** | 1 | Marginalization vs Inclusive Education, Segregation and Integrations |
| 2 | Principles of Inclusive Education and Diversity in Classroom |
| 3 | Barriers to inclusive Education |
| **2**  **Policies & Frameworks Facilitating Inclusive Education** | 4 | Universal Declaration of Human Rights |
| 5 | International conventions and Frameworks |
| 6 | National policies, Programmes, Acts and Commission |
| **3**  **Inclusive Academic Instructions** | 7 | Gifted Children |
| 8 | Family & Community support involvement for Inclusion |
| 9 | Resource Mobilization for Inclusive Education |

**B. Ed. SE-71: Assessment and Identification of Needs (Hearing Impairment)**

***Course Outcomes:-***

After completion of this course the learner will be able –

**CO1:** Toexplain the need and techniques for early identification of hearing loss in children.

**CO2:** To acquire knowledge in the area of audiological assessment and its relevance in education.

**CO3:** To discuss communicative and language related needs with the understanding of its development and assessment.

**CO4:** To understand the need for assessment of various processes involved in production of Speech.

**CO5:** To describe and identify different components of educational assessment and analyze various educational needs of individuals with hearing impairment.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Early Identification of Hearing Loss** | 1 | Concept and early identification hearing loss |
| 2 | Behavioral identification |
| 3 | Sign and Symptoms for hearing loss |
| **2**  **Audiology Assessment** | 4 | Orientation: Auditory Milestones in children (0-2 years) |
| 5 | Assessment & Methods of Assessment |
| 6 | Audiograms & Audiometer |
| **3**  **Assessment of Language & Communication** | 7 | Communication & Language |
| 8 | Impact of Deafness on Communication |
| 9 | Tools for Assessing communication and Language |
| **4**  **Assessment of Speech** | 10 | Basics of Articulation & Phonology |
| 11 | Milestones of speech development, supra segmental aspects of speech |
| 12 | Speech Intelligibility |
| **5**  **Educational Assessment** | 13 | Educational Assessment & its Types |
| 14 | Tools and techniques of Educational Assessment |
| 15 | Current Trends & Challenges in Assessment |

**B. Ed. SE-81: Assessment and Identification of Needs (Visual Impairment)**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** Todescribe the structure of eye and common eye defects.

**CO2:** Toexplain the etiology of visual impairment.

**CO3:** Toanalyse the implications of visual impairment and identify their needs.

**CO4:** Todevelop skills to identify and assess children with visual impairment.

**CO5:** Todescribe the needs and develop skills to assess children with visual impairment and multiple disabilities (VIMD).

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Anatomy And Physiology of Human Eye** | 1 | Structure and Function of Human Eye, Principal of Refraction & Refraction Errors |
| 2 | Normal Vision Development |
| 3 | Concept and Definition of Blindness and low vision |
| **2**  **Types of Visual Impairment and Common Eye Disorder** | 4 | Types of Visual Impairment |
| 5 | Common Eye Disorders |
| 6 | Educational Implication of different Eye Disorder |
| **3**  **Factors Effecting Visual Impairment** | 7 | Factors affecting Visual Impairment |
| 8 | Effect of Visual Impairment on Growth & Development |
| 9 | Education for VI Children |
| **4**  **Identification and Assessment of Visual Impairment** | 10 | Clinical Assessment of Vision |
| 11 | Functional Assessment of Vision |
| 12 | Tools for Psychological Assessment of VI Children |
| **5**  **Learning Needs of VI Children** | 13 | Impact of Visual Impairment on Development |
| 14 | Impact of Visual Impairment on Learning |
| 15 | Multidisciplinary Assessment of VI Children |

**B. Ed. SE-91: Assessment and Identification of Needs (Intelletual disability)**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To comprehend historical perspective, nature and needs and characteristics of persons with Intellectual Disability.

**CO2:** To understand various procedures, areas and approaches of assessment and their relevance.

**CO3:** To gain insight into importance of assessment at Pre School and school level and become familiar with development and adaptive behavioural assessment and assessment tools at pre school level.

**CO4:** To get familiarized assessment tools for independent living, provisions and schemes for vocational skills development and implication of assessment.

**CO5:** To develop understanding about significance of different types of family needs their assessment and implications for extending support to their families, demonstration.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Intelletual disabilityNature & Needs** | 1 | Mental Retardation: Concept, Meaning and Nature |
| 2 | Causes and Prevention |
| 3 | Classification, Identification and Characteristics |
| **2**  **Assessment** | 4 | Assessment: Concept, Meaning, Purpose and Types |
| 5 | Areas of Assessment |
| 6 | Methods of Assessment |
| **3**  **Assessment at Pre School and School level** | 7 | Importance of Assessment at pre school and school level |
| 8 | Assessment tools for school level |
| 9 | Documentation and its relation to inclusion |
| **4**  **Assessment at Adult and Vocational Levels** | 10 | Assessment for Transition from school to work |
| 11 | Significance & Tools for Independent living |
| 12 | Provision and schemes for vocational skill development |
| **5**  **Assessment of Family Needs** | 13 | Assessment of Family & parental needs |
| 14 | Assessment to conduct advocacy and skill development programmes |
| 15 | Assessment of family and community resources |

**B Ed SE-31: Pedagogy of Hindi Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the contributiuon of language in the development of individual and society development.

**CO2:** To identify the skills of using Hindi language.

**CO3:** To understand behavioural objective of Hindi teaching

**CO4:** To develop unit plan and lesson planning.

**CO5:** To comptent to use various teaching methods and techniques

**CO6:** To use various techniques to evaluate the achievement of learner in Hindi language.

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| **Block** | **Unit** | **Title** |
| **1**  **fgUnh Hkk’kk ds vk/kkj** | 1 | fgUnh Hkk’kk dh izd`fr vkSj izdk;Z |
| 2 | fgUnh Hkk’kk dh vf/kxe izfØ;k |
| 3 | fo|ky;h Lrj ij fgUnh Hkk’kk dh ikB~;p;kZ ,oa mlesa lq/kkj |
| **2**  **fgUnh Hkk’kk f”k{k.k ds fy, O;wg jpuk& izFke** | 4 | fgUnh ds Hkkf’kd rRo |
| 5 | Jo.k ,oa ekSf[kd vfHkO;fDr ds dkS”ky dk fodkl |
| 6 | iBu ;ksX;rk ,oa fyf[kr vfHkO;fDr dkS”ky dk fodkl |
| **3**  **fgUnh Hkk’kk f”k{k.k ds fy, O;wg jpuk& f}rh;** | 7 | dfork f”k{k.k |
| 8 | x| dh vU; fo/kkvksa dk f”k{k.k |
| 9 | O;kdj.k f”k{k.k |
| **4**  **fgUnh Hkk’kk vf/kxe dk ewY; fu/kkZj.k** | 10 | Hkk’kk lEizkfIr ewY;kadu |
| 11 | Hkk’kk ijh{k.k ,oa ijh{k.k inksa dh jpuk |
| 12 | funkukRed ,oa mipkjkRed dk;Z |
| **5**  **fgUnh Hkk’kk eas vf/kxe lalk/ku** | 13 | vf/kxe lalk/ku% vFkZ] izdkj] dk;Z] fuekZ.k ,oa mi;ksx |
| 14 | Hkk’kk iz;ksx”kkyk vkSj Hkk’kk f”k{kd |
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**B Ed SE-32: Pedagogy of English Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1 :** To understand the principles of language teaching, evolution and trends in English literature.

**CO2 :** To prepare an instructional plan in English.

**CO3 :** To adapt various approaches and methods to teach English language.

**CO4 :** To use various techniques to evaluate the achievement of the learner in English.

**CO5 :** To know the criteria of good book of English.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of English Language** | 1 | Nature of English Language |
| 2 | Learning of English Language |
| 3 | Curriculum Reforms in School English Language |
| **2**  **Strategies for Teaching English Language-1** | 4 | Teaching of Listening |
| 5 | Developing Speaking/ Oral Activities |
| 6 | Speaking Activities and Listening Comprehensive |
| **3**  **Strategies for Teaching English Language -II** | 7 | The Reading Process and Developing Reading Skills |
| 8 | Teaching Writing and Study Skills |
| 9 | Teaching Grammar |
| **4**  **Assessment of and for English Language Learning** | 10 | Stating Measurable Objectives |
| 11 | Construction of Test Items and Test |
| 12 | Diagnosing and Remedial Work in English Language Teaching |
| **5**  **Learning Resource in English Language** | 13 | Meaning, Types, function, Preparation and Utilization of Learning Resources |
| 14 | Text Book, Drama, Debate and Speech Programme |
| 15 | Language Laboratory and English Language Teacher |

**B Ed SE 33: Pedagogy of Mathematics Teaching**

***Course Outcoms:***

After completion of this course the learner will be able –

**CO1:** To explain the nature of Mathematics and its historical development with contribution of Mathematicians.

**CO2:** To describe the aims and objectives of teaching Mathematics at school level.

**CO3:** To demonstrate and apply skills to select and use different methods of teaching Mathematics.

**CO4:** To demonstrate competencies of planning for teaching Mathematics, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.

**CO5:** To demonstrate skills to design and use various evaluation tools to measure learner achievement in Mathematics.

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| **Block** | **Unit** | **Title** |
| **Block- 1**  **Foundations of Mathematics** | 1 | Nature of Mathematics |
| 2 | Learning of Mathematics, Psychology of Learning and Teaching of Mathematics Constructivism and Enactivisms |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Mathematics |
| **Block- 2**  **Strategies for Teaching Mathematics-I** | 4 | Teaching of Mathematical Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Mathematics in Groups, Group Work and Cooperative or Collaborative Strategies |
| **Block- 3**  **Strategies for Teaching Mathematics-II** | 7 | Teaching for Understanding Proof |
| 8 | Teaching Problem Solving in Mathematics, Definition and Importance |
| 9 | Problem Solving in Algebra and Geometry |
| **Block- 4**  **Assessment of and for Mathematics Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Proof |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **Block- 5**  **Learning Resource in Mathematics** | 13 | Learning Resources; Meaning, Types Preparation and Utilization of Resources |
| 14 | Text Book, Calculators, Models and Computers, Graphic Calculators |
| 15 | The Mathematics Laboratory, Mathematics Outside and in the Classroom |

**B Ed SE-34: Pedagogy of Biological Science Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the role of science in day to day life and its relevance to modern society.

**CO2:** To describe the aims and objectives of teaching science at school level.

**CO3:** To demonstrate and apply skills to select and use different methods of teaching the content of sciences.

**CO4:** To demonstrate competencies of planning for teaching sciences, organizing laboratory facilities and equipment designing pupil centered teaching learning experiences.

**CO5:** To demonstrate skills to design and use various evaluation tools to measure learner achievement in sciences.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Biological Sciences** | 1 | Nature of Biological Sciences |
| 2 | Learning of Biological Sciences, Psychology of Learning and Teaching of Biological Sciences, Constructivism and Enactivism |
| 3 | Curriculum Reforms; Aims and objectives of Teaching Biological Sciences |
| **2**  **Strategies for Teaching Biological l Sciences -I** | 4 | Teaching of Biological Sciences Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Biological Sciences in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Biological Sciences -II** | 7 | Co-Curricular and Non Formal Approaches in Biological Science Learning |
| 8 | Programmed Instruction in Biological Science Learning |
| 9 | New Approaches in Biological Science Teaching |
| **4**  **Assessment of and for Biological Sciences Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items For Assessing of Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Constructions of Question Paper |
| **5**  **Learning Resource in Biological Sciences** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Biological Sciences Laboratory, Biological Sciences Outside And in the Classroom |

**B. Ed. SE-72: Curriculum Designing, Adaptation and Evaluation: H I**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To familiar with concept of curriculum and explain the importance of designing it for children with hearing impairment in the context of 21st Century learning skills.

**CO2:** To develop capacity of developing literacy skills of reading and writing in children with hearing impairment.

**CO3:** To describe the need for curricular adaptation and decide suitable adaptation and undertake it.

**CO4:** To appreciate the need for curricular evaluation and describe the tools and methods for evaluating it.

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| **Block** | **Unit** | **Title** |
| **1**  **Curriculum and its Designing** | 1 | Curriculum- Concepts, Types and Models |
| 2 | Approaches and Steps for Curriculum Designing |
| 3 | Curricular Needs in Scholastic and non-Scholastic Areas |
| **2**  **Developing Literacy Skills: Reading** | 4 | Reading Skills and its Assessment |
| 5 | Approaches and Strategies to Develop Reading Skills and Independent Reading |
| 6 | Types, Models and Challenges of Developing Reading Skills and Remedial Strategies |
| **3**  **Developing Literacy Skills: Writing** | 7 | Writing Skill |
| 8 | Components and types of writing |
| 9 | Steps, Challenges and Strategies in Developing Writing |
| **4**  **Curricular Adaptation** | 10 | Curricular Adaption- Meaning, Principles, Types and Process of Adaptation |
| 11 | Assessment and Decision Making for Adaptation |
| 12 | Adapting Curriculum- Content, Teaching, Learning Material and Instruction |
| **5**  **Curricular Evaluation** | 13 | Curricular Evaluation: Concept and Need |
| 14 | Methods, Tools and Areas of Curricular Evaluation |
| 15 | Challenges in Curricular Evaluation |

**B. Ed. SE-82: Curriculum, Adaptation and Strategies for Teaching Expanded Curriculum: VI**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To define curriculum, its types and explain its importance.

**CO2:** To demonstrate techniques of teaching functional academic skills.

**CO3:** To explain importance and components of independent living skills.

**CO4:** To explain curricular adaptations with reasonable accommodations.

**CO5:** To illustrate how physical education and creative arts activities can be adapted for the children with visual impairment

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Concept and Types of Curriculum** | 1 | Curriculum- Need and Types. |
| 2 | Curriculum Approaches in Special Education. |
| 3 | Curriculum Planning and Implementation |
| **2**  **Teaching Functional Academics Skills** | 4 | Methods and Techniques of teaching. |
| 5 | Techniques of teaching Braille. |
| 6 | Braille aids and other devices for Print reading and writing. |
| **3**  **Teaching of Independent Living Skills** | 7 | Independent Living Skills. |
| 8 | Daily Living Skills and Sensory Efficiency. |
| 9 | Techniques of Teaching social interaction skills. |
| **4**  **Curriculum Adaptation** | 10 | Curricular Adaptation and Accommodation |
| 11 | Planning of lesson for teaching and TLM. |
| 12 | Pedagogical Strategies. |
| **5**  **Curricular Activities** | 13 | Adaptation of physical education activities |
| 14 | Creative arts for the children with visual impairment |
| 15 | Agencies/organizations promoting- sports, culture and recreation activities |

**B. Ed. SE-92: Curriculum Designing, Adaptation and Evaluation: Intelletual disability**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand nature of curriculum, principles and steps of curriculum designing, domains and curriculum evaluation.

**CO2:** To develop insight into importance of early childhood special education, its domains and school readiness programme and their implications.

**CO3:** To acquire knowledge about curriculum domains at secondary, prevocational and vocational level and understand its implications.

**CO4:** To understand different strategies for curriculum adaptation, accommodation, modification and their significance.

**CO5:** To evaluation and make effective use of different techniques.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Curriculum Designing** | 1 | Curriculum: Concept, Principles and Designing. |
| 2 | Domains of Curriculum. |
| 3 | Development of Curriculum. |
| **2**  **Curriculum at Pre-school and Primary School level** | 4 | Early Child Education and its Domains. |
| 5 | Sensitization at Family & School. |
| 6 | Implication of Pre-School and Primary levels |
| **3**  **Curriculum at Secondary, Pre-vocational and Vocational Level** | 7 | Curriculum domains at Secondary, Pre-Vocational and Vocational Level. |
| 8 | National Skill Development Scheme (NSDS by MSJ&E). |
| 9 | Implications of Placement for Inclusion. |
| **4**  **Curricular Adaptations** | 10 | Need for Curricular Adaptations, Accommodation and Modification. |
| 11 | Adoption, Accommodation and Modification for Pre-Academic Curriculum, Academic Curriculum and Co-Curriculum. |
| 12 | Adaptation, Accommodation and Modification for School subjects. |
| **5**  **Curricular Evaluation** | 13 | Curricular Evaluation: Concept, Types & Approaches. |
| 14 | Emerging Trends in Evaluation. |
| 15 | Differential Evaluation of PWID in Inclusive Setup. |

**B. Ed. SE-73: Interaction and Teaching Strategies: Hearing Impairment**

***Course Outcome:***

After completion of this course the learner will be able –

**CO1:** To understand about programmes for early intervention of infants and children with Hearing Impairment.

**CO2:** To describe the need, stages and importance of auditory listening & Speech reading for facilitating development of spoken language of children with hearing impairment.

**CO3:** To explain various approaches to teaching, strategies for speech intervention.

**CO4:** To describe methods, techniques and options to facilitate language and communication.

**CO5:** To explain the concept, principles and practices, linkages and outcomes of educational intervention.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Need and Strategies for Early intervention of Hearing Loss** | 1 | Parent- Instant Programme for Children with H I and Pre-school training programme |
| 2 | Individual Speech- Language Therapy. |
| 3 | Impact of early intervention and intervention of late identified children. |
| **2**  **Auditory Learning & Speech Reading** | 4 | Auditory listening and Auditory training |
| 5 | Auditory verbal therapy and role of teacher. |
| 6 | Speech reading and role of Teacher |
| **3**  **Speech Interaction Strategies** | 7 | Approaches to Teaching speech and Orientation to acoustics of speech |
| 8 | Formulation of Lesson plan and Strategies for Production of Speech. |
| 9 | Individual and Group Speech Teaching. |
| **4**  **Communication and Language Teaching Strategies** | 10 | Methods of teaching language. |
| 11 | Principles and Techniques of Developing language. |
| 12 | Communication options. |
| **5**  **Educational Intervention Strategies** | 13 | Educational interventions. |
| 14 | Maxims, Methods of teaching & lesson Planning |
| 15 | Partnership of various professionals’ agencies in educational intervention. |

**B. Ed. SE-83: Interaction and Teaching Strategies: VI**

***Course Outcomse:***

After completion of this course the learner will be able –

**CO1:** Toexplain various theoretical perspectives related to intervention & teaching strategies.

**CO2:** To demonstrate techniques of teaching Mathematics to visually impaired children.

**CO3:** To acquire necessary competencies and skills for teaching science and assessment of the learners with special reference to children with visual impairment.

**CO4:** To acquire and apply necessary skills for adapting TLM in social science and assessment of the learners with special reference to children with visual impairment.

**CO5:** To describe the process of assessment visual efficiency and classroom management for children with low vision.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Theoretical perspective** | 1 | Intervention for latterly blinded students. |
| 2 | Mediated teaching learning and its procedure. |
| 3 | Enriched teaching for concept development. |
| **2**  **Mathematics** | 4 | Mathematics Phobias and Conceptualization of Mathematical ideas |
| 5 | Mental arithmetic ability and use of tactile materials |
| 6 | Evaluation procedures with special reference to the needs of children with visual impairment |
| **3**  **Science** | 7 | Science Teaching learning materials and equipment |
| 8 | Problem solving and learning by doing for visually impaired students |
| 9 | Evaluation procedure with particular reference to practical and adaptations in examination questions. |
| **4**  **Social Science** | 10 | Techniques of preparation and presentation of adopted tactile maps, Diagrams, Globe and use of different types of models |
| 11 | Teaching skills: Dramatization, narration, Explanation, storytelling and role play |
| 12 | Evaluation of concepts and skills in social science with particular reference to geography |
| **5**  **Teaching of Children with low vision** | 13 | Visual stimulation (concept and procedure) and selection of an appropriate medium of reading and writing |
| 14 | Techniques and procedure for developing reading and writing skills |
| 15 | Orientation and mobility for low vision children and classroom management |

**B. Ed. SE -93: Interaction and Teaching Strategies: ID**

***Course Outcomes:***

After completion of this course the learner will be able -

**CO1:** To appreciate and orient oneself in understanding, planning and using intervention appropriately and demonstrate it.

**CO2:** To realize the importance of developing IEP, acquire the required competencies for its development, implementation and evaluation.

**CO3:** To understand basic of learning and teaching and acquire competency to select and demonstrate appropriate teaching strategies for teaching in different curriculum areas.

**CO4:** To understand nature and identification maladaptive behavior and develop insight into various modes of its management.

**CO5:** To develop understanding of various therapeutics interventions, their objectives, scope, modalities, and require intervention.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Intervention** | 1 | Early intervention: Concept and Significance. |
| 2 | Intervention Techniques and Documentation |
| 3 | Implication of Early intervention for Pre-school inclusion |
| **2**  **Individualized Education Programme** | 4 | IEP: Need & Historical Perspective. |
| 5 | IEP for PWIO and associated conditions |
| 6 | Application of IEP for Inclusion |
| **3**  **Teaching Strategies and TLM** | 7 | Stages of Learning and Multi sensory approaches. |
| 8 | Principles of Teaching and Teaching strategies. |
| 9 | Development and use of TLM for ID |
| **4**  **Intervention for Mal-** **Adoptive Behavior** | 10 | Identification of mal-adoptive behavior |
| 11 | Functional analysis and cognitive behavior Techniques (CBT) |
| 12 | Management of Maladaptive behavior and Ethical issues. |
| **5**  **Therapeutic Intervention** | 13 | Occupational Therapy, Physiotherapy, yoga and play therapy. |
| 14 | Speech therapy- and hearing disorders and intervention. |
| 15 | Therapeutic intervention: Visual and performing arts |

**B Ed SE-41: Pedagogy of Social Studies Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of social science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for social science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective social science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting social science learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Social Studies** | 1 | Nature of Social Studies |
| 2 | Learning of Social Studies, Psychology of Social Studies, Learning and Teaching of Social Studies, Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Social Studies |
| **2**  **Strategies for Teaching Social Studies -I** | 4 | Teaching of Social Studies Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Social Studies in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Social Studies-II** | 7 | Co-Curricular and Non Formal Approaches in Social Studies Learning |
| 8 | Programmed Instruction in Social Studies Learning |
| 9 | New Approach in Social Studies Teaching |
| **4**  **Assessment of and for Social Studies** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print,  Construction of Question Paper |
| **5**  **Learning Resource in Social Studies** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Social Studies Laboratory, Social Studies Out Side and in the Classroom |

**B Ed SE-42: Pedagogy of Physical Science Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of physical science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for physical science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective physical science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting physical science learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Physical Sciences** | 1 | Nature of Physical Sciences |
| 2 | Learning of Physical Sciences, Psychology of Learning and Teaching of Physical Sciences, Constructivism and Enactivism |
| 3 | Curriculum Reforms; Aims and Objectives of Teaching Physical Sciences |
| **2**  **Strategies for Teaching Physical Sciences -I** | 4 | Teaching of Physical Sciences Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Physical Sciences in Groups, Group Work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching Physical Sciences -II** | 7 | Co-Curricular and Non Formal Approaches in Physical Science Learning |
| 8 | Programmed Instruction in Physical Science Learning |
| 9 | New Approaches in Physical Science Teaching |
| **4**  **Assessment of and for Physical Sciences Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing of Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Test Constructions and Question Paper |
| **5**  **Learning Resource in Physical Sciences** | 13 | Learning Resources; Meaning, Types Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Physical Sciences Laboratory, Physical Sciences Outside and in the Classroom |

**B Ed SE-43: Pedagogy of Commerce Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of commerce.

**CO2:** To understand the function of commerce.

**CO3:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for commerce teaching.

**CO4:** To develop skills in preparation and use of support materials for effective commerce teaching.

**CO5:** To develop the ability to organize co-curricular activities and community resources for promoting commerce learning.

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| **Block** | **Unit** | **Title** |
| **1**  **Foundations of Commerce** | 1 | Nature of Commerce |
| 2 | Learning of Commerce, Psychology of Learning and Teaching of Commerce Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objectives of Teaching Commerce |
| **2**  **Strategies for Teaching**  **Commerce -I** | 4 | Teaching of Commerce Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Commerce in Groups, Group work and Cooperative or Collaborative Strategies |
| **3**  **Strategies for Teaching**  **Commerce -II** | 7 | Co-Curricular and Non Formal Approaches in Commerce Learning |
| 8 | Programmed Instruction in Commerce Learning |
| 9 | New Approach in Commerce Teaching |
| **4**  **Assessment of and for Commerce Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method. |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching. |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **5**  **Learning Resource in Commerce** | 13 | Learning Resources Meaning, Types Preparation and Utilization of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | Commerce Laboratory, Commerce Outside and in the Classroom |

**Ed SE-44: Pedagogy of Home Science Teaching**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, nature and scope of home science.

**CO2:** To develop competencies for designing unit and lesson plans, as well as tools of evaluation for home science teaching.

**CO3:** To develop skills in preparation and use of support materials for effective home science teaching.

**CO4:** To develop the ability to organize co-curricular activities and community resources for promoting home science learning.

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| **Block** | **Unit** | **Title** |
| **Block- 1**  **Foundations of Home Science** | 1 | Nature of Home Science |
| 2 | Learning of Home Science, Psychology of Learning and Teaching of Home Science, Constructivism and Enactivism |
| 3 | Curriculum Reforms, Aims and Objective, of Teaching Home Science |
| **Block- 2**  **Strategies for Teaching Home Science-I** | 4 | Teaching of Home Science Concepts |
| 5 | Learning by Exposition and Learning by Discovery |
| 6 | Learning Home Science in Groups, Group Work and Cooperative or Collaborative Strategies |
| **Block- 3**  **Strategies for Teaching Home Science-II** | 7 | Co-Curricular and Non Formal Approaches in Home Science Learning |
| 8 | Programmed Instruction in Home Science Learning |
| 9 | New Approach in Home Science Teaching |
| **Block- 4**  **Assessment of and for Home Science Learning** | 10 | Stating Measurable Objectives of Teaching Concepts, Generalizations, Problems Solving and Project Method |
| 11 | Construction of Test Items for Assessing Product and Process Outcomes, Diagnostic Test and Remedial Teaching |
| 12 | Construction of Unit Tests, Blue Print, Construction of Question Paper |
| **Block- 5**  **Learning Resource in Home Science** | 13 | Learning Resources; Meaning, Types, Preparation and Utilization Of Resources |
| 14 | Text Books, Journals, Handbooks, Students Work Books |
| 15 | The Home Science Laboratory, Home Science Outside and in the Classroom. |

**B. Ed. SE-74: Technology and Disability: H.I.**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To enumerate various listening devices and describe ways of effective usage and Maintenance.

**CO2:** Tocreate awareness and basic exposure to state-of-the-art technology for management of various aspects of speech.

**CO3:** To narrate the range of technological applications that can be used for facilitating communication and language.

**CO4:** To explain the present and future technologies facilitating the education of children with hearing impairment.

**CO5:** Toidentify different resources (financial & human) to obtain technology.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Listening devices and classroom acoustics** | 1 | Listening devices, technology and Ear moulds. |
| 2 | Classroom amplification devices and cochlear implant, middle case implant, BAHA & Auditory Brainstem implant. |
| 3 | Hearing aids and their care & maintenance |
| **2**  **Technology for management for speech** | 4 | Computer based training aids and speech equipment. |
| 5 | Basic infrastructure for using computer based speech training aid/equipment |
| 6 | Tele speech therapy |
| **3**  **Technology Facilitating Language and Communication** | 7 | Electronics and web based technology applications for developing teaching learning material. |
| 8 | Web based technology for using and training of ISL and sign to text and text to sign technology |
| 9 | Augmentire and alternate communication for children with hearing impairment. |
| **4**  **Technology Facilitating Education** | 10 | Impact of technology on Education and Changing trends in teaching & learning |
| 11 | Technology products for educational purpose: listening (Induction loop/FM/IR) visual (speech to text/text to speech) Audio-visual computer based learning & self learning packages, multimedia |
| 12 | Technology based educational services for children with hearing impairment |
| **5**  **Resource mobilization for technology** | 13 | Government and non-government Agencies for aids and appliances |
| 14 | Criteria for availing tuning and Procedure. |
| 15 | Cost involved in maintenance of devices. |

**B. Ed. SE-84: Technology and Education of the Visually Impaired**

***Course Outcome:***

After completion of this course the learner will be able –

**CO1:** Torelate the concept and nature of educational technology and ICT to the education of children with visual impairment.

**CO2:** Toacquire knowledge of the concept and nature of adaptive technology and explain underlying principles and techniques.

**CO3:** Toget familiar with technologies for print-access for children with visual impairment.

**CO4:** To describe and use different technologies for teaching low vision children as also various school subjects.

**CO5:** To demonstrate understanding of computer-based teaching-learning processes.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Introducing educational and information communication Technology** | 1 | Educational Technology- Concept and Scope of education in reference to children with visual impairment |
| 2 | ICT- Concept and special significance for the teaching- learners of the visually impaired. |
| 3 | Difference between educational technology and technology in education |
| **2**  **Adaptive Technologies** | 4 | Concept, purpose and Basic considerations- Access, affordability and availability |
| 5 | Awakening users perspectives in developing adaptive technologies |
| 6 | Universal/Inclusive design- concept, Advantages and limitations |
| **3**  **Access to print for the visually impaired** | 7 | Screen readers with special reference to Indian Languages and Braille note takers and stand-alone Reading machines |
| 8 | Braille Translation software with particular reference to Indian Languages and Braille Embossers |
| 9 | On line libraries, Basify Books, recordings and smart phones |
| **4**  **Assistive Technologies for the visually Impaired with reference to School subjects and low vision** | 10 | Mathematics devices for VI. |
| 11 | Social science devices for VI. |
| 12 | Low vision Devices. |
| **5**  **Computer- Aided Learning** | 13 | Social media and creation of blogs |
| 14 | Tele-conferencing and Distance learning |
| 15 | E-learning: Concept and adaptations for the children with VI |

**B. Ed. SE-94: Technology and Disability: M.R.**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To comprehend role of technology in educating children with ID and acquire knowledge about its various approaches and modes.

**CO2:** To understand nature of ICT, its basis, development and use.

**CO3:** To use computer programme and software for the benefit of children with ID.

**CO4:** To develop skills and competencies in use of Punarjani and C-DAC and integrate technology for instructions and inclusion.

**CO5:** To apply technology for developing lesson plan and adapted assistive devices.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Technology in Education and instruction** | 1 | Education and instructional technology |
| 2 | Approaches of Educational Technology |
| 3 | Universal Design of learning and individualized and differential instruction. |
| **2**  **ICT** | 4 | ICT, Development and stages. |
| 5 | Psychological bases for ICT. |
| 6 | Use of ICT in special and inclusion settings |
| **3**  **Use of multimedia in Education** | 7 | Multimedia |
| 8 | Types of instructional aids. |
| 9 | Advantages and challenges of using multimedia |
| **4**  **Technology based instructions** | 10 | Enhancing technology friendly practices |
| 11 | Disability friendly technology. |
| 12 | Implication of technology based instruction in inclusion |
| **5**  **Application of Technology** | 13 | Application of Technology in lesson planning and assisting devices |
| 14 | Merits and demerits of technology in instruction. |
| 15 | Application of Technology in Instruction |

**B. Ed. SE-75: Psychosocial and Family Issues: H. I.**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** Toexplain psycho social development of early childhood and role of family.

**CO2:** To understand the family needs and find self-ready to support families for empowering the child with disability.

**CO3:** Toensure family involvement in educational programs.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Psychosocial Aspects and Disability** | 1 | Overview of psychosocial development; well being and quality of life |
| 2 | Role of family and community in psychosocial development of children with hearing impairment |
| 3 | Challenges and issues in psychosocial development of children with hearing impairment |
| **2**  **Family Needs** | 4 | Identifying Family needs for information, decision making, skill transfer and referral |
| 5 | Fostering family’s acceptance of child’s impairment |
| 6 | Supporting family in raising children with hearing impairment. |
| **3**  **Family Empowerment** | 7 | Encouraging family acceptance of listening devices and ensuring its regular use. |
| 8 | Involving family in fostering and developing play, recreation and values |
| 9 | Encouraging family involvement in educational programme |

**B. Ed. SE-85: Psychosocial and Family issues: VI**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** Todescribe the effect of birth of a child with visual impairment on the family.

**CO2:**  To analyze the role of family and parental concerns related to their child with visual impairment from birth to adulthood.

**CO3:** To explain the role of parent community partnership in the rehabilitation of a person with visual impairment.

**CO4:** To develop different skills to empower families in meeting the challenges of having a child with visual impairment.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Family of a child with visual impairment** | 1 | Birth of a child with visual impairment |
| 2 | Parenting styles |
| 3 | Role of family in early stimulation, concept development and early intervention |
| **2**  **Parental Issues and concerns** | 4 | Gender and disability |
| 5 | Transition to adulthood |
| 6 | Parent support groups and attitude of professionals in involving parents in IEP and IFSP |
| **3**  **Rehabilitation of Children with visual impairment** | 7 | Concept of habilitation and rehabilitation |
| 8 | Community Based Rehabilitation (CBR) and community participatory Rehabilitation (CPR) |
| 9 | Legal provisions, concessions and advocacy |

**B. Ed. SE-95: Psychosocial and Family issues: ID**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To realize importance and role of family in rehabilitation of children with ID.

**CO2:** To develop insight into various Psycho-social issues and their impact on rehabilitation on PwID, misconception and social practices and develop based approach.

**CO3:** To realize importance of family involvement in rehabilitation process by forming parents self-help group and parent association.

**CO4:** To understand various Adolescent related issues and challenges their implication for rehabilitation of PwIDs and to explore probable employment opportunities for them.

**CO5:** To comprehend role of community and community participation and models, advantages / disadvantages of CBR programme for PwIDs.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Family** | 1 | Family- Concept, Definition and characteristics |
| 2 | Reaction and impact of disability on family and needs of family and counseling |
| 3 | Role of family in rehabilitation of PWID |
| **2**  **Psycho-social Issues** | 4 | Attitude of family, community, peer group, teachers, co-workers |
| 5 | Myths, Misconception and social practices |
| 6 | Psycho-social issues |
| **3**  **Involving Families** | 7 | Training and involving families in the rehabilitation process and Parent professional relationship |
| 8 | Formation of parent self-help Group and parent associations |
| 9 | Empowering Families |

**B. Ed. SE-101: Guidance & Counseling**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To apply the skills of guidance and counseling in classroom situations.

**CO2:** To describe the process of development of self-image and self-esteem.

**CO3:** To appreciate the types and issues of counseling and guidance in inclusive settings.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Introduction to Guidance and Counseling** | 1 | Guidance and Counseling: Definition, Aims, Areas |
| 2 | Skills and Competencies of a Counselor |
| 3 | Role of Counselor in Guiding and Counseling Students with Special Needs |
| **2**  **Enhancing Self Image and Self Esteem** | 4 | Concept of Self as Human and Understanding of Feeling and Changes |
| 5 | Growth to Autonomy and personality Development |
| 6 | Role of Teacher in Developing Self-Esteem in Children |
| **3**  **Guidance and Counseling in Inclusive Education** | 7 | Types of Counseling: Child-Centered, Supportive, Family and Guidance in Formal and Informal Situations |
| 8 | Group Guidance: Group Leadership, Styles and Group Processes |
| 9 | Challenges in Group Guidance |

**B. Ed. SE-102: Childhood Care and Education**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the biological & sociological foundations of early childhood education.

**CO2:** To describe the developmental systems approach and role responsibilities of interdisciplinary teams for early education of children with disabilities.

**CO3:** To enumerate the inclusive early education pedagogical practices

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **The Early Years: An Overview** | 1 | Early Conceptual Framework of Childhood Learning & Development |
| 2 | Sensitive Periods of Learning |
| 3 | Theories of Development & Learning |
| **2**  **Early Education of Children with Disabilities** | 4 | Young Children at Risk & Child Tracking |
| 5 | Interdisciplinary Assessment & Intervention Plans |
| 6 | Curricular Activities for Development of Skills |
| **3**  **Inclusive Early Childhood Educational (ECE) Practices** | 7 | Practices for Inclusive ECE Programs |
| 8 | Principles of Inclusive ECE Practices |
| 9 | Collaborative Practices and School Readiness & Transitions |

**B. Ed. SE-103: Applied Behavior Analysis**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To develop an understanding of the underlying principles and assumptions of Applied Behavioral Analysis (ABA).

**CO2:** To use various measures of behavioral assessment.

**CO3:** To apply methods of ABA in teaching and learning environments.

**CO4:** To integrate techniques of ABA in teaching programs.

**CO5:** To select suitable strategies for managing challenging behaviors.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Introduction to Applied Behaviour Analysis (ABA)** | 1 | ABA- Concept, Definition and Principles of Behavioural Approach |
| 2 | Assumptions of ABA- Classical and Operant Conditioning |
| 3 | Behaviour- Definition and Feature and assessment of Behaviour |
| **2**  **Strategies for Positive Behaviour Support** | 4 | Selection of Behavioural Goals |
| 5 | Discrete Trial Teaching : (i)Discriminative Stimulus- Characteristics (ii) Response (iii)Prompts: Physical, Gestural, Pointing, Visual, Positional, Verbal (iv) Consequence- Characteristics (v) Inter-Trial Interval |
| 6 | Application of ABA in Group Setting and leadership role of teacher in promoting positive behaviour |
| **3**  **Management of Challenging Behaviour** | 7 | Differential Reinforcement of Behaviour |
| 8 | Extinction, Time out, Response Cost and Overcorrection |
| 9 | Generalization and Fading |

**B. Ed. SE-104: Community Based Rehabilitation**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, principles and scope of community based rehabilitation.

**CO2:** To learn the strategies for promoting public participation in CBR.

**CO3:** To apply suitable methods for preparing persons with disability for rehabilitation within the community.

**CO4:** To provide need-based training to persons with disabilities.

**CO5:** To develop an understanding of the role of government and global agencies in CBR.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Introduction to Community Based Rehabilitation (CBR)** | 1 | Concept, Definition of CBR and Principles of CBR |
| 2 | Socio-cultural and Economic Contexts of CBR |
| 3 | Scope and Inclusion of CBR in Government Policies and Programs |
| **2**  **Preparing Community for CBR** | 4 | Awareness Program- Types, Methods and Advocacy |
| 5 | Focus Group Discussion and family counseling |
| 6 | CBR and Corporate Social Responsibility |
| **3**  **Preparing Persons with Disability for CBR** | 7 | School Education: Person centered planning, and peer Group support |
| 8 | Transition: Individual Transition plan, Development of Self determination and self management skills |
| 9 | Community related vocational training and skill training |

**B. Ed. SE-105: Application of ICT in Classroom**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To integrate the ICT in Special Education.

**CO1:** To discuss the special roles of ICT in Special Education.

**CO1:** To use the different Modes of Computer-Based Learning.

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| **Block** | **Unit** | **Title of the Unit** |
| **Block –1**  **ICT and Special Education** | 1 | Integrating ICT in special education |
| 2 | Three as of ICT application- Access, Availability, Affordability |
| 3 | Overview of WCAG (Web content Access Guidelines) |
| **Block –2**  **Using Media and Computers** | 4 | Use of media: Audio, video and audio-video aids |
| 5 | Computer- Aided learning |
| 6 | E-classroom |
| **Block –3**  **Visualizing Technology- Supported Learning Situations** | 7 | Use and Using Softwares |
| 8 | Interactive use of ICT |
| 9 | Identifying and Applying software for managing Disability |

**B. Ed. SE-106: Gender and Disability**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To develop an understanding of human rights based approach in context of disability.

**CO2:** To explain the impact of gender on disability.

**CO3:** To describe the personal and demographic perspectives of gender and disability.

**CO4:** To analyze the issues related to disabled women and girl children.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Human Rights- based Approach & Disability** | 1 | Human Rights-based Approach: Concept, History, Principles and Advantages |
| 2 | Elements of Human Rights System: Legal Framework, Institutions  Development Policies & Programmes, Public Awareness, Civil Society |
| 3 | Implications for Disability : (i) Empowerment (ii) Enforceability (iii) Indivisibility (iv) Participation |
| **2**  **Gender and Disability** | 4 | Gendered Experience of Disability |
| 5 | Gender and Disability Analysis: Techniques and Strategies |
| 6 | Psyche and Gender: Implications for Teaching |
| **3**  **Woman and Girl Child with Disability** | 7 | Inclusive Equality |
| 8 | Teacher’s role in promoting Gender Equality |
| 9 | Gender Critique of Legislation, government policy and schemes |

**B. Ed. SE-107: Braille and Assistive Devices**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To acquire basic information about Braille, its relevance and some important functional aspects.

**CO2:** To get basic information on types and significance of different Braille devices.

**CO3:** To get acquainted with the types and significance of basic devices relating to Mathematics, Science, Geography and Low Vision as also on sources of their availability.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Braille** | 1 | Evolution of Braille and Continuing Relevance of Braille |
| 2 | Abbreviations, Braille Signs and Symbols |
| 3 | Braille Reading and Writing Processes |
| **2**  **Braille Devices- Types, Description** | 4 | Slate, stylus and Braille writer |
| 5 | Electronics Devices |
| 6 | Braille Embossers and Braille Translation softwares |
| **3**  **Other- Devices- Types, Description, Relevance** | 7 | Mathematical Devices, Geography Devices and Science Material |
| 8 | Low Vision Aids- Optical, non-optical, vision training material |
| 9 | Schemes and sources of availability |

**B. Ed. SE-08: Basic Research and Statistics**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To describe the concept and relevance of research in education and special education.

**CO2:** To develop an understanding of the research process and acquire competencies for conducting a research.

**CO3:** To apply suitable measures for data organization and analysis.

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| **Block** | **Unit** | **Title of the Unit** |
| **Introduction to Research** | 1 | Research: Concept and Definition |
| 2 | Purpose of Research |
| 3 | Research in Education and Special Education |
| **Tools and Process of Research** | 4 | Types and Process of Research |
| 5 | Tools of Research |
| 6 | Action Research in Teaching Learning Environment |
| **Measurement and Analysis of Data** | 7 | Scale for Measurement and Organization of Data |
| 8 | Graphical Represent of Data |
| 9 | Measures of Central Tendency, Dispersion and Correlation |

**B. Ed. SE-111: Orientation and Mobility**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To describe the nature and scope of O&M as also the O&M related responsibilities of the special teacher.

**CO2:** To acquire basic knowledge of human guide techniques.

**CO3:** To describe pre-cane and cane travel skills and devices.

**CO4:** To get acquainted with the importance and skills of training in independent living for the visually impaired.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Introduction to Orientation and Mobility (O&M)** | 1 | Orientation and Mobility- Definition, Importance and Scope |
| 2 | Basic terminologies associated with O&M |
| 3 | Special responsibilities of special teacher/educator with reference to O&M training |
| **2**  **Human Sighted Guide Technique** | 4 | Pre-Cane Skills |
| 5 | Cane |
| 6 | Travel Techniques and Devices |
| **3**  **Training in Independent Living Skills** | 7 | Self care, and Posture |
| 8 | Personal Grooming |
| 9 | Etiquette, Identification of Currency and Basics of Signature writing |

**B. Ed. SE-112: Communication Options: Oralism/Aural Rehabilitation and Auditory Approach**

***Course Outcomes*:-**

After completion of this course the learner will be able –

**CO1:** Todiscuss the Aural Oral Options with reference to persons with hearing impairment in the context of India.

**CO2:** To discuss the relevant issues like literacy, inclusion and training with reference to Oralism /Oral Rehabilitation.

**CO3:** To exhibit beginner level hands on skills in using these options.

**CO4:** To motivate self to learn and practice more skills leading to linguistic adequacy and fluency to be used while developing spoken language in children with hearing losses.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Understanding Hearing Loss** | 1 | Basic Awareness on Deafness and Communicative Access |
| 2 | Basic Awareness on Autonomy, Inclusion and Identity |
| 3 | Importance of Natural Plasticity and Early Listening Opportunities |
| **2**  **Advance Understanding of Oral Options** | 4 | Skill Development required for Oralism |
| 5 | Speech Reading: Need, Role and Strategies |
| 6 | Difference between Uni Sensory and Multi approach in Oralism |
| **3**  **Implementing Oralism and AV approach in Indian Special Schools** | 7 | Use of Oralism and AV approach in Indian Special Schools: Current Scenario Oralism/AV approach: Prerequisites for Special Schools |
| 8 | Strategies of Implementation Oral Communication Policy |
| 9 | Resource Mobilization for Listening Devices |

**B. Ed. SE-113: Communication Options: Manual Options**

***Course Outcomes*:-**

After completion of this course the learner will be able –

**CO1:** Discuss the two manual options with reference to Indian special schools.

**CO2:** Discuss the relevant issues like literacy, inclusion and training with reference to manual options.

**CO3:** Describe manual options in the light of issues like language, culture and identify.

**CO4:** Exhibit beginner level hands on skills in using manual options.

**CO5:** Motivate self to learn and practice more skills leading to linguistic adequacy and fluency.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Understanding Deafness in Real Life Context** | 1 | Basic Awareness of Paradigms of Deafness (Medical and Social) |
| 2 | Concerns & Challenges of Deafness and Communication |
| 3 | Awareness on Deafness with Reference to Culture |
| **2**  **Advance Understanding of Manual Options and Indian Scenario** | 4 | Training and Guidance for Families and Tuning Home Environment |
| 5 | Tuning Mainstream Schools/Classrooms for Students Using Manual Communication |
| 6 | Practicing Natural Signing in Short Common Conversations |
| **3**  **Skill Development: Towards Higher Order Receptive and Expressive Skills** | 7 | Learning to Express Gender, Number, Person, Tense, Aspect |
| 8 | Practicing Syntax in Conversations and Discussions |
| 9 | Reflections on the Course: From Theory to practice |

**B. Ed. SE-114: Management of Learning Disability**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To explain the concept, causes and characteristics of learning disabilities.

**CO2:** To discuss different types of learning disabilities and its associated conditions.

**CO3:** To develop teacher made assessment test in curricular areas.

**CO4:** To plan appropriate teaching strategies as per the specific needs of children with learning disability.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Learning Disabilities: Types** | 1 | Verbal and Nonverbal learning disabilities |
| 2 | Language Disorders |
| 3 | Emotional & Behavioral Problems |
| **2**  **Assessment of Basic Curricular Skills** | 4 | Assessment of Reading, Writing and Math Skills |
| 5 | Teacher made tests |
| 6 | Standardize Tests: Need, Types & Purpose |
| **3**  **Intervention Strategies in Basic Skills of Learning** | 7 | Language Skills |
| 8 | Reading and Writing Skills |
| 9 | Maths and Study Skills |

**B. Ed. SE-115: Vocational Training, Transition & Job Placement**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To develop an understanding of vocational education & its relevance for PWD’s.

**CO2:** To carry out vocational assessment and make vocational training plan.

**CO3:** To plan for transition from School to job.

**CO4:** To identify various avenues for job placement.

**CO5:** To facilitate PWD’s in making choice of vocational trades.

**CO6:** To acquire the concept of independent living and empowerment.

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| **Block** | **Unit** | **Title of the Unit** |
| **1**  **Fundamental & Assessment of Vocational Rehabilitation** | 1 | Definition, Meaning and Scope of Vocational Rehabilitation |
| 2 | Approaches and Models of Vocational Training |
| 3 | Approaches & Principles of Vocational Assessment |
| **2**  **Vocational Transition & Curriculum Planning** | 4 | Concept, Meaning, Importance of Transition |
| 5 | Vocational Transition Models |
| 6 | Development of Vocational Curriculum |
| **3**  **Process of Vocational Rehabilitation & Placement** | 7 | Types of Employment Settings |
| 8 | Self Advocacy & Skill training |
| 9 | Equal Opportunities and Attitudes towards Persons with Disabilities |

**B.Ed. (Spl. Ed.) Practicals**

***First Semester***

**B.Ed.SE PE-01: -Cross Disability and Inclusion Credit: 04 Marks: 100**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To construct the lesson plan of classroom observation in their selected field (like-ID, VI, HI) & Inclusive set up.

**CO2:** To apply the various teaching- learning material utilized by teacher in their teaching learning process.

**CO3:** To use appropriate teaching Strategies as per the specific need of children in their class-room teaching.

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| **Tasks for the Teacher Trainees** | **Disability Focus** | **Education Setting** | **Hrs** | **Description** |
| Classroom Observation | Major Disability (HI/VI/ID) as the area selected by student | Special School | 50 | Minimum 30 School Periods |
| Other than selected Major Disability | 2 Special Schools for other Disabilities | 50 | Minimum 30 School periods |
| Any Disability | Inclusive Schools | 20 | Minimum 10 School Periods |

**Required Activities**

* Schedule for practical for PE-01 shall be included in the counseling /contact classes time table (ten working days may be allotted)
* Observations as mentioned are essential. However, if schools for other disability are not available in the nearby area, the same way interpreted as observation at inclusive school/education/services being provided in the resource room/home based education or vice versa

***Second Semester***

**B.Ed.SE PE-02- Disability Specialization Credit: 02 Marks: 50**

***Course Outcome:***

After completion of this course the learner will be able –

**CO1:** To assess Classroom Observation according to Micro teaching Skill based.

**CO2:** To use the Lesson Plan (Focusing on Adaptation &Evaluation).

**CO3:** To compute of various skill of Microteaching &Simulated teaching.

**Required Activities**

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| **S. No.** | **Tasks for the Teacher Trainees** | **Disability Focus** | **Education Setting** | **Hrs** | **Description** |
| 1.1 | Classroom observation (teaching skill based) | Major Disability | Special School | 70 | Observation of all subjects at different level, minimum 50 School Periods. |
| 1.2 | **a.** Preparation of micro Lesson Plan (Selected Subjects Pedagogy- 1 B.Ed SE 31/32/33/34/ Pedagogy-2 B.Ed SE 41/42/43/44) with reference to deferent teaching skill | Major Disability | For Special School & Inclusive Set up  (At the Study Center ) | 20 | 10 Micro Plan of various teaching skills |
| **b.** Preparation of Lesson Plan (focusing on Adaptation & Evaluation) | 10 Lessons,  (5 Adaptation & 5 Evaluation) |
| 1.3 | **a.** Micro teaching & simulated teaching on selected skills | General (Peer Group ) | At the Study Center | 15 | 20 Lessons-  two in each teaching skill |
| **b.** Micro teaching & simulated teaching on 5 each from lessons planned in 1.2 | Major Disability (Peer Group ) | At the Study Center | 15 | 10 Lessons Selected 05 Lesson Pedagogy-1& 05 Lesson Pedagogy- 2 |

**Teaching skills may be as follow:**

Skill of introduction, probing questions, skill of explaning, skill of illustrating with example, skill of reinforecement, skill of stimulus variations, skill of classroom management, skill of using Black Board, skill of recapitulation and Skill of evaluation.

***Third Semester***

**B.Ed.SE PE- 03 Disability Specialization Credit: 04 (120 hour ) Marks: 100**

***Course Outcome:***

After completion of this course the learner will be able –

**CO1:** To explain the Infrastructure, Equipment, Resource-room and Barrier free environment for Special/Inclusive setup in his/her visit plan.

**CO2:** To execution of Lesson Plan on different levels for all subject in selected disabilities area.

**CO3:** To construct Individualized Educational Plan (IEP) with support services according to needs of Special Children.

**CO4:** To proficiency his/her skill for execution of ISL (Indian Sign Language)/Braille Script/ADL (Activity Daily Living) Skill for the children with special needs.

**Required Activities**

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| **S. No.** | **Tasks for the Teacher Trainees** | **Disability Focus** | **Education Setting** | **No. of Lessons** |
| 1.1 | **a.** Visit | Disability | Special Schools or Institute in special education or Composite regional center (CRC). | Minimum 01 Special Schools Institute/CRC |
| 1.2 | **a.** MacroLesson planning and execution on different levels for all subjects | Major Disability | Special School/ Resource Room | 20 Lesson(other than pedagogy selected subject) |
| **b.** Lesson planning and execution on different levels for selected subjects | Major Disability | Special School/ Resource Room | 30 Lessons (15 lessons pedagogy selected subject- 1&15 lessons pedagogy selected subject- 2 ) |
| 1.3 | Individualized Teaching lessons on selected subjects with mention of support services | Major Disability | Special School/ Resource Room | 5 IEPs various category related disability |
| 1.4 | ISL/ BRAILLE SCRIPT (*English, Hindi & numeric*) / ADL- Skill | Disability Specialization(HI/VI/ID ) | Special Schools /Institute/ ISL Center | Journal |

***1.1****: Prepare a document with details of (institution, infrastructure, facilities, lab and equipment, of photograph and a certificate provided by the institution visitor should be attached*

*1.3:Documentation support services provided in IEP like* ***-*** *Educational, Therapeutically, Psychological, assistive devices*

***1.4:*** *ISL - Prepare 50 words vocabulary and make stories in sign*

*Braille – Prepare a Braille chart (English, Hindi & numeric)*

ADL (Activity Daily Living) – Skill- i.e.- *Prepare a report on important ADL area.*

***Fourth Semester***

**B.Ed.SE PE - 04 Disability Specialization Credit: 04 Marks: 100**

***Course Outcome:***

After completion of this course the learner will be able –

**CO1:** To recognize the concept of Internship in Special School (Specialized field and other disability field) &Mainstream School.

**CO2:** To use Learning Resources, teaching skill and Communication skill in their class-room teaching-learning Process.

**CO3:** To organized Academic, Cultural Activities and Sports and Games in their Internship Process.

**CO4:** To maintain School records and documentation in Inclusive /Special School set up.

**CO5:** To analyze Strategies in teaching –learning Process, Examination and Evaluation in Inclusive /Special School set up.

**Required Activities**

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| **S. NO.** | **Task- School /Attachment Internship** | **Educational Setting** | **Specific Activities** | **Hrs** | **Submission** |
| 01 | Teacher Assistant | Special School of Major Disability | Studying The Background of The Children In The Allotted Class And Working As Teacher Assistant For Prayer / Assembly, Attendance, Home Work /Class Work, Writing Diaries And Assisting In School Celebration. | **40** | Journal (Record File) of Daily Reflection and Learning |
| 02 | Document/Report Study | Reading And Reporting On Academic Calendar, Work Books, Progress Reports, Case File, 3 Parents Meeting Report. | **40** | Journal  (Record File) |
| 03 | Use of Internet and Modern Technology for Improving the Classroom Process | Using Technology for Classroom Teaching, Art Education, Record Keeping, Communication Downloading, Power Point, Audio Visual Concept Development Involving Student. | **40** | Journal (Record File) |

**B.Ed SE- PE-05: Reading and Reflecting on texts Credit: 02 Marks: 50**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To read and respond to written texts in a right way.

**CO2:** To examine and appreciate authentic literary and non-literary texts.

**CO3:** To develop study and reference skills

**CO4:** To reflect his/her thoughts on the ideas expressed in the texts.

**CO5:** To demonstrate plan, draft, edit and present a piece of writing.

**Required Activities**

All the activities will be recorded in practical files.

1. Collect two views/articles from news papers/magazines on burning issues of education and write your comments on each collected article or views.
2. Review of any education related books or autobiography of some educationist

**B.Ed SE- PE-06: Drama and Art in Education Credit: 02 Marks: 50**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To find basics differences in art and drama.

**CO2:** To discriminate artistic and aesthetic sensibility.

**CO3:** To judge the beauty in different art forms, through genuine exploration, experience and free expression.

**CO4:** To develop skills for integrating different art forms across school curriculum.

**CO5:** To site the rich cultural heritage of the country.

**Required Activities**

All the activities will be recorded in practical files.

1. Students will write an essay on the local culture and art forms/ famous educational T V shows
2. Prepare a report of Cultural Activities/ Visit to a art gallery, exhibition and cultural festivals

***Fifth Semester***

**B.Ed.SE PE-07—Field Engagement/ Internship Disability Specialization Credit: 04 Marks: 100**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To organized Field engagement Awareness Programme- CBR (Community Based Rehabilitation) Programme.

**CO2:** To aware community/society about various –facilities &Provision for Divyangjan.

**CO3:** To organized a Camp and Providing Support Services for Divyangjan.

**Required Activities**

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| **Sr. No.** | **Tasks for the Teacher Trainees** | **Disability Focus** | **Set Up** | **Description** |
| 1 | **CBR (Community Based Rehabilitation Programme** | All Disability | Community/field | Minimum 120 hours |
| Documentation (Community Based Rehabilitation Programme) |

Note: All the activities will be recorded in practical files.

**B.Ed.SE PE -08 Field Engagement/ Internship Other Disability Special School Credit: 04 Marks: 100**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To apply innovative teaching-learning Process in Inclusive School setup.

**CO2:** To construct Action Research Plan in the/her class-room teaching.

**CO3:** To analyze the problem in teaching –learning Process in Inclusive/Special School.

**Required Activities**

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| **Sr. No.** | **Tasks for the Teacher Trainees** | **Disability Focus** | **Set Up** | **No. of Lessons** |
| 1 | Action Research | Any Major Disability | Inclusive School | Minimum 180 school periods |

Note: All the activities will be recorded in practical files.

**B.Ed.SE PE-09- Field Engagement/ Internship Inclusive School Credit: 04 Marks: 100**

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To construct TLM/Model in his/her Teaching –Learning Process in Inclusive and Special School set up.

**CO2:** To use Unit Plan for the relevant subject in his/her Internship process.

**CO3:** To examine Achievement test for children with special educaton and Normal student.

**Required Activities**

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| **Sr. No.** | **Tasks for the Teacher Trainees** | **Disability Focus** | **Set Up** | **No. of Lessons** |
| 1 | Prepare TLM / Model used in Teaching Learning Process | Any Major Disability | Inclusive School | Journal |
| Prepare Unit Plan | Major Disability | Primary to Secondary | 2 Unit Plan |
| Achievement Test | Major Disability | Primary to Secondary | Prepare 50 objective (Multiple) Type Questions |

Note: All the activities will be recorded in practical files.

**Mapping of Curricula to Programme Outcomes**

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| **Programme Outcomes 🡺**  **Course Outcomes** 🡻 | **P1** | **P2** | **P3** | **P4** | **P5** | **P6** | **P7** | **P8** | **P9** | **P10** | **P11** |
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**PGDVGCC**

**Post Graduate Diploma in Vocational Guidance and Career Counseling**

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| **Programme Offerd from: 2009** | **AC Minutes: pont no. 19.06, Dated 18/05/2009** |

**Programme Objectives**

1. To enable the learner to understand the concept and need of guidance and counseling
2. To help learner understand principles and problems of different types of guidance and counseling
3. To help learner understand concept and need of guidance for the children with special needs
4. To acquaint the learner with the aims and principles of guidance programme.
5. To develop in learner an understanding of various procedures of organizing various guidance services

**Programme Outcome**

After the completion of the programme learner will be able -

**PO1:** To understand the concept, scope and need of vocational guidance and career counseling.

**PO2:** To collect the required data for vocational guidance and career counseling programe.

**PO3:** To explain the process and skills of vocational guidance and career counseling.

**PO4:** To organize vocational guidance and career counseling programes.

**PO5:** To recognize the issues of vocational guidance and career counseling.

**Utility of the Programme**

* Skilled and value based manpower in the field of Guidance and Counselling may be produced.
* The required knowledge and skills may be provided for an effective Counsellor.

**Job Opportunities**

* In the field of Guidance and Counselling Institutions.
* In the field of teaching as a specific need.
* In the field of Research in Guidance and Counselling as a Research Associate, Research Assistant and Field Investigator.

**Social Effect**

* It is a popular Programme in the Teachers, Counsellors and Educational Administrators Society but more popular in women.

**Programme Structer**

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| One Year Course | 538 | PGDVGCC - 01 | funsZ”ku dk Lo:i ,oa rduhfd | | 8 |
| 539 | PGDVGCC - 02 | O;kolkf;d funsZ”ku | | 8 |
| 540 | PGDVGCC - 03 | lwpuk ladyu | | 8 |
| 541 | PGDVGCC - 04 | ijke”kZ izfdz;k vkSj dkS”ky | | 8 |
| 542 | PGDVGCC- 05 | funsZ”ku vkSj ijke”kZ ds eqn~ns | | 8 |
| **Total Credits** | | | | **40** | |

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| **PGDVGCC – 01**  **Nature and Techniques of Guidance**  **funsZ”ku dk Lo:i ,oa rduhd** |

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand concept, needs and history of guidance.

**CO2:** To explain the types of guidance.

**CO3:** To discuss the principles, techniques and models of guidance.

**CO4:** To identify the problems of children with special needs.

**CO5:** To describe the various information services of guidance programme.

***Course Content***

**[k.M &01 funsZ”ku dk bfrgkl] vko”;drk ,oa izdkj**

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| --- | --- |
| **bdkbZ& 1** | funsZ”ku dk bfrgkl |
| **bdkbZ & 2** | funsZ”ku ds lEizR;; |
| **bdkbZ & 3** | funsZ”ku dh vko”;drk |
| **bdkbZ & 4** | funsZ”ku ds izdkj |

**[k.M &02 funsZ”ku ds fl)kUr rduhd ,oa ekMy**

|  |  |
| --- | --- |
| **bdkbZ& 5** | funsZ”ku ds fl)kUr |
| **bdkbZ & 6** | funsZ”ku dh rduhd |
| **bdkbZ & 7** | funsZ”ku ds ekWMy &1 |
| **bdkbZ & 8** | funsZ”ku ds ekWMy &2 |

**[k.M &03 fo”ks’k vko”;drk okys cPpksa dk funsZ”ku**

|  |  |
| --- | --- |
| **bdkbZ& 9** | fof”k’V ckydksa dk funsZ”ku ,oa ijke”kZ |
| **bdkbZ & 10** | fiNM+s ,oa eUncqf) ckydksa dh leL;k;sa |
| **bdkbZ & 11** | lkekftd :i ls fiNM+s oxZ dh leL;k;sa |
| **bdkbZ & 12** | laosxkRed leL;kvksa okys Nk=ksa dk funsZ”ku |

**[k.M &04 funsZ”ku dk;Zdze dh lwpuk lsok**

|  |  |
| --- | --- |
| **bdkbZ & 13** | O;olkfld lwpuk lsok |
| **bdkbZ & 14** | ijke”kZ lsok |
| **bdkbZ & 15** | Lukuu ,oa vuqorhZ lsok |
| **bdkbZ & 16** | ewY;kadu ,oa vuqlU/kku lsok |

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| **PGDVGCC – 02**  **Vocational Guidance**  **O;kolkf;d funsZ”ku** |

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand the nature, need and history of vocational guidance.

**CO2:** To classify the vocations.

**CO3:** To develop the vocational training plan.

**CO4:** To identify various jobs and placement areas.

**CO5:** To evaluate vocational guidance.

***Course Content***

**[k.M &01 O;kolkf;d funsZ”ku dk bfrgkl] vko”;drk] izd`fr rFkk O;kolkf;d funsZ”ku ds izdkj**

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| --- | --- |
| **bdkbZ & 1** | O;kolkfld funsZ”ku dk bfrgkl |
| **bdkbZ & 2** | O;kolkfld funsZ”ku dh vko”;drk |
| **bdkbZ & 3** | O;kolkfld funsZ”ku dh izd`fr |
| **bdkbZ & 4** | O;kolkfld funsZ”ku ds izdkj % fofHkUu Lrj ij O;kolkf;d funsZ”ku |

**[k.M &02 O;olk; ds volj rFkk O;olk; dk oxhZdj.k**

|  |  |
| --- | --- |
| **bdkbZ & 5** | O;olk; ds izdkj |
| **bdkbZ & 6** | O;olk; p;u gsrq vko”;d fcUnq@rF; |
| **bdkbZ & 7** | O;olkf;d funsZ”ku dh izfdz;k |
| **bdkbZ & 8** | O;olk; dk oxhZdj.k |

**[k.M &03 jkstxkj fo”ys’k.k] jkstxkj LFkkukiUu] dk;Z{kerk ,oa vuqorhZ lsok;sa**

|  |  |
| --- | --- |
| **bdkbZ & 9** | jkstxkj fo”ys’k.k |
| **bdkbZ & 10** | jkstxkj LFkkukiUUk |
| **bdkbZ & 11** | O;kolkf;d dqlek;kstu |
| **bdkbZ & 12** | vuqorhZ lsok;sa |

**[k.M &04 O;olkf;d funsZ”ku dk ewY;kadu**

|  |  |
| --- | --- |
| **bdkbZ & 13** | O;olkfld funsZ”ku |
| **bdkbZ & 14** | O;olkfld p;u |
| **bdkbZ & 15** | jkstxkj lUrqf’V |
| **bdkbZ & 16** | ekufld LokLF; |

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| **PGDVGCC – 03**  **Data Collection**  **lwpuk ladyu** |

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand nature of data and data collection.

**CO2:** To explain the tool and techniques of data collection.

**CO3:** To select an appropriate tool or test for data collection.

**CO4:** To use the various psychological tests for data collection.

***Course Content***

**[k.M &01 lwpuk ladyu dh izd`fr**

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| --- | --- |
| **bdkbZ& 1** | lwpuk ladyu ds fofHkUu midj.k ,oa izfof/k;kW |
| **bdkbZ & 2** | ,d vPNs midj.k dh fo”ks’krk,Wa |
| **bdkbZ & 3** | oS/krk ,oa fo”oluh;rk |
| **bdkbZ & 4** | ekud ,ao vkWaadM+ksa dh O;k[;k |

**[k.M &02 iz”ukoyh ,oa fu/kkZj.k ekiuh**

|  |  |
| --- | --- |
| **bdkbZ& 5** | voyksdu |
| **bdkbZ & 6** | lk{kkRdkj |
| **bdkbZ & 7** | iz”ukoyh |
| **bdkbZ & 8** | fu/kkZj.k ekiuh |

**[k.M &03 ijh{k.k**

|  |  |
| --- | --- |
| **bdkbZ& 9** | miyfC/k |
| **bdkbZ & 10** | cqf) ijh{k.k |
| **bdkbZ & 11** | vfHk{kerk ijh{k.k |
| **bdkbZ & 12** | :fp ijh{k.k |

**[k.M &04 O;fDrRo ekiu dh rduhdsa rFkk lektfefr**

|  |  |
| --- | --- |
| **bdkbZ & 13** | O;fDRkRo ifjlwfp;kW rFkk iz”ukoyh rduhd |
| **bdkbZ & 14** | fu/kkZj.k ekiuh rduhd |
| **bdkbZ & 15** | iz{ksi rduhd |
| **bdkbZ & 16** | lektfefr |

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| **PGDVGCC – 04**  **Counseling Process and Skill**  **ijke”kZ izfdz;k ,oa dkS”ky** |

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand concept, needs and types of counseling.

**CO2:** To explain the process of counseling.

**CO3:** To construct career skill development plan.

**CO4:** To describe the process of development of self-image and self-esteem.

**CO5:** To discuss about the various methods of career counseling.

***Course Content***

**[k.M &01 ijke”kZ dh vo/kkj.kk] vko”;drk ,oa izdkj**

|  |  |
| --- | --- |
| **bdkbZ& 1** | ijke”kZ dh vo/kkj.kk |
| **bdkbZ & 2** | ijke”kZ dh vko”;drk |
| **bdkbZ & 3** | ijke”kZ ds izdkj |
| **bdkbZ & 4** | ijke”kZnkrkvksa ds fy, uSfrd fl)kUr |

**[k.M &02 dSfj;j ijke”kZ dh fof/k;kWa**

|  |  |
| --- | --- |
| **bdkbZ& 5** | ijke”kZ dh fLFkfr;ka |
| **bdkbZ & 6** | funkukRed izfof/k;ka |
| **bdkbZ & 7** | dSfj;j ijke”kZ dh fof/k;ka |
| **bdkbZ & 8** | lkewfgd ijke”kZ |

**[k.M &03 ijke”kZ dh izd`fr rFkk dSfj;j dk fodkl**

|  |  |
| --- | --- |
| **bdkbZ& 9** | lkewfgd izdze |
| **bdkbZ & 10** | ijke”kZnkrk ,oa ijke”kZizkFkhZ |
| **bdkbZ & 11** | funsZ”kkRed ,oa vfunsZ”kkRed ijke”kZ |
| **bdkbZ & 12** | dSfj;j fodkl |

**[k.M &04 ijke”kZ dkS”ky rFkk ;kstuk;sa**

|  |  |  |
| --- | --- | --- |
| **bdkbZ & 13** | ijke”kZ fof/k;ka | |
| **bdkbZ & 14** | ijke”kZ ds mn~ns”; | |
| **bdkbZ & 15** | ijke”kZnkrk ds xq.k | |
| **bdkbZ & 16** | ijke”kZ dk ewY;kadu | |
| **PGDVGCC – 05**  **Issues of Guidance and Counseling**  **funsZ”ku vkSj ijke”kZ ds eqn~ns** | |

***Course Outcomes:***

After completion of this course the learner will be able –

**CO1:** To understand various problems of guidance and counseling.

**CO2:** To identify the individual problem for guidance and counseling.

**CO3:** To understand concept of integrated education.

**CO4:** To explain the concept and needs of integrated education.

**CO5:** To conduct research in the field guidance and counseling.

***Course Content***

**[k.M &01 funsZ”ku vkSj ijke”kZ dh leL;k,a**

|  |  |
| --- | --- |
| **bdkbZ& 1** | oS;fDrd leL;k;sa vkSj funsZ”ku & ijke”kZ |
| **bdkbZ & 2** | lkekftd leL;k;sa vkSj funsZ”ku & ijke”kZ |
| **bdkbZ & 3** | ”kSf{kd leL;k;sa vkSj funsZ”ku & ijke”kZ |
| **bdkbZ & 4** | O;kolkf;d ¼vkfFkZd½ p;u dh leL;k;sa vkSj funsZ”ku &ijke”kZ |

**[k.M &02 lesfdr f”k{kk ;kstukUrxZr fu;fer fo|ky;ksa esa lesfdr fodykax cPPkksa dk funsZ”ku**

|  |  |
| --- | --- |
| **bdkbZ& 5** | lesfdr f”k{kk dh vo/kkj.kk ,oa iz;kstu |
| **bdkbZ & 6** | lkekU; fo|ky;ksa esa lesfdr xked nks’kksa ls xzLr cPpksa dk funsZ”ku |
| **bdkbZ & 7** | lkekU; fo|ky;ksa esa lesfdr Jo.k ck/kkxzLr cPpksa dk funsZ”ku |
| **bdkbZ & 8** | lkekU; fo|ky;ksa esa lesfdr n`f’V ckf/kr cPpksa dk funsZ”ku |
| **bdkbZ & 9** | lkekU; fo|ky;ksa esa lesfdr ekufld :i ls efUnr cPpksa dk funsZ”ku |

**[k.M &03 o.kZukRed lkaf[;dh**

|  |  |
| --- | --- |
| **bdkbZ & 10** | la[;kvksa dk foKku |
| **bdkbZ & 11** | fopyu ds eki |
| **bdkbZ & 12** | lglEcU/k |
| **bdkbZ & 13** | lkekU; lEHkko;rk odz |

**[k.M &04 funsZ”ku vkSj ekiu esa “kks/k**

|  |  |
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| **bdkbZ & 13** | funsZ”ku lsok esa ”kks/k v/;;uksa dh vko”;drk |
| **bdkbZ & 14** | funsZ”ku vkSj ijke”kZ dk;Zdze esa “kks/k izkFkfedrkvksa ds {ks= |
| **bdkbZ & 15** | funsZ”ku dehZ ¼ijke”kZnkrk½ dh O;kolf;d n{krk esa lao)Zu esa “kks/k dh Hkwfedk |
| **bdkbZ & 16** | “kks/k v/;;u dh izfdz;k ,oa vk[;k ys[ku |

**Mapping of Curricula to Programme Outcomes**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Programme Outcomes 🡺**  **Course Outcomes** 🡻 | **P1** | **P2** | **P3** | **P4** | **P5** |
| **C11** |  |  |  |  |  |
| **C12** |  |  |  |  |  |
| **C13** |  |  |  |  |  |
| **C14** |  |  |  |  |  |
| **C15** |  |  |  |  |  |
| **C21** |  |  |  |  |  |
| **C22** |  |  |  |  |  |
| **C23** |  |  |  |  |  |
| **C24** |  |  |  |  |  |
| **C25** |  |  |  |  |  |
| **C31** |  |  |  |  |  |
| **C32** |  |  |  |  |  |
| **C33** |  |  |  |  |  |
| **C34** |  |  |  |  |  |
| **C41** |  |  |  |  |  |
| **C42** |  |  |  |  |  |
| **C43** |  |  |  |  |  |
| **C44** |  |  |  |  |  |
| **C45** |  |  |  |  |  |
| **C51** |  |  |  |  |  |
| **C52** |  |  |  |  |  |
| **C53** |  |  |  |  |  |
| **C54** |  |  |  |  |  |
| **C55** |  |  |  |  |  |

MBA

Programme structure MBA

|  |  |
| --- | --- |
| MBA-1.1 | Management Functions and Behavior |
| MBA-1.2 | Managing Men |
| MBA-1.3 | Economic and Social Environment |
| MBA-1.4 | Quantitative Analysis and Managerial Application |
| MBA-1.5 | Organization Design, Development and Change |
| MBA-1.6 | Marketing for Managers |
| MBA-2.1 | Information Management and Computers |
| MBA-2.2 | Managerial Economics |
| MBA-2.3 | Accounting and Finance for Managers |
| MBA-2.4 | Management of Machines and Materials |
| MBA-2.5 | Sales Management |
| MBA-2.6 | Management Control System |
| MBA-3.1 | Corporate Policies and Practices |
| MBA-3.2 | Managerial Economics |
| MBA-3.11 | Human Resource Development |
| MBA-3.12 | Human Resource Planning |
| MBA-3.13 | Union Management Relations |
| MBA-3.14 | Managing Change in Organization |
| MBA-3.21 | Project Management |
| MBA-3.22 | Security Analysis and Portfolio Management |
| MBA-3.23 | International Financial Management |
| MBA-3.24 | Management of Financial Services |
| MBA-3.31 | Operational Research |
| MBA-3.32 | Production Management |
| MBA-3.33 | Management Information System |
| MBA-3.34 | Total Quality Management |
| MBA-3.41 | Consumer Behavior |
| MBA-3.42 | Management of Marketing Communication and Advertising |
| MBA-3.43 | International Marketing |
| MBA-3.44 | Marketing Research |
| MBA-4.1 | International Business |
| MBA-4.2 | Research Methodology |
| MBA-4.3 | Strategic Management |
| MBA-4.4 | Technology Management |
| MBA-4.5 | Industrial Training and Report Submission |
| MBA-4.6 | Comprehensive Viva-voce |

Programme Objective

PO1 :- To strengthen stake holder for enrichment of knowledge and skill development.

PO2 :- To aware learners and explore new development in the area of commerce and management.

PO3 :- To make learners aware with new rules and regulations adopted by the industry made by the government

PO4 :- To develop management skills and develop leadership qualities.

PO5 :- To make learners aware of best practices adopted the field of management and commerce.

PO6 :- To provide practical knowledge of the subject through industrial training

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Code** |  | **Title of Course** | |
| MBA-1.1 | CO1 | Management Functions and Behaviour  Course Objective:  CO 1 To make learners aware of Behaviour functions  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with the Emotional Intelligence  CO4 To develop management skills and develop leadership qualities. | |
| MBA-1.2 | CO2 | Managing Men  Course Objective:  CO1 To make learners aware of Human Resource practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of HRM.  CO4 To develop new skills in the learners needed in the industry. | |
| MBA-1.3 | CO3 | Economic and Social Environment  Course Objective:  CO1 To make learners aware of Economic and social environment of business and industry  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry  CO 4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO 5 To develop new skills in the learners needed in the industry. | |
| MBA-1.4 | CO4 | Quantitative Analysis and Managerial Application  Course Objective:  CO 1 To make learners aware of statistical techniques.  CO 2 To make learners enhance their capabilities and skills needed for decision making.  CO 3 To make learners aware with the basic statistical tools and its usefulness in decision making  CO 4 To make learners enhance their skills  CO 5 To develop analytical skills of learners.  CO 5 To provide practical knowledge of the subject | |
| MBA-1.5 | CO5 | Organization Design, Development and Change  Course Objective:  CO 1 To make learners aware of Organization Design, Development and Change  CO 2 To make learners enhance their capabilities and skills for development and change in organisation  CO 3 To make learners aware with the Emotional Intelligence  CO 4 To develop management skills and develop leadership qualities. | |
| MBA-1.6 | CO6 | Marketing for Managers  Course Objective:  CO 1 To make learners aware of Marketing practices  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of Marketing management  CO 4 To develop new skills in the learners needed in the industry. | |
| MBA-2.1 | CO7 | Information Management and Computers  Course Objective:  CO 1 To make learners aware of Information Management and Computers practices  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of IT.  CO 4 To develop new skills in the learners needed in the industry.  CO 5 To develop analytical skills of learners.  CO 6 To provide practical knowledge of the subject | |
| MBA-2.2 | CO8 | Managerial Economics  Course Objective:  CO 1 To make learners aware of managerial economics.  CO 2 To make learners enhance their capabilities and skills by knowing various laws given by economist.  CO 3 To make learners aware with best practices adopted in the industry in the field of economics.  CO 4 To develop new skills in the learners needed in the industry.  CO 5 To develop analytical skills of learners.  CO 6 To provide practical knowledge of the subject | |
| MBA-2.3 | CO9 | Accounting and Finance for Managers  Course Objective:  CO 1 To make learners aware of Financial and accounting practices  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of accounting and finance.  CO 4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO 5 To provide practical knowledge of the subject  CO6 To develop analytical skills of learners. | |
| MBA-2.4 | CO 10 | Management of Machines and Materials  Course Objective:  CO 1 To make learners aware of Management of Machines and Materials  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of production and operations management.  CO 4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO 5 To provide practical knowledge of the subject  CO 6 To develop analytical skills of learners. | |
| MBA-2.5 | CO11 | Sales Management  Course Objective:  CO1 To make learners aware of Sales and Marketing practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of Marketing and sales management  CO4 To develop new skills in the learners needed in the industry. | |
| MBA-2.6 | CO12 | Management Control System  Course Objective:  CO1 To make learners aware of Management Control System  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of IT and its use in MCS.  CO4 To develop new skills in the learners needed in the industry.  CO5 To develop analytical skills of learners. | |
| MBA-3.1 | CO13 | Corporate Policies and Practices  Course Objective:  CO1 To make learners aware of Corporate Policies and Practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of strategic management.  CO4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO5 To develop competitive skills in the learners and make them leaders who can works as strategist in the industry.  CO6 To develop analytical skills of learners.  CO7 To provide practical knowledge of the subject | |
| MBA-3.2 | CO14 | Management of New and Small enterprises  Course Objective:  CO1 To make learners aware of Management of New and Small enterprises.  CO2 To make learners enhance their capabilities and skills by knowing various laws related towards the field.  CO3 To make learners aware with best practices adopted in the industry in the field of Management of New and Small enterprises.  CO4 To develop new skills in the learners needed in the industry.  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.11 | CO15 | Human Resource Development  Course Objective:  CO1 To make learners aware of Human Resource practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of HRM.  CO4 To develop new skills in the learners needed in the industry. |
| MBA-3.12 | CO16 | Human Resource Planning  Course Objective:  CO1 To make learners aware of Human Resource practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of HRM.  CO4 To develop new skills in the learners needed in the industry. |
| MBA-3.13 | CO17 | Union Management Relations  Course Objective:  CO1 To make learners aware of Union Management Relations practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of HRM.  CO4 To develop new skills in the learners needed in the industry.  CO5 To make learners aware with new rules and regulations adopted by the industry made by the government |
| MBA-3.14 | CO18 | Managing Change in Organization  Course Objective:  CO1 To make learners aware of Organization Design, Development and Change  CO2 To make learners enhance their capabilities and skills for development and change in organisation  CO3 To make learners aware with the Emotional Intelligence  CO4 To develop management skills and develop leadership qualities. |
| MBA-3.21 | CO19 | Project Management  Course Objective:  CO1 To make learners aware of Project Management techniques.  CO2 To make learners enhance their capabilities and skills needed for decision making.  CO3 To make learners aware with the basic statistical tools and its usefulness in decision making  CO4 To make learners enhance their skills  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.22 | CO20 | Security Analysis and Portfolio Management  Course Objective:  CO 1 To make learners aware of Security Analysis and Portfolio Management  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of accounting and finance.  CO 4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO 5 To develop new skills in the learners needed in the industry.  CO 6 To develop analytical skills of learners.  CO 7 To provide practical knowledge of the subject |
| MBA-3.23 | CO21 | International Financial Management  Course Objective:  CO1 To make learners aware of International Financial Management practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of accounting and finance.  CO4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO5 To develop new skills in the learners needed in the industry.  CO6 To develop analytical skills of learners. |
| MBA-3.24 | CO22 | Management of Financial Services  Course Objective:  CO1 To make learners aware of Financial and accounting practices  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of accounting and finance.  CO4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO5 To develop new skills in the learners needed in the industry.  CO6 To develop analytical skills of learners. |
| MBA-3.31 | CO23 | Operational Research  Course Objective:  CO1 To make learners aware of statistical techniques.  CO2 To make learners enhance their capabilities and skills needed for decision making.  CO3 To make learners aware with the basic statistical tools and its usefulness in decision making  CO4 To make learners enhance their skills  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.32 | CO24 | Production Management  Course Objective:  CO1 To make learners aware of Production Management  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of production and operations management.  CO4 To develop new skills in the learners needed in the industry.  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.33 | CO25 | Management Information System  Course Objective:  CO1 To make learners aware of Management Information System  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of IT and its use in MIS.  CO4 To develop new skills in the learners needed in the industry.  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.34 | CO26 | Total Quality Management  Course Objective:  CO1 To make learners aware of Total Quality Management  CO2 To make learners enhance their capabilities and skills  CO3 To make learners aware with best practices adopted in the industry in the field of IT and its use in TQM.  CO4 To develop new skills in the learners needed in the industry.  CO5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject |
| MBA-3.41 | CO27 | Consumer Behaviour  Course Objective:  CO 1 To make learners aware of Consumer Behaviour  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field  of Consumer Behaviour  CO 4 To develop new skills in the learners needed in the industry. | | | | |
| MBA-3.42 | CO28 | Management of Marketing Communication and Advertising  Course Objective:  CO 1 To make learners aware of Management of Marketing Communication and  Advertising  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field  of Management of Marketing Communication and Advertising  CO 4 To develop new skills in the learners needed in the industry.  CO5 To provide practical knowledge of the subject | | | | |
| MBA-3.43 | CO29 | International Marketing  Course Objective:  CO 1 To make learners aware of International Sales and Marketing practices  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field  of International Marketing  CO 4 To develop new skills in the learners needed in the industry. | | | | |
| MBA-3.44 | CO30 | Marketing Research  Course Objective:  CO 1 To make learners aware of Marketing Research techniques.  CO 2 To make learners enhance their capabilities and skills needed for decision making.  CO 3 To make learners aware with the basic statistical tools and its usefulness in decision making  CO4 To make learners enhance their skills  CO 5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject | | | |
| MBA-4.1 | CO31 | International Business  Course Objective:  CO 1 To make learners aware of International Business.  CO 2 To make learners enhance their capabilities and skills needed for decision making.  CO 3 To make learners enhance their skills  CO 5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject | | | |
| MBA-4.2 | CO32 | Research Methodology  Course Objective:  CO 1 To make learners aware of statistical techniques used in research.  CO 2 To make learners enhance their capabilities and skills needed for decision making.  CO 3 To make learners aware with the basic statistical tools and its usefulness in decision making  CO 4 To make learners enhance their skills  CO 5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject | | | |
| MBA-4.3 | CO33 | Strategic Management  Course Objective:  CO1 To make learners aware of Strategic Management  CO2 To make learners enhance their capabilities and skills  CO 3To make learners aware with best practices adopted in the industry in the field of strategic management.  CO 4 To make learners aware with new rules and regulations adopted by the industry made by the government  CO 5 To develop competitive skills in the learners and make them leaders who can works as strategist in the industry.  CO 6 To develop analytical skills of learners.  CO7 To provide practical knowledge of the subject | | |
| MBA-4.4 | CO34 | Technology Management  Course Objective:  CO 1 To make learners aware of Technology Management  CO 2 To make learners enhance their capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry in the field of IT.  CO 4To develop new skills in the learners needed in the industry.  CO 5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject | | |
| MBA-4.5 | CO35 | Industrial Training and Report Submission  Course Objective:  CO 1 To make learners aware of industry and its working  CO 2 To make learners enhance their practical capabilities and skills  CO 3 To make learners aware with best practices adopted in the industry.  CO 4To develop new skills in the learners needed in the industry.  CO 5 To develop analytical skills of learners.  CO6 To provide practical knowledge of the subject | | |
| MBA-4.6 | CO36 | Comprehensive Viva-voce  Course Objective:  CO 1 To make learners aware of all the subject taught in MBA  CO 2 To make learners enhance their communication skills  CO 3 To make learners enhance their motivation level  CO 4To develop analytical skills of learners.  CO5 To provide practical knowledge of the subject | | |
| PGFGS  OR  PGFHR | CO37 | Gandhian Thoughts &Peace Studies  OR  Human Right and Duties | | |

**MBA**

COURSE MAPING

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 |
| CO1 | \* | \* |  | \* | \* |  |
| CO2 | \* | \* |  | \* | \* |  |
| CO3 | \* | \* | \* | \* | \* |  |
| CO4 | \* | \* |  | \* | \* | \* |
| CO5 | \* | \* |  | \* | \* |  |
| CO6 | \* | \* |  | \* | \* |  |
| CO7 | \* | \* | \* | \* | \* | \* |
| CO8 | \* | \* | \* | \* | \* | \* |
| CO9 | \* | \* | \* | \* | \* | \* |
| CO10 | \* | \* |  | \* | \* | \* |
| CO11 | \* | \* |  | \* | \* |  |
| CO12 | \* | \* |  | \* | \* |  |
| CO13 | \* | \* | \* | \* | \* | \* |
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| CO15 | \* | \* |  | \* | \* |  |
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| CO23 | \* | \* | \* | \* | \* | \* |
| CO24 | \* | \* | \* | \* | \* |  |
| CO25 | \* | \* | \* | \* | \* |  |
| CO26 | \* | \* | \* | \* | \* |  |
| CO27 | \* | \* |  | \* | \* |  |
| CO28 | \* | \* | \* | \* | \* |  |
| CO29 | \* | \* | \* | \* | \* |  |
| CO30 | \* | \* | \* | \* | \* | \* |
| CO31 | \* | \* | \* | \* | \* | \* |
| CO32 | \* | \* | \* | \* | \* | \* |
| CO33 | \* | \* | \* | \* | \* | \* |
| CO34 | \* | \* | \* | \* | \* | \* |
| CO35 | \* | \* | \* | \* | \* | \* |
| CO36 | \* | \* | \* | \* | \* | \* |
| CO37 | \* | \* | \* | \* | \* |  |

MBA Syllabus

**MBA 1.1 MANAGEMENT FUNCTIONS AND BEHAVIOUR**

**I ROLE OF A MANAGER**

1 Task of a Professional Manager

2 Responsibilities of a Professional Manager

3 Management Systems and Processes

4 Managerial Skills

**II DECISION MAKING**

5 Organisational Context of Decisions

6 Decision Making Models Problem Solving

7 Decision Making-Techniques and Processes

8 Management by Objectives

**III ORGANISATIONAL CLIMATE AND CHANGE**

9 Organisational Structure and Managerial Ethos

10 Management of Organisational Conflicts

11 Managing Change

**IV ORGANISATIONAL STRUCTURE AND PROCESSES**

12 Organisational Structure and Design

13 Managerial Communication

14 Planning Process

15 Controlling

16 Delegation and Interdepartmental Coordination

**V BEHAVIOURAL DYNAMICS**

17 Analysing Interpersonal Relations Leadership

18 Leadership Styles and Influence Process

19 Group Dynamics

**MBA 1.2 MANAGING MEN**

**I HUMAN RESOURCE MANAGEMENT: CONTEXT, CONCEPT AND BOUNDARIES**

1 The Changing Social Context and Emerging Issues

2 The Concept and Functions of Human Resource Management

3 Structuring Human Resource Management

**II GETTING HUMAN RESOURCE**

4 Job Analysis and Job Design

5 Human Resource Planning

6 Attracting the Talent: Recruitment, Selection, Outsourcing

7 Socialisation, Mobility and Separation

**III PERFORMANCE MANAGEMENT AND POTENTIAL ASSESSMENT**

8 Competency Mapping

9 Performance Planning and Review

10 Potential Appraisal, Assessment Centres and Career and Succession Planning

11 HR Measurement and Audit

**IV HUMAN RESOURCE DEVELOPMENT**

12 Human Resource Development System

13 Training

14 Mentoring and Performance Coaching

15 Building Roles and Teams

**V COMPENSATION AND REWARD MANAGEMENT**

16 Laws Covering Wages, Welfare and Benefits

17 Compensation Strategy, Structure, Composition

18 Reward Management

**VI EMPLOYER-EMPLOYEE RELATIONS**

19 Regulatory Mechanisms in Industrial Relations

20 Dealing with Unions and Associations

21 Industrial Democracy

22 Grievance Handling and Discipline

**MBA 1.3 ECONOMIC AND SOCIAL ENVIRONMENT**

**I ECONOMIC AND SOCIAL ENVIRONMENT**

1 Economic Environment of Business

2 Socio-cultural and Politico-legal

3 Changing Role of Government

**II STRUCTURE OF THE INDIAN ECONOMY**

4 Structural Dimensions of Indian Economy

5 Structure of Indian Industry

6 Public Sector in India

7 Private Sector in India

8 Small Sector in India

9 Sickness in Indian Industry

**III PLANNING AND POLICIES**

10 Planning Goals and Strategies

11 Evolution of Industrial Policy

12 Regulatory and Promotional Controls and Regulations-Framework

**IV EXTERNAL SECTOR**

13 India’s Foreign Trade

14 India’s Balance of Payments

15 Export and Import Policy

16 Foreign Capital and Collaborations

17 India’s External Debt

**V ECONOMIC REFORMS SINCE 1991**

18 Industrial Policy of 1991

19 Economic Reforms: Liberalisation, Globalisation and Privatisation

20 Financial Sector Reforms Fiscal System

21 Fiscal Sector Reforms

22 Economic Reforms and Social Justice

**MBA 1. 4 QUANTITATIVE ANALYSIS FOR MANAGERIAL**

**APPLICATIONS**

**I BASIC MATHEMATICS FOR MANAGERS**

1 Quantitative Decision Making : An Overview

2 Function and Progressions

3 Basic Calculus and Applications

4 Matrix Algebra and Applications

**II DATA COLLECTION AND ANALYSIS**

5 Collection of Data

6 Presentation of Data

7 Measures of Central Tendency

8 Measures of Variation and Skewness

**III PROBABILITY AND PROBABILITY DISTRIBUTIONS**

9 Basic Concepts of Probability Probability

10 Discrete Probability Distribution

11 Continuous Probability Distributions

12 Decision Theory Probability

Applications

**IV SAMPLING AND SAMPLING DISTRIBUTIONS**

13 Sampling Methods

l 4 Sampling Distributions

15 Testing of Hypotheses

16 Chi Square Tests

**V FORECASTING METHODS**

17 Business Forecasting

18 Correlation Applications of

19 Regression

20 Time Series Analysis

**MBA 1.5 ORGANISATIONAL DESIGN, DEVELOPMENT AND CHANGE**

**I UNDERSTANDING ORGANISATIONS**

1 Approaches to Understanding Organisations

2 Factors Affecting Organisation Structures

**II ORGANISATIONAL DESIGN**

3 Typology of Organisation Structures

4 Some Basic Organisation Design and Restructuring Strategies

**III APPROACHES TO WORK DESIGN**

5 Organising and Analysing Work

6 Job Design

7 Emerging Issues of Work Organisation and Quality of Working Life

**IV ORGANISATIONAL ANALYSIS**

8 Organisational Diagnosis: Tools and Techniques

9 Questionnaire as a Diagnostic Tool

10 Interview as a Diagnostic Tool

11 Workshops, Task-forces and other Methods

**V ORGANISATIONAL DEVELOPMENT AND CHANGE**

12 Organisational Development

13 Alternative Interventions

14 Process of Change

I5 Change Agents: Roles and Competencies

16 Institution Building

**MBA 1.6 MARKETING FOR MANAGERS**

**I MARKETING AND ITS APPLICATIONS**

1 Introduction to Marketing

2 Marketing in a Developing Economy

3 Marketing of Services

**II MARKETING PLANNING AND ORGANISATION**

4 Planning Marketing Mix –

5 Market Segmentation

6 Marketing Organisations

7 Marketing Research and its Applications

**III UNDERSTANDING CONSUMERS**

8 Determinants of Consumer Behaviour

9 Models of Consumer Behaviour

10 Indian Consumer Environment

**IV PRODUCT MANAGEMENT**

11 Product Decisions and Strategies

12 Product Life Cycle and New Product Development

13 Branding and Packaging Decisions

**V PRICING AND PROMOTION STRATEGY**

14 Pricing Policies and Practices

15 Marketing Communications Strategy

16 Advertising and Publicity

17 Personal Selling and Sales Promotion

**VI DISTRIBUTION AND PUBLIC POLICY**

18 Sales Forecasting

19 Distribution Strategy Effective Selling

20 Managing Sales Personnel

21 Marketing and Public Policy

22 Cyber Marketing

**MBA 2.1 INFORMATION MANAGEMENT AND COMPUTERS**

1 Information Technology : An Overview

2 Computer Systems

3 Computer Software

4 Networking Technologies

**II INFORMATION SYSTEMS - I**

5 In MIS Perspectives

6 Information Systems Economics

7 Management Information and Control Systems

8 Information Systems Security

**III INFORMATION SYSTEMS - II**

9 Information Systems and Functional Area Applications

10 Transaction Processing Systems-I: Human Resource and Marketing Management

11 Transaction Processing Systems-II: Operations and Financial Management

12 Integrated Applications

**IV SYSTEM ANALYSIS AND COMPUTER LANGUAGES**

13 Building Information Systems

14 System Analysis and Design

15 Computer Programming and Languages

**V SUPPORT SYSTEMS FOR MANAGEMENT DECISIONS**

16 Database Resource Management

17 Data Ware Housing and Data Mining

18 Tactical and Strategic Information Management: DSS and ESS

19 Intelligent Support Systems

20 Emerging Trends in IT

**MBA 2.2 MANAGERIAL ECONOMICS**

**I INTRODUCTION TO MANAGERIAL ECONOMICS**

1 Scope of Managerial Economics

2 The Firm : Stakeholders, Objectives & Decision Issues

3 Basic Techniques

**II DEMAND AND REVENUE ANALYSIS**

4 Demand Concepts and Analysis

5 Demand Elasticity

6 Demand Estimation and Forecasting

**III PRODUCTION AND COST ANALYSIS**

7 Production Function

8 Cost Concepts and Analysis I

9 Cost Concepts and Analysis II

10 Estimation of Production and Cost Functions

**IV PRICING DECISIONS**

11 Market Structure and Barriers to Entry

12 Pricing Under Pure Competition and Pure Monopoly

13 Pricing Under Monopolistic and Oligopolistic Competition

14 Pricing Strategies

**V COMPREHENSIVE CASE**

Competition in Telecommunication Service Provision

**MBA 2.3 ACCOUNTING AND FINANCE FOR MANAGERS**

**I ACCOUNTING FRAMEWORK**

1 Accounting and its Functions Introduction to Course Understanding

Financial Statements

2 Accounting Concepts and Standards Role of Accounting Part-I

and Finance Function in different types of Organisations

3 Accounting Information and its Emerging Horizons

**II UNDERSTANDING FINANCIAL STATEMENTS**

4 Construction and Analysis of Balance Sheet Accounting Financial

5 Construction and Analysis of Profit and Loss Account

6 Construction and Analysis of Funds Flow and Cash Flow Statement

**III COST MANAGEMENT**

7 Understanding and Classifying Costs

8 Absorption and Marginal Costing

9 Cost-Volume-Profit Analysis

10 Variance Analysis

**IV FINANCIAL AND INVESTMENT ANALYSIS**

11 Financial Management : Role and Project Appraisal:

An Introduction Regulation of An Institutional

12 Ratio Analysis

13 Leverage Analysis

14 Budgeting and Budgetary Control

15 Investment Appraisal Methods

**V FINANCIAL DECISIONS**

16 Management of Working Capital

17 Capital Structure

18 Dividend Decisions

**MBA 2.4 MANAGEMENT OF MACHINES AND MATERIALS**

**I OPERATIONS MANAGEMENT**

1 Operations Management : An Overview

**II FACILITIES PLANNING**

2 Product Selection

3 Process Selection Facilities Layout

4 Facilities Location

5 Facilities Layout and Materials Handling

6 Capacity Planning

**III WORK AND JOB DESIGN**

7 Work Design

8 Job Design

**IV OPERATIONS PLANNING AND CONTROL**

9 Planning and Control for Mass Production

10 Planning and Control for Batch Production

11 Planning and Control for Job Shop Production

12 Planning and Control of Projects

13 Maintenance Management

**V VALUE ENGINEERING AND QUALITY ASSURANCE**

14 Value Engineering Quality

15 Quality Assurance

**VI MATERIALS MANAGEMENT**

16 Purchase System and Procedure

17 Inventory Management

18 Stores Management

19 Standardisation, Codification and Materials Variety Reduction

20 Waste Management

**MBA 2.5 SALES MANAGEMENT**

**I SALES MANAGEMENT FUNCTIONS**

1 Introduction to Sales Management

2 Personal Selling Personal Selling

3 Sales Process

4 Computer Applications in Sales Management

**II SELLING SKILLS**

5 Communication Skills

6 Sales Presentation

7 Negotiation Skills

8 Retail Communication : Sales Displays Sales Displays

**III SALES FORCE MANAGEMENT**

9 Job Analysis, Recruitment and Selection

10 Training the Sales Force

11 Compensation and Motivation of Sales Force

12 Monitoring and Performance Evaluation

**IV PLANNING AND CONTROL OF THE SALES EFFORT**

13 Sales Planning

14 Sales Organisation

15 Sales Forecasting and Sales Quotas

16 Sales Budgeting and Control

**V CASE STUDIES**

**MBA 2.6 MANAGEMENT CONTROL SYSTEMS**

**I MANAGEMENT CONTROL: CONCEPTS AND CONTEXT**

1 Management Control Systems: An Introduction

2 Strategies and Management Control

3 Designing Management Control Systems

**II MANAGEMENT CONTROL STRUCTURE**

4 Responsibility Centres

5 Profit Centres

6 Transfer Pricing

7 Investment Centres

**III MANAGEMENT CONTROL PROCESS**

8 Budgeting and Reporting

9 Performance Measurement

10 Reward and Compensation

11 New Development/Techniques of

Management and Management Control

**IV MANAGEMENT CONTROL IN SOME SPECIAL ORGANISATIONS**

12 Service Organisations

13 Multinational and Export Organisations

14 Management Control of Projects

15 Other Organisations

**V CASE STUDIES**

1 Brooke Bond (India) Ltd. (A)

2 Dakshin Rasayan Nigam Ltd.

3 Bengal Steel Ltd.

4 Sun Cellular Ltd.

5 Thana District Co-operative Fisheries Project (B)

6 Christian Medical College and Hospital, Vellore

**MBA 3.1. CORPORATE POLICIES AND PRACTICES**

**I ISSUES IN CORPORATE MANAGEMENT**

1 Corporate Management : An Overview

2 Introduction to Corporate Strategy

3 Corporate Policy

**II CORPORATE GOVERNANCE**

4 Historical Perspective

5 Top Management and Corporate Governance

6 Code and Laws for Corporate Governance

**III COMPETITIVE SCENARIOS AND STRATEGY**

7 Strategies for Dynamic and Stable Markets

8 Strategies for Domestic and Global Markets

9 Market Structures and Network Externalities

**IV STRATEGIC ENABLERS**

10 IT and Strategy

11 Technology and R&D

12 Knowledge Management

13 Innovation

**V CORPORATE SOCIAL RESPONSIBILITY**

14 Strategy and Social Responsibility

15 Ethics and Values

16 Social Audit

17 Philanthropy as a Strategic Choice

**MBA 3.2.MANAGEMENT OF NEW AND SMALL ENTERPRISES**

**I ENTREPRENEUR AND ENTREPRENEURSHIP**

1 Entrepreneurship: Micro, Small and Medium

Enterprises (MSMEs)

2 Entrepreneurial Competencies

3 Institutional Interface for Micro, Small and

Medium Enterprises

**II ESTABLISHING SMALL SCALE ENTERPRISES**

4 Opportunities Scanning and Identification

5 Market Assessment for MSMEs

6 Choice of Technology and Selection of Site

**III SMALL SCALE ENTERPRISES — GETTING ORGANISED**

7 Financing the Micro, Small and Medium Enterprises

8 Preparation of the Business Plan

9 Ownership Structure and Organisational Framework

**IV OPERATING THE SMALL SCALE ENTERPRISE**

10 Financial Management Issues in MSMEs

11 Operations Management Issues in MSMEs

12 Marketing Management Issues in MSMEs

13 Organisational Relations in MSMEs

**V PERFORMANCE APPRAISAL AND GROWTH STRATEGIES**

14 Management Performance

Assessment and Control

15 Strategies for Stabilisation and

Growth

16 Managing Family Enterprises

17 Internalization of Small Business

**MBA 3.11 HUMAN RESOURCE DEVELOPMENT**

**I HRD : CONCEPT AND SYSTEM**

1 The Process and System of HRD

2 Career System

3 Competency Mapping

4 Performance Management System

5 Coaching and Mentoring

6 Development System

**II HRD SYSTEMS AND PROFESSION**

7 Reward System

8 Self Renewal System

9 HRD for Workers

10 Professionalisation of HRD

11 HRD Strategies and Experiences

**III COMPARATIVE HRD**

12 HRD in the Government and Public Systems

13 HRD in Health Sector

14 HRD in other sectors (Defence, Police, Voluntary

Organisations and Panchayati Raj Institutions)

15 International Experiences in HRD

**IV HRD ISSUES AND EXPERIENCES**

16 HRD Audit

17 Multi Source Feedback System

18 Knowledge Management

19 Technology and HRD

20 Diversity Management

21 Managing Globalization

**MBA 3.12 HUMAN RESOURCE PLANNING**

**I BASICS OF HUMAN RESOURCE PLANNING**

1 Introduction to HRP System – The Emerging Context

2 Process and Functions of Human Resource Planning

3 Methods and Techniques : Demand Management

4 Methods and Techniques : Supply Management

5 Contemporary Trends in Managing Demand and Supply

**II APPROACHES TO ANALYSING JOB**

6 Job Analysis

7 Changing Nature of Roles

8 Job Evaluation : Concepts and Methods

9 Competency Approaches to Job Analysis

**III KEY HR PRACTICES**

10 Recruitment

11 Selection

12 Dislocation and Relocation of Employees

13 Orientation

14 Career and Succession Planning

15 Performance and Potential Appraisal

**IV INTELLECTUAL CAPITAL ACCOUNTING**

16 Human Resource Information System

17 Human Resource Audit

18 Human Resource Accounting

**MBA 3.13 UNION MANAGEMENT RELATIONS**

**I CONCEPTUAL FRAMEWORK OF EMPLOYMENT RELATIONS**

1 Concept, Scope and Approaches to Industrial Relations

2 Evolution of Industrial Relations and Current Developments

3 Constitutional and Legal Framework of Industrial Relations :

Conventions, ID Act, Trade Union Act

**II TRADE UNIONISM**

4 Trade Union Development and Functions

5 Trade Union Structure and Recognition

6 Managing Trade Unions

7 Managerial Unionism

8 Employers’ Organisations

**III COLLECTIVE BARGAINING**

9 Nature and Content of Collective Bargaining

10 Negotiation Skills

11 Issues and Trends in Collective Bargaining

**IV EMPLOYEE INVOLVEMENT**

12 Evolution, Structure and Process

13 Design and Dynamics of Participative Forums

14 Strategies for Implementing Participation

**V GRIEVANCE HANDLING AND DISCIPLINE**

15 Grievance Function in Industrial Relations

16 Conciliation, Arbitration and Adjudication

17 Discipline in Industry

**VI TRENDS IN EMPLOYMENT RELATIONS**

18 Strategic Employee Relations : Emerging Trends

19 Cultural Aspects of Employment Relations

**MBA 3.14 MANAGING CHANGE IN ORGANISATIONS**

**I CONCEPT OF MANAGING CHANGE**

1 Understanding Change

2 Types of Change

3 Factors Critical to Change

4 Organisational Culture ad Change —

Cross Cultural Experiences

**II FORMS OF ORGANISATIONAL CHANGE**

5 Emerging Organisational Forms and Structures

6 Mergers and Acquisitions

7 Turn Around Management

8 Process Based Change

9 Group Based Approaches to Change

**III DIAGNOSIS AND INTERVENTION**

10 Organisational Diagnosis – Issues and Concepts

11 Diagnostic Methodology – Quantitative and Qualitative

12 Interventions in Organisational Change

13 Evaluation of Organisational Change

**IV ROLE OF CHANGE AGENT**

14 Key Roles in Managing Change

15 Skills for Managing Change

16 Managing Resistance to Change

17 Role of Leadership in Managing Change

18 Managing Transition

**MBA 3.21 PROJECT MANAGEMENT**

**I PROJECT FORMATION AND APPRAISAL**

1 Project Management: An Overview

2 Feasibility & Technical Analysis

3 Market and Demand Analysis

4 Economic and Financial Analysis

5 Formulation of Detailed Project Reports

**II PROJECT PLANNING AND SCHEDULING**

6 Planning Time Scales — Network Analysis

7 Material and Equipment

8 Human Resource

9 Project Costing and Financing

10 Project Organisation

**III IMPLEMENTATION AND CONTROL**

11 Project Management Information System

12 Material and Equipment

13 Human Resource

14 Financial Aspects

**IV PROJECT COMPLETION AND EVALUATION**

15 Integrated Project Management Control System

16 Managing Transition from Project to Operations

17 Project Review

**MBA 3.22 SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT**

**I AN OVERVIEW**

1 Nature and Scope of Investment Decisions

2 Components of Investment Risk

3 Valuation of Securities

**II SECURITIES MARKET IN INDIA**

4 Organisation and Functioning Credit Rating

5 Regulation

**III ANALYSIS FOR EQUITY INVESTMENT**

6 Economy and Industry Analysis

7 Company Level Analysis

8 Technical Analysis

9 Efficient Market Hypothesis

Case : Tata Tea Ltd.

**IV PORTFOLIO THEORY**

10 Portfolio Analysis

11 Portfolio Selection

12 Capital Market Theory

13 Portfolio Revision

**V INSTITUTIONAL AND MANAGED PORTFOLIO**

14 Performance Evaluation of Managed Portfolios

15 Investment Companies

16 Mutual Funds

**MBA 3.23 INTERNATIONAL FINANCIAL MANAGEMENT**

**I INTERNATIONAL FINANCIAL ENVIRONMENT**

1 International Financial Management: An Introduction

2 International Economics

3 International Monetary System

4 International Flow of Fund

**II FOREIGN EXCHANGE MARKET AND RISK MANAGEMENT**

5 Foreign Exchange Market

6 Parity Condition in International Finance and Currency Forecasting

7 Currency Futures, Options and Swaps

8 Management of Accounting and Economic Exposures

9 Foreign Exchange Regulation and Taxation Issues

**III INTERNATIONAL FINANCING DECISIONS**

10 Raising Funds from International Markets

11 Financing Foreign Trade

12 Cost of Capital

**IV INTERNATIONAL INVESTMENT DECISIONS AND WORKING**

**CAPITAL MANAGEMENT**

13 Capital Budgeting for MNCs

14 Working Capital Management for MNCs

15 Foreign Direct Investment

16 International Portfolio Investment

**MBA 3.24 MANAGEMENT OF FINANCIAL SERVICES**

**I FINANCIAL SYSTEM MARKETS & SERVICES**

1 Financial System

2 Financial Markets & Institutions

3 Financial Services : An Introduction

4 Management of Risk in Financial Services

5 Regulatory Framework

**II FINANCIAL MARKET: OPERATIONS AND SERVICES**

6 Stock Exchange : Functions and Organizations

7 Broking and Trading in Equity

8 Broking and Trading in Debt

9 Depositories

**III FEE BASED SERVICES**

10 Issue Management

11 Corporate Advisory Services

12 Credit Rating

13 Mutual Funds

14 Debt Securitisation

**IV FUND BASED SERVICES**

15 Leasing and Hire Purchase

16 Housing Finance

17 Credit Cards

18 Venture Capital

19 Factoring, Forfeiting and Bill Discouting

**V INSURANCE SERVICES**

20 Life Products

21 Non-Life Products

22 Broking Services

**MBA 3.31 OPERATIONS RESEARCH**

**I INTRODUCTION TO OPERATION RESEARCH**

1 Operation Research: An Overview

2 Review of Probability and Statistics

**II PROGRAMMING TECHNIQUES — LINEAR**

**PROGRAMMING AND APPLICATIONS**

3 Linear Programming– Graphical Method

4 Linear Programming-Simplex Method

5 Transportation Problem

6 Assignment Problem

**III PROGRAMMING TECHNIQUES — FURTHER APPLICATIONS**

7 Goal Programming

8 Integer Programming

9 Dynamic Programming

10 Non-Linear Programming

**IV INVENTORY AND WAITING LINE MODELS**

11 Inventory Control – Deterministic Models

12 Inventory Control-Probabilistic Models

13 Queueing Models

**V GAME THEORY AND SIMULATION**

14 Corporative Situations: Game Theory

15 Simulation

**VI CASE STUDIES**

**MBA 3.32 PRODUCTION MANAGEMENT**

**I ISSUES IN PRODUCTION/OPERATIONS MANAGEMENT**

1 Production/Operations Management: An Overview

2 Production System: Issues & Environment

3 Total Quality Management (TQM)

**II FORECASTING**

4 Need & Importance of Forecasting

5 Qualitative Methods of Forecasting

6 Quantitative Methods of Forecasting

**III PRODUCTION SYSTEM DESIGN**

7 Capacity Planning

8 Facilities Planning

9 Work System Design

10 Managing Information for Production System

**IV PRODUCTION PLANNING & SCHEDULING**

11 Aggregate Production Planning

12 Just-In-Time (JIT)

13 Scheduling & Sequencing

**V MATERIALS PLANNING**

14 Issues in Materials Management

15 Independent Demand System

16 Dependent Demand System

**VI EMERGING ISSUES IN PLANNING/OPERATIONS MANAGEMENT**

17 Total Productive Maintenance

18 Advanced Manufacturing System

19 Computers in Planning/Operations Management

**MBA 3.33 MANAGEMENT INFORMATION SYSTEM**

**I INFORMATION FOR DECISION MAKING**

1 Decision Making

2 Conceptual Foundations of Information Systems

3 Information Resources Management

**II SYSTEM DEVELOPMENT**

4 Overview of Systems Analysis & Design

5 System Development Life Cycle

6 Designing On Line & Distributed Environments-Design Consideration

7 Implementation and Control of Projects

**III COMPUTER NETWORKS & DATA COMMUNICATIONS**

8 Trends in Information Technology-Hardware, Software

9 Data Communication Concepts

10 Computer Networks

**IV MANAGING CORPORATE DATA RESOURCES**

11 Organising Data

12 Relational Data Base Management Systems

13 Query Languages Including DSS

14 Applications and Illustrations

**V SOCIO-LEGAL ASPECTS OF COMPUTERISATION**

15 Social Dimensions of Computerisation

16 Computer Viruses

17 Legal Dimensions of Computerisation

**VI CASE STUDIES**

1 A Case Study on Computer Applications

2 Aspects of Information Technology and Policy Making

and the Caribbean Community

3 Computerisation at IFFCO

**MBA 3.34 TOTAL QUALITY MANAGEMENT**

**I PHILOSOPHY AND BASIC CONCEPTS**

1 Introduction: Basic Concepts and Approach

2 Quality Management: Leading thinkers

3 Building Blocks of TQM

**II STRATEGIC CONSIDERATIONS**

4 TQM and Business Strategy

5 Quality Centred Strategic Planning

6 Economics of Quality

**III TOOLS AND TECHNIQUES**

7 Statistical Quality Control

8 Other Concepts, Tools and Techniques - I

9 Other Concepts, Tools and Techniques - II

**IV ORGANISATION AND LEADERSHIP**

10 Organisation for Quality

11 Quality Culture and Leadership

12 Motivation and Commitment

**V MANAGEMENT SYSTEMS FOR TQM**

13 ISO 9000 Quality Management Systems

14 Environmental Management Systems (EMS)

15 Management Systems for Safety and Health

**VI QUALITY APPRAISAL AND AUDITING SYSTEMS**

16 Auditing and Certification

17 Awards and Certification

**MBA 3.41 CONSUMER BEHAVIOUR**

**I CONSUMER BEHAVIOUR — ISSUES AND CONCEPTS**

1 Consumer Behaviour – Nature, Scope and Application

2 Consumer Behaviour and Life-style Marketing

3 Organisational Buying Behaviour

**II INDIVIDUAL INFLUENCES ON BUYING BEHAVIOUR**

4 Perceptions

5 Consumer Motivation and Involvement

6 Attitude and Attitude Change

7 Learning and Memory

8 Personality and Self-concept

**III GROUP INFLUENCES ON CONSUMER BEHAVIOUR**

9 Reference Group Influence & Group Dynamics

10 Family Buying Influences, Family Life-cycle and Buying Roles

11 Cultural and Sub-cultural influences

**IV THE BUYING PROCESS**

12 Problem Recognition & Information

Search Behaviour

13 Information Processing

14 Alternative Evaluation

15 Purchase Process & Post-purchase Behaviour

**V MODELLING BUYER BEHAVIOUR**

16 Early Models

17 Howard Sheth Model

18 Recent Developments in Modelling Buyer Behaviour

**MBA 3.42 MANAGEMENT OF MARKETING COMMUNICATION**

**AND ADVERTISING**

**I MARKETING COMMUNICATION AND**

**ADVERTISING — BASIC CONCEPTS**

1 Marketing Communication in Marketing

2 Communication-Key Concepts

3 Indian Media Scene

**II ADVERTISING CAMPAIGN PLANNING AND EXECUTION**

4 Planning Communication Strategy

5 Advertising Campaign Planning: Strategic

Consideration, Creative Consideration

6 Advertising Creativity : Campaign Planning and Execution

7 Advertising Research: Role and Trends

8 Measuring Ad Effectiveness: Definitions and Techniques

**III MEDIA PLANNING CONCEPTS**

9 Media Concepts, Characteristics and Issues in Media Planning

10 Media Selection, Planning and Scheduling

11 Internet as an Emerging Advertising Media

**IV MARKETING COMMUNICATION FORM**

12 Managing Sales Promotion

13 Direct Marketing

14 Publicity and Public Relation

15 Social Marketing Communication

**V STRATEGIES FOR ADVERTISING AGENCIES**

16 Function and Structure of Ad Agencies

17 Managing Client Agency Relationship

18 Strategies for Account Management

19 Legal and Ethical Issues in Advertising

**VI CASE STUDIES**

**MBA 3.43 INTERNATIONAL MARKETING**

**I INTERNATIONAL MARKETING :**

**AN INTRODUCTION**

1 . Scope and Size of International Markets

2 Conceptual Framework

3 Institutional Framework

**II ENVIRONMENT OF INTERNATIONAL BUSINESS**

4 Cultural Environment

5 Political and Legal Environment

6 Economic Environment

**III POLICY FRAMEWORK AND PROCEDURAL ASPECTS**

7 India’s Export-Import Policy

8 Export-Import Documentation

**IV INTERNATIONAL MARKETING MIX**

9 International Product Policy and Planning

10 International Advertising

11 International Pricing Policy

12 International Distribution and Sales Policy

**V INTERNATIONAL MARKETING PLANNING**

13 International Market Selection

14 International Marketing Research

15 International Marketing Planning and Control

**MBA 3.44 MARKETING RESEARCH**

**I M R CONCEPTS AND DESIGN**

1 M R Meaning and Importance, Research Process

2 Organisation of Marketing Research in India

3 Research Design

**II DATA COLLECTION**

4 Data Collection

5 Sampling

6 Questionnaire Design and Development

7 Attitude Measurement and Scaling

**III DATA PROCESSING AND ANALYSIS**

8 Qualitative Research - Meaning, Scope and Methodologies

9 Data Processing - Coding, Tabulation Data Presentation

10 Description and inference from Sample Data

11 Analysis of Association

**IV MULTIVARIATE ANALYSIS**

12 Regression Analysis, Discriminant Analysis and Factor Analysis

13 Conjoint Analysis

14 Cluster Analysis and Multi-dimensional Scaling

15 Applications of Marketing Research in India — Some Case Studies

**MBA 4.1 INTERNATIONAL MARKETING**

**I INTERNATIONAL MARKETING:**

**AN INTRODUCTION**

1 . Scope and Size of International Markets

2 Conceptual Framework

3 Institutional Framework

**II ENVIRONMENT OF INTERNATIONAL BUSINESS**

4 Cultural Environment

5 Political and Legal Environment

6 Economic Environment

**III POLICY FRAMEWORK AND PROCEDURAL ASPECTS**

7 India’s Export-Import Policy

8 Export-Import Documentation

**IV INTERNATIONAL MARKETING MIX**

9 International Product Policy and Planning

10 International Advertising

11 International Pricing Policy

12 International Distribution and Sales Policy

**V INTERNATIONAL MARKETING PLANNING**

13 International Market Selection

14 International Marketing Research

15 International Marketing Planning and Control

An Introduction Institutional

to MS-64 Infrastructure

to Export

Promotion

Global Marketing

Environment

**MBA 4.2 RESEARCH METHODOLOGY**

**I INTRODUCTION TO RESEARCH METHODOLOGY**

1 Importance of Research in Decision Making

2 Defining Research Problem and Formulation of Hypothesis

3 Experimental Designs

**II DATA COLLECTION AND MEASUREMENT**

4 Methods and Techniques of Data

Collection

5 Sampling and Sampling Designs

6 Attitude Measurement and Scales

**III DATA PRESENTATION AND ANALYSIS**

7 Data Processing

8 Statistical Analysis and Interpretation of Data — Non-Parametric Tests

9 Multivariate Analysis of Data

10 Model Building and Decision Making

**IV REPORT WRITING AND PRESENTATION**

11 Substances of Reports

12 Report Writing and Presentation

13 Presentation of a Report

**MBA 4.3 STRATEGIC MANAGEMENT**

**I INTRODUCTION TO STRATEGIC MANAGEMENT**

1 Concept of Strategy

2 Process of Strategy

3 Strategic Framework

**II STRATEGIC ANALYSIS**

4 Environmental Analysis

5 Competitive Forces

6 Internal Analysis

**III BUSINESS LEVEL STRATEGY**

7 Cost

8 Differentiation and Focus

**IV CORPORATE LEVEL STRATEGY**

9 Growth Strategies-I

10 Growth Strategies-II

11 Strategic Alliances

12 Turnaround

**V IMPLEMENTATION AND CONTROL**

13 Structural Dimensions

14 Behavioural Dimensions

15 Control

16 Evaluation of Strategy

**MBA 4.4 TECHNOLOGY MANAGEMENT**

**I TECHNOLOGY : ISSUES AND IMPLICATIONS**

1 Concepts and Definitions

2 Aspects and Issues

3 Implications of Technological Change

**II TECHNOLOGY DEVELOPMENT AND ACQUISITION**

4 Forecasting Technology Transfer

5 Generation and Development

6 Transfer

**III TECHNOLOGY ABSORPTION AND DIFFUSION**

7 Absorption

8 Assessment and Evaluation

9 Diffusion

**IV TECHNOLOGY ENVIRONMENT**

10 Science & Technology in India Technology Intellectual

11 Policies policy in Property

12 Linkages India Rights-I &1I

I & II

**V TECHNOLOGY SUPPORT SYSTEMS**

13 Financing

14 Information Systems

15 Organising at Enterprise Level

**VI CASE STUDIES**

**UGSSC-01**

**Microsoft Office and Internet**

|  |  |  |
| --- | --- | --- |
| **UGSSc-01** | **Microsoft Office and Internet** | **Credit: 8** |
| **Course Outcomes (CO)** | | |
| **CO1**: | Create documents using Word processor, Spreadsheet & Presentation Software that demonstrate proficiency in the use of office tools; | |
| **CO2**: | Understand the advanced features of Word processor, Spreadsheet & Presentation Software. | |
| **CO3**: | Gain ability to work on DTP software’s | |
| **CO4**: | Understand the basic concepts of data communication, types of signals and their properties | |
| **CO5**: | Describe communication architecture, interconnecting devices for networks. | |
| **CO6**: | Understand Internet and its applications, Email, EDI, NICNET, Internet Tools, Browsers. | |

**Microsoft Windows:**

**Windows Fundamentals:**

Basic elements, parts of a windows, Types of Icons, Basic Techniques for working in

windows, Menus.

**Managing the File System:**

Switching between Directory windows, changing view of the Directory window,

changing Drives and Directories working with files and directories, Managing floppy

Disks.

**Printing in Windows:**

Activating print Manager, Printing using print Manager, Pausing and Resuming Printing.

**Windows Accessories:**

Write, Paintbrush,

**Microsoft Word:**

**MS-Word Basics:**

Starting the world screen, word document.

**Unit-02 Typing and Editing:**

Typing and Revising text, finding and Replaceing, Editing and proofing tools.

**Unit-03 Formatting Text:**

Formatting Text Characters, Paragraph, Document Templates.

**Unit-04 Page Design and Layout:**

Page Setup, tables

**Unit-05 Mail Merge:**

Mail Merge.

**Unit-06 Document Management:**

Opening, Saving and Protecting documents, finding documents, printing a

document,

**Microsoft Excel:**

**Introduction to Excel:**

Excel Basic, Worksheets, within workbook, Enter and Edit Data, Range Names,

Navigate, Worksheet, Search and Replace Data, Save and Protect work book.

**Formatting and Print worksheet :**

Page setup, Colum width and Row Height, Fonts, Alignments, Numbers.

**Customising Workplace :**

Excel Windows, Worksheet at different Magnifications, Using custom Controls,

**Calculations in worksheet :**

Formula Basic Functions

**Charts :**

Chart types Editing charts

**Database Power of Excel :**

Database Concepts, Creating database, Adding Records, Deleting Records, Editing Records, Sorting a database.

**Microsoft PowerPoint:**

**Presentation Graphics :**

Business Graphics, Types of Business Graphics, Physical Aspects of Presentation.

**Introducing Power Point :**

Power point views, The Power Point Window.

**Creating a Presentation :**

Create a title Slide, creating a graph create tables Make organization charts, Save and

Close a presentation Change Slide layout, Slide Show.

**Customizing the Slide show :**

Create a blank presentation, working with text, change fonts, size and colour of text,

working with graphic tools Align Objects, Group or ungroup the objects.

**Internet Awareness :**

**Internet : An Overview:**

Internet, DNS, Host/Terminal, Connections, Individual Computer TCP/IP Link,

Dedicated Link Connections, Tools and Services on Internet, Usenet and Newsgroups,

Transferring Files with Ftp, Browsing the Internet.

**Internet Tools :** E-mail, FTP, Telnet.

**Browsers :**  Netscape Navigator Search Engines, NCSA Mosaic, Microsoft, Internet Explorer.

**Visiting websites:** Downloading, Examples, URL.

**UGSSC-03**

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**Course Outocmes:**

|  |  |
| --- | --- |
| **CO1** | Makeslearners able to know the botanical identification of medicinal and aromatic plants; |
| **CO2** | Makes learners able to know the medicinal importance of the plants; |
| **CO3** | Makes technical proficiency among the learners to identify products specific plants; and |
| **CO4** | Makes learners able to know the scope of income and employment enhancement opportunities through production of such plants. |

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**UGSSC-04 – Diet Therapy**

**Your Food and Its Utilization**

**Course Outcomes:**

CO1:Meal planning, Principles of meal planning and meal planning for the adult,.Meal planning for pregnant and lactating women,. Meal planning for the infant and preschooler.,Meal planning for the school going child and adolescents.

C02:Nutrition through the life cycle –pregnancy and foetal growth,Nutrition through the life cycle-infancy, Nutrition through the life cycle- pre-school age.

C03:Nutrition from school age to old age,Nutrition through the life cycle – school age.,Nutrition through the life cycle –adolescence.,Nutrition through the life cycle –adult hood.,Nutrition through the life cycle –old age.

C04:Nutrition-related disorders,Major deficiency disease-1,Protein energy malnutrition and xeropthalmia,.Major deficiency disease-2,Anaemia and iodine deficiency disorders,Other nutritional disorders,Nutrition and infection ,Dietary management of obesity,heart disease and diabetes mellitus.,Maternal malnutrion.

**Make the Nutritional Needs of Body.**

Food, Nutrition and Nutritional Status

Recommended Dietary Intakes for Indians

Daily Food Guide and Balanced Diet.

**Assimilation of Food and Effect on Growth and Activity**

Assimilation of Food into the body

Growth Pattern and Nutritional Requirements

Malnutrition and Health

Food Energy, Activity Pattern and Body weight

**Nutrition of the Mother and Child**

Nutrition through the Life Cycle – Pregnancy and Foetal Growth

Nutrition through the Life Cycle – Infancy

Nutrition through the Life Cycle – Preschool age.

**Nutrition from school age to old age:**

Nutrition through the Life Cycle – The School age

Nutrition through the Life Cycle – Adolescence.

Nutrition through the Life Cycle – Adulthood.

Nutrition through the Life Cycle – Old Age

**Nutritional Status, Food Habits and Food Misconceptions.**

Assessment of Nutritional Status

Our Food Habits

Food Misinformation

**UGSSC-05**

**tuLokLF; vkSj LokPNrk**

**lkoZtfud LokLF; ,oa LokLF; foKku**

**Public Health and Hygiene**

**Course Outcomes:**

CO1: Health Indicators: Population Dynamics and Epidemiology, Family Planning Programme, Asian Perspectives on Health and Quality of Life

CO2: Environmental Sanitation and Safety: Agents of Contamination, Water Supply and Waste Disposal, Personal Hygiene, Public and Home Safety.

CO3: Dietary Management of Disease: Diet in Disease: Basic Principles, Dietary Management of Nutrition-related Disorders and Associated Problems, Dietary Management of Disorders of Non-nutritional Origin.

CO4: Food-borne Diseases: Food Infections and Intoxications, Common Food-borne Diseases-I, Common Food-borne Diseases-II, Parasitic Infestations, Food Infections and Intoxications.

CO5: Common Infections and Infectious Diseases: Measles, Tuberculosis and Whooping Cough Diphtheria, Tetanus and Poliomyelitis, Malaria, Skin, Eye and Ear Infections.

**LokLF; lwpd**

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यूनिट Unit -06 O;fDxr LoPNrk

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**UGSSC-06**

**Programming and Problem Solving Using ‘C’**

**Course Outcomes:**

**CO1** The students develops a sound approach to problem solving using a middle level programming language.

**CO2** Apply techniques like recursion and iteration are learnt to solve a problem.

**CO3** Build programming concepts like pointers, structures.

**Introduction**

**Introductory:**

An Overview of C, Escape sequence, Getting A “feel” for C.

**Data types in ‘C’**

Variables of types (out char, float, double,); Enumerated type, the typed-of statement,

identifiers.

**Operators and Expressions Inc.**

Elementary Arithmetic Operations and Operators, Expression, L Values and P Values,

Promotion and Demotion of Variables types: The cast operator, print f() functions.

**Decision Structure in ‘C’**

Boolean operators and Expression The go to statement, the if (), Statement, he if ()- else

statement.

**Control Structures-I**

The do – while () and while Loops, the Comma Operator, the transfer of Central from

within loops, Ternary, operator, The Switch case default statement.

**Programming in C**

**Control Structure II**

‘The for (;;) loop, unidimensional Arrays, The Size of operator, storage classless and

scope.

**Painters and Arrays:**

Pointer variables and pointer Arithmetic, Pointers Arrays and the subscript operator, A

digression on Scan f(), Multidiensional Arrays.

**Functions:**

Functions Prototypes and Declarations, Functions and Scope, Pointers as Function

Arguments, String Functions, Multi Dimentional Arrays as function Arguments.

**Functions II**

Recursive functions, Macros, conditional Compilations, Macros with Parameters,

Command, Line Arguments, Variables Length Argument Lists, Complicated Declarations, Dynamic Memory Allocation.

**Files and Structs, Unions and Bit-Fields**

Files and File 70, Structs, the DOT Operator, Extructs and files: f seek (), Structs and

Function and Unions, The Bitwise Operators.

**Data Structures:**

**Introduction to Data Structures : Array**

Programme Analysis, Arrays, Array Declaration, Storage

**Lists :**

Basic Terminology, Static Implementation of lists, Pointer implementation of lists,

Doubly linked lists, circular linked list, Storage Allocation, Storage Pools, Garbage

Collection, Fragmentation, Relocation and Compaction.

**Stacks and Queues:**

Defining stack and Queue, stck oerations and implementations, stack Applications

Queues: Operations, and Implementation, Queue Application priority Queues.

**Graphs**

Defining Graph, Basic Terminology, Graph Representation, Graph traversal (DFS,BFS)

shortest path problem, Minimum Spanning tree.

**Trees and File Organisation:**

**Trees**

Basic Terminology, Binary, Tree, Traversals of a Binary, tree Binary search trees (BST).

**AVL-Tree and B-Tree**

Height Balance tree, Building Height Balanced tree, B- Tree, B-Tree of Order 5.

**Files:**

Terminology, File organization, sequential files, Direct File organization, Indexed

Sequential file organization.

**Searching and Sorting Techniques:**

**Searching Techniques:**

Sequential Search, Binary Search,

**Sorting Techniques-I**

Internal Sort (Insertion Sort, Bubble Sort, Quick Sort, Way Merge Sort Heap Sort),

Sorting on Several Keys.

**Sorting Techniques- II**

Data Storage (Magnetic Tapes, Disks), Sorting with Disks, K-Way merging, Buffering,

Sorting, With Tapes.

**UGSSc-07 Fundamental of Computer and IT**

**Course outcomes:**

|  |  |
| --- | --- |
| **CO 1** | Learners also learn about the introduction and history of computers, generations of computers. |
| **CO 2** | It gives the knowledge about the hardware and system software. |
| **CO 3** | This course also provides the knowledge about the basic computer programming, concept of algorithm, flow charts and also programming languages. |
| **CO 4** | Learner will gain the knowledge related with IT. |

**Fundamental of Computer & IT**

**Introduction to Computer:**

Computer Basics: Characteristics of Computer, Application of Computer.

**Basic Components of Computer:** Components of Computer, CPU, Memory, Keyboard, Mouse, VDU, Printers, RAM, ROM, CD-ROM, Hardware and Software.

**Classification of Computer:** Analog, Digital Hybrid Computer, General purpose, Special Computer, Micro, Mini, Mainframe Computer, Super Computers, Desktop, Laptop, Palmtop. Representation of Data/information: Information Technology, Data, information, Data processing, Characteristics of information, Scope of information, Basic data types.

**Basics of Digital Electronics:**

**Digital Number System :** Number System, Decimal System, Binary System, Octal System, Hexadecimal System, Code Conversion, Binary Coes, 8421 Code/BCD Code, 2421 Code, 5211 Code, Reflective Code, Sequential Codes, Non weighted codes, Gray Code, Error Detecting and Correction Codes, ASCII Code, EBCDIC Code, Floating point Numbers.

**Digital Logic Gates:** Gate. AND, OR, NOT, BUF, NAND, NOR, XOR, XNOR, Universal

Gates. Simplification of Boolean Functions: Karnaugh Maps, Minimization Technique upto 5- vriable K-map, Inverse function. Digital Combinational Circuit: Decoders, Encoders, Priority Encoder, Multiplexer, De- Multiplexer, Boolean Function, Implementation, Mux-Demux Application Example. Sequential Circuits: Concept of Sequential logic, Asynchronous sequential circuit, Synchronous sequential circuits, Latces and Flip- Flops, RS, JK Latch, JK Master Slave Flip-Flop, Sequential circuits Design.

**Memory System:**

**Introduction of Memories System:** Memory Cell, Block diagram of Memory Cell, Memory locations and address, Memory operations, Memory hierarchy.

**Main Memories:** Semi-conductor RAM Memories, Static Memories, Dynamic RAM, Performance Measure, SDRAM, ROM, Flash Memory, Speed, sigze and cast of memory.

**Secondary Storage Memories:** Magnetic Disk Memory, Flopy Disk Memory, RAID Disk Arrays Optical Disk.

**High Speed and Virtual Memories:** Cache Memories, Performance Consideration, Virtual Memories, Demand Paging.

**Microprocessor:**

Introduction to Microprocessor: Evolution, Introduction and Characteristics of Microprocessor Systems, Microprocessors Register Structure, ALU, Timing and Control Unit, CPU, Memory, Input/Output, Hardware, Software and firmware, Machine , Language, Assembly language, High level language.

**Microprocessor :** Architecture, Softwaer Model, Functions and operations, Instruction and Data format, Opcode format, Data transfer Instructions, Arithmetic instructions, Addressing Mode of 8085. 16-Bit Microprocessor: Architecture, Bus interface unit, Execution Unit, Register Organisation, Memory Segmentation, Software Model of 8086, 8088 Microprocessor.

**Advanced Microprocessors and Micro Controllers:** Introduction to 32 bit and 64 bit

Microprocessors, The 80386. Microprocessor, The 80486 Microprocessor, Pentium Processor, Motorola 68XXX Processors, Microcotrollers.

**UGSSC-08 Computer Network and Security Maintenance**

**Course outcomes:**

**Network Basics:**

**Introduction:**

Networking, Need, Advantages and Types,

**Network Topologies:**

Terminology, Bus Topology, Ring Topology, Star topology, Hybrid Network Topology.

**Network Protocols, Hardware and Software:**

Networking Protocols, Standards, Network Hardware, Internetwork and Network Software.

**Networking Design and Configuration:**

Networking components/ Configurations, Directions Procedure.

**Transmission and Network Elements:**

**Signal Transmission:**

Terminology, Data transmission, Connection- oriented and Connectionless Transmissions, Synchronous and Asynchronous Transmission, Transmission Media, Analog Signals.

**OSI Reference Model:**

Terminology, The OSI Model,

**Ethernet:**

Terminology, Ethernet Origins, Ethernet Configuration, Ethernet communication, Ethernet collision, Ethernet Frames, Fames Types.

**Network and Devices:**

Token Ring Architecture, Fiber Distributed Data Interface (FDDI), Token Ring Study, ATM, Connectivity Devices, Transceivers, Repeaters, Hubs, Media Dependent Adapter, Internetworking Devices, Gateways

**Internet Connectivity:**

**The Internet:**

Usage, Architecture of the Internet, IP, TCP/IP Reference Model, Unified Networks.

**The Internet Services:**

E-Mail, Remote Login, ISPs, Message transfer, File Transfer Protocol (FTP), Telnet, Leased line.

**ISDN & Bridge-Routers:**

ISDN, NFAS, Advantages of ISDN, Interfaces, Physical layer Protocols, 2BIQ, Link layer Protocols, Bridge Routers.

**ISP Connectivity:**

Internet service Provider (ISP), ISP Connection Options, DSL, Cable Modem, DSL, SHDSL, Broadband Access, Dynamic DNS.

**Installation and Administration:**

**Network Operating Systems:**

Terminology, Network Operating System, Windows for Workgroups/ Windows 95/Windows NT server, UNIX/LINUX, MAC OS Apple Share.

**World Wide Web & Client Server Model:**

www, architecture of www.

**Network Planning and Management:**

Quality of service analysis, Propagation Delay, Response Time, Throughput Workload, Network, Maintenance and Management, Network Management Tools.

**Network Security:**

Cyptography, Encryption, Authentication, Firewalls, Proxy Servers, Virtual Private Networks (VPNs).

**UGSSC-12 Fundamentals of Computers**

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| **UGSSc-12** | **Fundamentals of Computers** | **Credit**: 8 |
| **Course Outcomes (CO)** | | |
| **CO1** | Understand the basic components of computers and terminology; | |
| **CO2** | Understand data, information and file management; | |
| **CO3** | Gain ability to be aware of I/O devices, memory organization | |
| **CO4** | Identify and use of DOS/WINDOWS operating system to create and manage simple file processing operations, organize directory structures with appropriate security. | |
| **CO5** | Effectively use the DOS/WINDOWS system to accomplish typical personal, office, technical, and software development tasks. | |
| **CO6** | Monitor system performance and network activities. | |

**Computer Basics:** Introduction, Algorithms, A Simple Model of a Computer, Characteristics of Computers, Problem-solving Using Computers.

**Data Representation:** Data Representation, Integer Representation, Floating-Point Number Representation, Conversions between Number Bases, Converting Binary, Octal, and Hexadecimal to Decimal, Converting among Binary, Octal, and Hexadecimal, Hexadecimal to Binary conversion, Error Detection Codes

**Input & Output Devices:** Introduction, Description of Computer Input Units, Other Input Methods, Computer Output Units, Terminals.

**Computer Memory:** Introduction, Memory Cell, Memory Organization, Read Only Memory, Serial Access Memory

**Memory in Physical Devices:** Introduction, Physical Devices Used to Construct Memories, Magnetic Hard Disk

**Disk Drives:** Introduction, Floppy Disk Drives, Compact Disk Read Only Memory, Magnetic Tape Drives

**General Concept of Operating System:** Introduction, Operating System, History and Evolution, Functions of Operating System, Multitasking, Multiprocessing, Time Sharing, Real Time OS with Examples,

**Disk Operating System (DOS):** Introduction, History & versions of DOS, DOS basics- Physical structure of disk, Disk Structure, FAT; File & directory structure and naming rules, Booting process , DOS system files , DOS commands- internal & external;

**Windows concepts:** Features, Windows Structure , Desktop, , Taskbar , Start Menu , My Computer , Recycle Bin, Windows Accessories: Calculator, Notepad, Paint, WordPad, Character Map, Windows Explorer, Entertainment, Managing Hardware & Software in Windows: Installation of Hardware, Software, Scanning Documents, System Tools, Communication, Sharing Information between programs

**UGSSc-13 Office Tools and Internet**

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| **UGSSc-13** | **Office Tools and Internet** | **Credit: 8** |
| **Course Outcomes (CO)** | | |
| **CO1**: | Create documents using Word processor, Spreadsheet & Presentation Software that demonstrate proficiency in the use of office tools; | |
| **CO2**: | Understand the advanced features of Word processor, Spreadsheet & Presentation Software. | |
| **CO3**: | Gain ability to work on DTP software’s | |
| **CO4**: | Understand the basic concepts of data communication, types of signals and their properties | |
| **CO5**: | Describe communication architecture, interconnecting devices for networks. | |
| **CO6**: | Understand Internet and its applications, Email, EDI, NICNET, Internet Tools, Browsers. | |

**MS Word**

Introduction, MS-Word, Features, Creating a MS Word Document, Saving and Opening Documents in Word, Interface, Toolbars, Ruler, Menus, Keyboard Shortcut, Editing, Previewing, Printing & Formatting a Document, Find & Replace, Using Thesaurus, Using Auto- Multiple Functions, Mail Merge, Handling Graphics, Tables & Charts, Document into various formats.

**MS-Excel**

Introduction, Worksheet basics, Creating worksheet, Entering into worksheet, Heading information, Data & Text, Date & Time, Alphanumeric values , Saving & quitting worksheet, Opening and moving around in an existing worksheet, Toolbars and Menus, Excel shortcut and function keys, Working with single and multiple workbook, Working with formulae & cell referencing, Auto sum, coping formulae, Absolute & relative addressing, Worksheet with ranges, Formatting of worksheet, Previewing & Printing worksheet, Graphs and charts, Database, Creating and using macros, Multiple worksheets- concepts, creating and using.

**MS-Power point and Other DTP Software**

Introduction, Presentations , Creating Slides, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering an Object, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect, Other DTP Software’s: MS-Publisher, Adobe Page maker, packages, Corel Draw, Adobe Photoshop.

## Communication:

**Fundamentals of Data Communication:** Concept, Data Communication modes, Communication Hardware.

**Computer Networks:** Network concept and classification, LAN, WAN.

**Emerging Trends in Networking:** E-Mail, EDI, Networking Scenario.

**Internet Awareness:**

**Internet:** An Overview: DNS, working of Internet, Tools and Services on Internet, Browsing the Internet, Gopher.

**Internet Tools:** E-Mail, PTP & Telnet: E-Mail, E-Mail, Addressing, The Components of E-Mail, Address Book, Troubleshooting in E-Mail, Interesting E- Mail Addresses, Mailing Lists and list servers, FTP and Telnet, Interesting Sites.

**Browsers:** Netscape Navigator, Search Engines, NCSA, Mosaic, Microsoft Internet Explorer.

**Visiting web sites:** Downloading.

**PGDAE – 02: Agricultural Extension and Farm Journalism**

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| **CO1** | Learner will be able to understand the concepts and scope of Journalism and source of information. |
| **CO2** | This course impact the knowledge about peculiarity of rural and agricultural journalism. |
| **CO3** | Learner will gain sufficient knowledge about challenges and constraints in farm journalism. |
| **CO4** | This course provides the knows how about the editing of raw information collected from the field and awaking them liable to be catered to farmers in desired ways. |

**Unit – 1: Fundamentals of Extension Education:** History and Development of Extension Education, Objectives and Philosophy of Extension Education, Recent Trends in Agricultural Extension, Community Development Programme

**Unit – 2: Extension Methods Tools and Techniques:** Principles of Teaching in Extension, Teaching Methods in Extension, Andragogy and Adult Learning, Audiovisual aids for Extension Education

**Unit – 3: Rural Sociology:** Introduction to Rural Sociology, Group Organization and Rural Socialization, Structure and Functions of Society, Social Satisfaction and Interaction, Social Changes

**Unit – 4: Educational Psychology:** Concept of Educational Psychology, Learning Theories and their Impact, Intelligence and Factors Affecting Intelligence, Behaviour Role of Attitude and Interest, Decision Making

**Unit – 5: Programme Planning:** Programme Planning, Professional Abilities of Planners, Role of Extension Agents, Participatory Approach, Programme Evaluation

**Unit – 6: Administration & Management of Organization:** Nature and Purpose of Administration, Principles of Administration, Management of Extension Organization, Public and Private Organization, Privatization of Extension Services

**Unit – 7: Human Resource Development:** Concept and Principles of Human Resource Management, Personnel Management, New Analysis and Motivational Techniques, Performance Appraisal, HRD in Agriculture

**Unit – 8: Rural Leadership:** Theories of Leadership, Importance of Leadership, Qualities and Traits of Leader, Selection and Training of Leaders, Local Leaders in Agricultural Development

**Unit – 9: Training Models and Methods:** Importance and Need of Training; Phases of Training; Training Modules and Models; Types, Techniques and Method of Training; Evaluation of Training

**Unit – 10: Women in Rural Development:** Farm Women, Demographic Features of Farm Women, Farm Women in Agricultural Production, Training Needs of Farm Women, Women Empowerment

**Unit – 11: Principles of Farm Journalism:** Journalism, Farm Journalism in India, Principles of Writing, Rural Press and Periodicals, Legal Aspects of Print Media

**Unit – 12: Basic Tools of Journalism:**  Writing for Farmers, Readable Writing, Illustrations in Publications,Writing for Radio and Television, Technical Writing

**Unit – 13: Editing and Printing:** Editing and Printing Instructions, Press Management, Printing Process, Quality of Printed Material, Distribution of printed Material

**Unit – 14: Visual Graphics in Farm Communication:** Definition and Concepts, Principles of Visual Graphics, Photo Treatment, Photo Printing, Picture Services

**Unit – 15: Radio and Television:** Characteristics of Radio and Television; Programme Production; Feedback and Evaluation; Innovation; Storage, Preservation and Distribution

**Unit – 16: Writing for Farmers:** Agriculture in Uttar Pradesh, Information Gathering, Information Processing, Evaluation of Farm Publication. Printing

**Unit – 17: Script Writing for Radio and Television:** Preparation for Film Interview, Information Presentation, Models of Presentation, Editing and Special Effects, Microphone and Camera

**Unit – 18: Farm Photography:** Type of Photography,Press Photography, Film and Television Photography, Scientific and Technical Photography, Commercial Photography

**Unit – 19: Information Technology:** Information Collection, Information Management, Agri-informatics, Presentation Techniques, Public Relations

**Unit – 20: Public Communication:** Models of Public Communication, Exhibition and Exhibits, Hording and Display, Social Advertisements, Evaluation

**Reference for SLM:**

1. **SLM Code No. AGR – 403 of YCMOU, Nashik, Maharashtra Developed and used for M. SC. Agricultural Extension in that University. It is available in PDF form On their Website** [**www.YMCOU.ac.in**](http://www.YMCOU.ac.in)

**PGDAE – 05: Research Methods and Statistical Analysis**

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| **CO1** | Learner will get the knowledge of Meaning and Types of Research, Significance of Research, Research Problems. He will be able to use statistical tools such as correlation, inter and intra class correlation, regression etc. |
| **CO2** | Learner will able to understand theory of Sampling, Different Types of Sampling Designs. |
| **CO3** | In this course, learner will be able to get the knowledge of the Methods of Data Collection, classification analysis and Techniques of Interpretation. |
| **CO4** | This course also provides the knowledge about Scaling technique. Scale Construction and test of hypotheses. |

**Unit – 1:Research Methods –** An Introduction: Meaning and Objective of Research, Types of Research, Research and scientific Methods, Research Process, Problems Encountered

**Unit – 2:Basic Principles of Research Methods:** Motivating Factors in Research, Scope of Research, Limitations in Scientific Research, Type of Research for Agriculture, General Phases of Scientific Procedure

**Unit – 3:Defining the Research Problems:** Research Problems and its Scope, Selection of Research Problems, Techniques involved in Defining Problems, Research Proposal Steps, Illustration of Research Problems

**Unit – 4:Research Design:** Need for Research Design, Features of a Good Research Design, Important Concepts of Research Design, different Research Design, Basic Principles of Experimental Designs

**Unit – 5:Plan of Study:** Delimitation of Scope of Investigation,Choice of Research Topic, Classification of Data, Sequence of Study, Sources of Information

**Unit – 6:Sampling Methods:** Complete enumeration, Types of Sampling Designs, Sampling and Non sampling Errors

**Unit – 7: Methods of Field Observation:** Formulation of Hypotheses and Observation, Field Observation, Aids in Field Observation, Reporting Observation, Errors in Observation

**Unit – 8:Methods of Data Collection:** Types of Data, Data Collection Methods, Major Aspects in the Design of Questionnaire, Problems in Communication, Organization of Data from Questionnair

**Unit – 9:The Interview:** Major Purpose of Research Interview, Advantages and Limitations, Types of Interview, Some Techniques of Interviewing, Interview Guide, References

**Unit – 10:Project Assessment and Evaluation:** Basis of Assessment, Purpose and Goals of Evaluation, Theoretical Basis of comprehensive Evaluation, Evaluation Models and Approaches, Reporting the Assignment

**Unit – 11:Processing and Analysis of data:** Processing, Operations and Data Classification; Variables and Attributes; Frequency Distribution; Tabulation of Statistical Data

**Unit – 12:Testing of Hypotheses:** Hypothesis and its Definition, Types of Hypothesis, Procedure of Hypothesis Testing, Types of Tests and Limitations of Hypothesis

**Unit – 13:Statistical Concepts:** Measures of Typical Sizes, Variability, Correlation and Regression, Non Parametric Tests

**Unit – 14:Scaling Techniques:** Scales for Measuring Social Status, Scaling Techniques, ‘T’ Scores, Likert Scale, Reliability of Test, Validity of Test Scores

**Unit – 15:Graphic Presentation:** Rectangular Co-ordinate Graphs, Frequency Distribution Graphs, Diagrams, Flowcharts

**Unit – 16:Analysis of Variance and Covariance:** Analysis of Variance and Assumptions, Types of Classification of Data, Analysis and Interpretation of Data, Analysis of Covariance, Need and Use of Covariance Technique, Analysis and Interpretation of ANCOVA

**Unit – 17:Multivariate Analysis:** Concept of Multivariate Analysis, Multiple Correlation Analysis, Discriminate Function, D2 Analysis and Interpretation of Results

**Unit – 18:Path, Content and Factor Analysis:** Path Analysis, Content Analysis, Factor Analysis

**Unit – 19:Package for Data Analysis:** Need of Software Package for Data Analysis, Software Package for Data Analysis, SPSS Packages

**Unit – 20:Scientific Report Writing:** Scientific Writing, Types of Scientific Reports, Thesis and Dissertation Writing

**Reference for SLM:**

1. **SLM Code No. AGR – 402 of YCMOU, Nashik, Maharashtra Developed and used for M. SC. Agricultural Extension in that University. It is available in PDF form On their Website** [**www.YMCOU.ac.in**](http://www.YMCOU.ac.in)

**Master of Computer Application (MCA)**

**Program Objectives**

The educational objectives of the MCA program enable the learner to be a thorough professional in the field of IT. The broad objective of the MCA programme is to prepare post graduates for productive careers in software industry, corporate sector, Govt. organizations and academia

1. Produce knowledgeable and skilled human resources which are employable in IT sector.
2. MCA graduate can understand and analyze a given real-world problem and propose feasible computing solutions
3. Impart knowledge required for planning, designing and building complex application software as well as provide support to automated systems or application.
4. Produce entrepreneurs who can develop customized solutions for small to large Enterprises.
5. To develop academically competent and professionally motivated personnel, equipped with objective, critical thinking, right moral and ethical values that compassionately foster the scientific temper with a sense of social responsibility.
6. To develop students to become globally competent.
7. To inculcate Entrepreneurial skills among students

**Programme Outcome (PO)**

The Master of Computer Applications Programme will get ready its graduates to achieve:

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| PO1: | The understanding to apply knowledge of computing and technological advances appropriate to the programme. |
| PO2: | Skills to analyze a problem, and identify and define the logical modeling of solutions. |
| PO3: | An ability to design implements and evaluate a computer-based system, process, component, or programme to meet stakeholder needs. |
| PO4: | To prepare the learners to take up a career in the IT industry. |
| PO5: | An ability to analyze the local and global impact of business solutions on individuals, organizations, and society. |
| PO6: | To prepare the learners to carry out research and development work. |
| PO7: | Able to understand interdisciplinary studies, with a strong focus on aspects of human culture and achievements in social and behavioral sciences. |

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| **Semester** | **Paper No.** | **Course Code** | **Title of Course** | **Credits** | **Compulsory/Elective** |
| First Semester | **Compulsory Core Course** | | | | |
| 3011 | MCA-01 | Discrete Mathematics | 4 | **Compulsory** |
| 3012 | MCA-02 | Problem Solving and Programming through C | 4 |
| 3013 | MCA-03 | Computer Organization and Assembly Language Programming | 4 |
| 3014 | MCA-04 | Lab-1 (Based on MCA 02) | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3015  OR  3016 | MCA-E1  OR  MCA-E2 | Computer Architecture  OR  Microprocessor and its Applications | 4  OR  4 | **Elective** |
| **Credits of First Semester 20** | | | | | |
| Second Semester | **Compulsory Core Course** | | | | |
| 3017 | MCA-05 | Object oriented Programming with C++ | 4 | **Compulsory** |
| 3018 | MCA-06 | Database Management System | 4 |
| 25078 | MCA-07A | Computer Fundamental and its organization | 4 |
| 3020 | MCA-08 | Lab-2 (Based on C++) | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3021  or  3022 | MCA-E3  OR  MCA-E4 | Data Warehouse and Mining  OR  System Analysis and Design | 4  OR  4 | **Elective** |
| **Credits of Second Semester 20** | | | | | |
| Third Semester | **Compulsory Core Course** | | | | |
| 3023 | MCA-09 | Software Engineering | 4 | **Compulsory** |
| 3024 | MCA-10 | Data Communication and Computer Networks | 4 |
| 3025 | MCA-11 | Java Programming | 4 |
| 3026 | MCA-12 | Lab-3 (Based on Java Programme) | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3027  OR  3028 | MCA-E5  OR  MCA-E6 | Mobile Computing  OR  Parallel Computing | 4  OR  4 | **Elective** |
| **Credits of Third Semester 20** | | | | | |
| Fourth Semester | **Compulsory Core Course** | | | | |
| 3029 | MCA-13 | Theory of Computation | 4 | **Compulsory** |
| 3030 | MCA-14 | RDBMS | 4 |
| 3031 | MCA-15 | Operating System Concepts | 4 |
| 3032 | MCA-16 | Lab-4 (Based on Oracle/REBM) | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3033  OR  3034 | MCA-E7  OR  MCA-E8 | Artificial Intelligence  OR  Embedded System | 4  OR  4 | **Elective** |
|  | **Foundation Course (Non Credit)** | | | | |
| 2703 | PGFHR | Human Right and Duties | Non Credit | **Elective** |
| **Credits of Fourth Semester 20** | | | | | |
| Fifth Semester | **Compulsory Core Course** | | | | |
| 3035 | MCA-17 | Unix Shell Programming | 4 | **Compulsory** |
| 3036 | MCA-18 | Numerical and Statistical Computing | 4 |
| 3037 | MCA-19 | Design and Analysis of Algorithm | 4 |
| 3038 | MCA-20 | Lab-5 (Based on Unix Shell programming) | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3039  OR 3040 | MCA-E9  OR  MCA-E10 | Computer Graphics  OR  Operational Research | 4  OR  4 | **Elective** |
| **Credits of Fifth Semester 20** | | | | | |
| Sixth Semester | **Compulsory Core Course** | | | | |
| 25079 | MCA-21(L) | Lab Based on MCA-23 (Web Technology) | 4 | **Compulsory** |
| 25080 | MCA-22 | Probability and Distribution | 4 |
| 25081 | MCA-23 | Web Technology | 4 |
| 25082 | MCA-24 | System Software | 4 |
| **Discipline Centric Elective Course** | | | | |
| 3042  OR  3043 | MCA-E 11  OR  MCA-E 12 | Object Oriented Analysis And Design  OR  Information and Network security | 4  OR  4 | **Elective** |
| **Credits of Six Semester 20** | | | | | |
| **Total Credits 120** | | | | | |

**COURSE OUTCOMES (CO) OF MCA PRAGRAMME**

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| **MCA-01** | **Discrete Mathematics** |
| **COURSE OUTCOMES**  **CO1** Explains the different areas of Mathematics- Graph Theory, Cryptography, Poset and Lattices  **CO2** Acquires a basic idea of graph, various terms associated and matrix representations of graphs  **CO3** Familiarize with different types of graphs, connectivity and properties  **CO4** Illustrate the fundamental applications of Graph Theory in different walks of life  **CO5** Familiarize with the fundamental concepts in Cryptography  **CO6** Represent Posets and Lattices diagrammatically  **CO7** Familiarize with different types of Lattices and operations on Posets | |
| **MCA-02** | **Problem Solving and Programming through C** |
| **COURSE OUTCOMES**  **CO1** The students develops a sound approach to problem solving using a middle level programming language.  **CO2** The techniques like recursion and iteration are learnt to solve a problem.  **CO3** The students learn the programming concepts like pointers, structures. | |
| **MCA-03** | **Computer Organization and Assembly Language Programming** |
| **COURSE OUTCOMES**  **CO1** Introduces the instruction set of 8085 and 8086 micro-processor including procedures, stack, interrupt handling, and macros.  **CO2** Design, write, and test moderately complicated low-level programs in assembly language using the instruction set of 8085 and 8086. | |
| **MCA-E1** | **Computer Architecture** |
| **COURSE OUTCOMES**  **CO1** Familiarizes the students with basics of computer hardware and how software interacts with computer hardware.  **CO2** Introduces how computers represent and manipulate data, computer arithmetic and conversion between different number systems.  **CO3** Introduces how Boolean algebra is related to designing computer logic, through simple combinational and sequential logic circuits.  **CO4** Introduces basics of Instruction Set Architecture (ISA).  **CO5** Familiarize students with a simple computer with hardware design including data format, instruction format, instruction set, addressing modes, bus structure, input/output, memory, Arithmetic/Logic unit, control unit, and data, instruction and address flow.  **CO6** Design combinational and sequential logic circuits, flip-flops, counters, shift registers, adders, substractor, multiplexer, demultiplexer, Arithmetic/Logic unit.  **CO7 I**ntroduces concept of memory unit and input/output architecture. | |
| **MCA-E2** | **Microprocessor and its Applications** |
| **COURSE OUTCOMES**  **CO1** Describe the architecture and organization of microprocessor along with instruction set format.  **CO2** Describe modes and functional block diagram of 8085 AND 8086 along with pins and their functions  **CO3** List and describe memory and addressing modes  **CO4** List, describe and use different types of instructions, directives and interrupts  **CO5** Develop assembly language programs using various programming tools. | |
| **MCA-05** | **Object oriented Programming with C++** |
| **COURSE OUTCOMES**  **CO1** The students develops a sound approach to problem solving using a high level programming language.  **CO2** The techniques like recursion and iteration are learnt to solve a problem.  **CO3** The students master the good programming practices like modularity and documentation, and use of named constants.  **CO4** The student learns the use of object oriented framework using the concept of classes, inheritance, and encapsulation while programming in a language like Python. | |
| **MCA-06** | **Database Management System** |
| **COURSE OUTCOMES**  **CO1** Introduces the role of a database management system, basic database concepts, including the structure and operation of the relational data model.  **CO2** Introduces how to apply logical database design principles, including E-R/EE-R diagrams, conversion of ER diagrams to relations.  **CO3** Familiarize students with the concepts of integrity constraints, relational algebra, relational domain & tuple calculus, data normalization.  **CO4** Construct simple and moderately advanced database queries using Structured Query Language (SQL).  **CO5** Familiarize students with the concept of a database transaction including concurrency control, backup and recovery, and data object locking.  **CO6** Design and implementation of a small database project using Oracle. | |
| **MCA-07A** | **Computer Fundamental and its organization** |
| **COURSE OUTCOMES**  **CO1** Describe basics of Computer such as CPU, ALU, CU, Input and Output units etc.  **CO2** Expressing Problem Solving using Computers  **CO3** Define number representation and arithmetic in Computers  **CO4** Understand the structure of memory and its types  **CO5** Understand the structure of Processor and Disk Drives  **CO6** Understand basic Computer Architecture and Multiprogramming | |
| **MCA-E3** | **Data Warehouse and Mining** |
| **COURSE OUTCOMES**  **CO1** To be able **to u**nderstand the various concepts, techniques and algorithms related to supervised and unsupervised learning under the data mining subject.  **CO2** Understand Data Warehouse fundamentals, Data Mining Principles  **CO3** Design data warehouse with dimensional modelling and apply OLAP operations.  **CO4** Identify appropriate data mining algorithms to solve real world problems  **CO5** Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining  **CO6** Provides an opportunity to the students to enter the field of Data Science along with Computer Science and be ready for the demands of a Data Analyst/Scientist position. | |
| **MCA-E4** | **System Analysis and Design** |
| **COURSE OUTCOMES**  **CO1** A firm basis for understanding the life cycle of a systems development project;  **CO2** An understanding of the analysis and development techniques required as a team member of a medium-scale information systems development project;  **CO3** An understanding of the ways in which an analyst's interaction with system sponsors and users play a part in information systems development;  **CO4** Understanding development of information systems models;  **CO5** Understanding development of systems project documentation; | |
| **MCA-09** | **Software Engineering** |
| **COURSE OUTCOMES**  **CO1** Describe software engineering layered technology and process framework.  **CO2** Introduces theories, models, and techniques that provide a basis for the software development life cycle.  **CO3** Introduces software testing approaches including verification and validation, static analysis, reviews, inspections, and audits.  **CO4** Understanding of the role of project management including planning, scheduling, risk management, etc.  **CO5** Work as an individual and/or in team to develop and deliver quality software. | |
| **MCA-10** | **Data Communication and Computer Networks** |
| **COURSE OUTCOMES**  **CO1** Describe how to connect machines in a network.  **CO2** Describe data communication between machines at various locations.  **CO3** Learn about the OSI and TCP/IP Communication models  **CO4** Learn about the definitions and various functionalities of the TCP/ IP Model  **CO5** Learn about various communication protocols associated with each layer of the TCP/IP Model | |
| **MCA-11** | **Java Programming** |
| **COURSE OUTCOMES**  **CO1** Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.  **CO2** Read and make elementary modifications to Java programs that solve real-world problems.  **CO3** Validate input in a Java program.  **CO4** Identify and fix defects and common security issues in code. | |
| **MCA-E5** | **Mobile Computing** |
| **COURSE OUTCOMES**  **CO1** Explain the principles and theories of mobile computing technologies.  **CO2** Describe infrastructures and technologies of mobile computing technologies.  **CO3** List applications in different domains that mobile computing offers to the public, employees, and businesses.  **CO4** Describe the possible future of mobile computing technologies and applications. | |
| **MCA-E6** | **Parallel Computing** |
| **COURSE OUTCOMES**  **CO1** Apply the principles and concept in analyzing and designing the parallel system  **CO2** Reason about ways to parallelize problems.  **CO3** Gain an appreciation on the challenges and opportunities faced by parallel systems.  **CO4** Improve the performance and reliability of parallel programs. | |
| **MCA-13** | **Theory of Computation** |
| **COURSE OUTCOMES**  **CO1** Describe the mathematical model of machines.  **CO2** Familiarize students with the concept of formal language and corresponding automaton.  **CO3** Introduces the concept of ambiguity, derivations and parse tree in grammar. | |
| **MCA-14** | **RDBMS** |
| **COURSE OUTCOMES**  **CO1** Introduces the role of a database management system, basic database concepts, including the structure and operation of the relational data model.  **CO2** Introduces how to apply logical database design principles, including E-R/EE-R diagrams, conversion of ER diagrams to relations.  **CO3** Familiarize students with the concepts of integrity constraints, relational algebra, relational domain & tuple calculus, data normalization.  **CO4** Construct simple and moderately advanced database queries using Structured Query Language (SQL).  **CO5** Familiarize students with the concept of a database transaction including concurrency control, backup and recovery, and data object locking.  **CO6** Design and implementation of a small database project using Oracle. | |
| **MCA-15** | **Operating System Concepts** |
| **COURSE OUTCOMES**  **CO1** Describe the important computer system resources and the role of operating system in their management policies and algorithms.  **CO2** Understand the process management policies and scheduling of processes by CPU  **CO3** Evaluate the requirement for process synchronization and coordination handled by Operating system  **CO4** Describe and analyze the memory management and its allocation policies.  **CO5** Identify use and evaluate the storage management policies with respect to different storage management technologies.  **CO6** Identify the need to create the special purpose operating system. | |
| **MCA-E7** | **Artificial Intelligence** |
| **COURSE OUTCOMES**  **CO1** Ability to develop a basic understanding of AI building blocks presented in intelligent agents.  **CO2** Ability to choose an appropriate problem solving method and knowledge representation technique.  **CO3** Ability to analyze the strength and weaknesses of AI approaches to knowledge– intensive problem solving.  **CO4** Ability to design models for reasoning with uncertainty as well as the use of unreliable information.  **CO5** Ability to design and develop the AI applications in real world scenario. | |
| **MCA-E8** | **Embedded System** |
| **COURSE OUTCOMES**  **CO1** Explain the embedded system concepts and architecture of embedded systems  **CO2** Describe the architecture of 8051 microcontroller and write embedded program for 8051 microcontroller.  **CO3** Design the interfacing for 8051 microcontroller.  **CO4** Understand the concepts of ARM architecture.  **CO5** Demonstrate the open source RTOS and solve the design issues for the same.  **CO6** Select elements for an embedded systems tool. | |
| **MCA-17** | **Unix Shell Programming** |
| **COURSE OUTCOMES**  **CO1** Identify and use of UNIX/Linux utilities to create and manage simple file processing operations, organize directory structures with appropriate security, and    develop shell scripts to perform more complex tasks.  **CO2** Effectively use the UNIX/Linux system to accomplish typical personal, office, technical, and software development tasks.  **CO3** Monitor system performance and network activities.  **CO4** Effectively use of software development tools including libraries, preprocessors, compilers, linkers, and make files.  **CO5** Comprehend technical documentation, prepare simple readable user documentation and adhere to style guidelines.  **CO6** Collaborate in teams on system tasks. | |
| **MCA-18** | **Numerical and Statistical Computing** |
| **COURSE OUTCOMES**  **CO1** Introduces the iterative methods to find solution of polynomial and transcendental equations.  **CO2** Familiarize with the methods of interpolation and curve fitting.  **CO3** To be able to find the solution of linear equations using matrices.  **CO4** To understand the various concepts and techniques related to probability, statistical testing & estimation, sampling distributions, correlations-regressions and other univariate/bivariate/multivariate statistical techniques.  **CO5** Provides an opportunity to the students to enter the field of Data Science and be ready for the demands of a Data Analyst/Scientist position. | |
| **MCA-19** | **Design and Analysis of Algorithm** |
| **COURSE OUTCOMES**  **CO1** Understand that various problem solving categories exist such as; iterative technique, divide and conquer, dynamic programming, greedy algorithms.  **CO2** Analyse the strengths and weaknesses of an algorithm theoretically as well as practically.  **CO3** Identify and apply an appropriate technique to design an efficient algorithm for simple problems.  **CO4** Demonstrate correctness and efficiency of the algorithm.  **CO5** Summarize various searching and sorting algorithms. Compare numerous solutions for a problem and realize a solution may be efficient or inefficient depending on the application at hand. | |
| **MCA-E9** | **Computer Graphics** |
| **COURSE OUTCOMES**  **CO1** Introduces core concepts of computer graphics.  **CO2** Familiarize the students with graphics concepts, including 2D and 3D transformation, clipping, splines,objects modeling, colour modeling, lighting, textures,visible surface detection.  **CO3** Algorithms to design, and create computer graphics scenes. | |
| **MCA-E10** | **Operational Research** |
| **COURSE OUTCOMES**  **CO1** Defines a Euclidean Space, a Vector Space and its basis  **CO2** Defines a LPP in standard form and Canonical form  **CO3** Identifies a feasible solution, a basic feasible solution and an optimal solution using simplex method  **CO4** Understands duality theorems and dual simplex method  **CO5** Uses dual simplex method to find optimal solutions  **CO6** Explains the Transportation Problem and formulate it as an LPP and hence solve the problem  **CO7** Determine that an Assignment Problem is a special case of LPP and hence solve by Hungarian method  **CO8** Identifies the Queuing models, their various forms and methods of solution | |
| **MCA-22** | **Probability and Distribution** |
| **COURSE OUTCOMES**  **CO1** Basic probability axioms and rules and the moments of discrete and continous random variables as well as be familiar with common named discrete and continous random variables.  **CO2** How to derive the probability density function of transformations of random variables and use these techniques to generate data from various distributions.  **CO3** How to calculate probabilities, and derive the marginal and conditional distributions of bivariate random variables.  **CO4** Discrete time Markov chains and methods of finding the equilibrium probability distributions.  **CO5** How to calculate probabilities of absorption and expected hitting times for discrete time Markov chains with absorbing states.  **CO6** How to translate real-world problems into probability models.  **CO7** How to read and annotate an outline of a proof and be able to write a logical proof of a statement. | |
| **MCA-23** | **Web Technology** |
| **COURSE OUTCOMES**  **CO1** Implement interactive web page(s) using HTML, CSS and JavaScript.  **CO2** Design a responsive web site using HTML5 and CSS  **CO3** Build Dynamic web site using server side PHP Programming and Database connectivity.  **CO4** Describe and differentiate different Web Extensions and Web Services.  **CO5** Understanding development of web application. | |
| **MCA-24** | **System Software** |
| **COURSE OUTCOMES**  **CO1** Learn about Language processors and various data structures used for language processing  CO2 Learn about different types of language processing software  CO3 Understand the concept of Automaton and its usage in lexical analysis  CO4 Learning the design of the Syntax analyzer in Compilers, LR, SLR and LALR parsers  CO5 Understanding Code generation and optimization in Compilers  CO6 Learn the basics of Loaders and Linkers and device drivers | |
| **MCA-E 11** | **Object Oriented Analysis And Design** |
| **COURSE OUTCOMES**  **CO1**. Analyze, design, document the requirements through use case driven approach.  **CO2**.Identify, analyse, and model structural and behavioral concepts of the system.  **CO3**.Develop,explore the conceptual model into various scenarios and applications.  **CO4**.Apply the concepts of architectural design for deploying the code for software. | |
| **MCA-E 12** | **Information and Network security** |
| **COURSE OUTCOMES**  **CO1** Identify information security goals, classical encryption techniques and acquire fundamental knowledge on the concepts of finite fields and number theory.  **CO2** Understand, compare and apply different encryption and decryption techniques to solve problems related to confidentiality and authentication  **CO3** Apply the knowledge of cryptographic checksums and evaluate the performance of different message digest algorithms for verifying the integrity of varying message sizes  **CO4** Apply different digital signature algorithms to achieve authentication and create secure applications  **CO5** Apply network security basics, analyze different attacks on networks and evaluate the performance of firewalls and security protocols like SSL, IPSec, and PGP.  **CO6** Apply the knowledge of cryptographic utilities and authentication mechanisms to design secure applications. | |
| **PGFHR** | **Human Right and Duties** |
| **COURSE OUTCOMES**  **CO1** Understand norms and values of human rights and duties education programme are realized;  **CO2** To encourage research activities;  **CO3** To encourage research studies concerning the relationship between Human Rights and Duties Education and International Humanitarian Law. | |

**MCA-01(Discrete Mathematics)**

**Elementary Logic**

**Propositional Calculus:** Propositions, Logical Connectives, Logical Equivalence, Logical Quantifiers.

**Methods of Proof:** What is a proof? Different Methods of proof and Direct proof, Indirect proofs), Principle of induction.

**Boolean algebra and Circuits:** Boolean Algebras, Logic circuits, Boolean Functions.

**Basic Combinatorics**

**Sets, Relations and Functions:** Introducing Sets, Operations on sets, Relations, Functions.

**Combinatorics – An Introduction:** Multiplication and addition Principles, Permutations (Permutation of objects Not Necessarily distinct, circular permutation), Combinations, Binomial Coefficients, Combinatorial probability.

**Some More Counting Principles:** Pigeonhole principle, Inclusion – Exclusion Principle, Applications of inclusion exclusion.

**Partitions and Distributions:** Integer partitions, Distributions, distinguishable objects into Distinguishable Containers, Distinguishable objects into Indistinguishable containers, Indistinguishable objects into Distinguishable Containers, Indistinguishable objects into Indistinguishable Containers.

**MCA-02 (Problem Solving and Programming through C)**

**An Introduction to C**

**Problem solving:** Problem solving Techniques, Design of Algorithms, Analysis of Algorithm efficiency, Analysis of Algorithm Complexity, Flowcharts.

**Basics of C:** History of C, Salient features of C, Structure of a C Program, Compiling a C Program, Link and Run the C Program, Diagrammatic Representation of Program execution process.

**Variables and Constants:** Character set, Identifiers of Keywords, Data types and storage, Data type Qualifiers, Variables, Declaring variables, Constants, Symbolic Constants.

**Expressions and Operators:** Assignment Statement, Arithmetic operators, Relational Operators, Logical operators, Comma and Conditional Operators, Type Cast operator, Size of Operator, C shorthand, priority of operators,

**Control Statements, Arrays and Functions**

**Decision and Loop Control Statements:** The if statement, the switch statement, the while loop, the do... while Loop, The for loop, The Nested Loops, The goto statement, The break statement, The continue statement.

**Arrays:** Array Declaration, Initialization, Subscript, Multi- dimensional Arrays.

**Strings:** Declaration and Initialization of Strings, Display of Strings, using different formatting Techniques, Arrays of Strings, Built in String functions and Applications.

**Functions:** Definition of a function, Declaration of a function, Function prototypes, the return statement, Types of variables and storage classes, Types of function invoking, call by value, Recursion.

**Structures, Pointers and File Handling**

**Structures and Unions:** Declaration of Structures, Accessing the Members of a structure, Initializing structures, Structures as function Arguments, Structures and Arrays, unions.

**Pointers:** Pointers and their characteristics, the address and Indirection operators, Pointer type, Declaration and Assignment, Pointer Arithmetic, Passing Pointers to functions, Arrays and pointers, Arrays of Pointers, Pointers and strings.

**The C Preprocessor:** #define to implement Constants #define to create, functional Macros, conditional selection of Code using # if def. Predefined Names Defined by pre-processors, Macros vs Functions.

**Files:** File Handling in C using File pointers, Input and output using file pointers, string, input/output Functions, Formatted input/output Functions, Block input/output Functions, Sequential vs. Random Access Files, Positioning the file Pointer, the buffered I/O – The UNIX like file routines.

**MCA-03 (Computer Organization and Assembly Language Programming)**

**Introduction to Digital Circuits**

**The Basic Computer:** The Von Neumann Architecture, Instruction Execution, Instruction Cycle, Computers: Then and Now. Data Representation Number Systems, Decimal Representation in Computers, Alphanumeric Representation, Data Representation for Computation. Principles of Logic Circuits I Logic Gates, Logic Circuits, Combinational circuit (Address, Decoders, Encoders, ROM) Principles of Logic Circuits – II Sequential Circuits (Definition) Flip Flops(BasicFlip-Flops,ExcitationTables,MasterslaveFlip-Flop,Edge-TriggeredFlip-Flops), Sequential circuit Design (Registers, Counters Asynchronous Counters, synchronous counters, RAM) Design of a sample counter.

**Basic Computer Organization**

**The Memory System:** The Memory Hierarchy RAM, ROM, DRAM, FLASH Memory Secondary Memory and characteristics, Raid and its Levels, The concepts of High speed Memories, virtual memory, SIMM, DIMM. The input /Output System Input/output Devices, The input/output Interface, The Device Controllers and its structure, Device Drivers, Input – Output Techniques, Input Output Processors,

**External Communication Interfaces**

**Secondary Storage Techniques:** Secondary Storage Systems, Hard Drives, Removable Storage options. The I/O Technology: Keyboard, Mouse, Video Cards, Monitors (Cathode Ray Tubes, DPI, Interlacing, Bandwidth, Liquid Crystal Displays, Digital Camera, Sound Cards, Printers, Modems, Scanners, Power Supply. The Central Processing Unit, Instruction Set Architecture, Instruction set characteristics, Instruction set Design Considerations, Addressing Scheme (Immediate Addressing, Direct Addressing, Indirect Addressing, Register Addressing, Register Indirect Addressing, Indexed Addressing Scheme, Base Register Addressing, Relative Addressing Scheme, Stack Addressing), Instruction set and Format Design issues (MIPS 2000, Instruction Format), Registers Micro-Operations and Instruction Execution, Basic CPU Structure, Register Organization, General Registers in a processor, Micro-operation Concepts.

**Instruction Executions, Instruction Pipelining**

**ALU Organization:** ALU Organization, Arithmetic Processors

**The Control Unit:** The Control unit, the Hardwired Control, Wilkes Control, The Micro- programmed Control, The Micro instructions, The Execution of Micro Program Reduced Instruction set Computer Architecture Instruction to RISC, RISC Architecture, The use of Large register file, Comments on RISC, RISC pipelining.

**Assembly Language Programming**

**Microprocessor Architecture:** Microcomputer Architectures, Structure of 8086 CPU, Register set of 8086, Instruction set of 8086, Addressing modes.

**Introduction to Assembly Language Programming:** The Need and use of the Assembly language, Assembly program, Execution, An Assembly program and its components, Input/output in Assembly program, The types of Assembly programs.

**Assembly language programming (Part-I):** Simple Assembly programs, Programming with Loops and Comparisons, programming for Arithmetic and String operations.

**Assembly language programming (Part-II):** Use of Arrays in Assembly, Modular Programming, Interfacing, Assembly language Routines to High level language programs, Interrupts, Device Drivers in Assembly.

**MCA-E1 (Computer Architecture)**

* Introduction to parallel processing
* Memory and input-output subsystems
* Principles of pipelining and vector processing
* Pipeline computers and vectorization methods
* Structures and algorithms for array processors
* SIMD computers and performance enhancement
* Multiprocessor architecture and programming
* Multiprocessing control and algorithms
* Example multiprocessor systems
* Data flow computers and VLSI computations.

Reference Book: Computer Architecture and Parallel Processing.

By Kai Hwang (McGraw-Hill Education)

**MCA-E2 (Microprocessor and its Applications)**

* Architecture and Pin Details of the 8085 Microprocessor
* Programming the Microprocessor-I
* Programming the Microprocessor-II
* Programming Exercises
* Interfacing Input and Output Devices
* Interrupts
* Memory in a Microprocessor Based System
* Programmable Peripheral Interface-8255
* Keyboard and Display Interface-8279
* Serial Communication Interface-8251
* Priority Interrupt Controller-8259
* Direct MemoryAccess-8257.
* Microprocessor Based Applications
* Other 8 Bit Microprocessors
* 16 Bit Microprocessors

Reference Book: Microprocessor and its Applications

By R. Theagarajan (New Age International Publication)

**MCA-05 (Object Oriented Programming with C++)**

**An Introduction to Object Oriented Programming**

**Object Oriented Programming:** OOP Paradigm, the soul of OOP, OOP characteristics, Advantages of OOP, Applications of object Oriented Programming (System software, DBMS, Applications of OODBMS, Advantages and Disadvantages of OODBMS), The Object Orientation, OO Languages, Advantages of C++.

**Object Oriented Programming System:** What is OOPS?, Class, Inheritance, Abstraction (Procedural language, Object-oriented language), Mechanisms of Abstraction, Encapsulation and information hiding, Polymorphism, overloading,

**Advancedconcepts:**Dynamism(DynamicTyping,DynamicBinding,LateBinding,Dynamic Loading, Structuring programs, Reusability, Organizing Object-oriented Projects (Large scale designing, Separate Interface and Implementation, Modularizing, Simple Interface, Dynamic decisions, Inheritance of Generic Code, Reuse of tested code.

**IntroductiontoObjectOrientedLanguages:**Objective-C,Featuresofobjective-C,Python, Features of Python, C # (C SHAR), Features of C#, Eiffel, Modula-3, Features of modula-3, Small talk, object REXX, Java, Features of Java(Object Oriented, Distributed, Interpreted, Robust, Secure, Architecturally neutral, Portable High performance, Dynamic) , Beta various object oriented programming languages Comparativechart.

**An Introduction to Unified Modelling Language (UML):** UML (Goals, History, use), Definition, UML Diagrams (Use case, class, interaction diagrams), State diagrams, Activity Diagrams, Physical diagrams.

**C++ — An Introduction**

**Overview of C++:** Programming Paradigms (Procedural Programming, Modular Programming, Data Abstraction, Object Oriented Programming), Concepts of C++ functions and files.

**Classes and Objects:** Definition and Declaration of a class, Scope Resolution Operation, Private and Public member functions, Creating Objects, Accessing class data members and member functions, Arrays of objects, Objects as Function Arguments.

**Operator overloading:** Operator Functions, large objects, Assignment and initialization, Function Call, Increment, Decrement Operator, Friends.

**Inheritance-Extending classes:** Concept of inheritance, Base class and Derived class, visibility Modes, Single inheritance Multiple Inheritance, Nested classes, virtual functions.

**Streams and Templates:** Output, Input, Files Exception, handling and streams, Templates.

**MCA-06 (Database Management System)**

**The Database Management System Concepts**

**Basic Concepts:** Need for a database Management System, The logical DBMS Architecture, Physical DBMS Architecture, Commercial Database Architecture, Data Models.

**Relational AND E-R Models:** The Relational Model, Relational Constraints, Relational Algebra, Entity Relationship (ER) Model, E-R diagram, Conversion of ER diagram to Relational database.

**Database integrity and Normalization:** Relational Database integrity, Redundancy and Associated problems, Single – valued dependencies, single valued Normalization, desirable properties of decomposition, Rules of Data Normalization.

**File organization in DBMS:** Physical Database Design issues, storage of database on Hard disks, file organization and its types, types of indexes, Index and tree structure, Multi-key file organization, Importance of file organization on database.

**Structured Query language and transaction Mgt**

**The Structured Query language:**

SQL Data Definition language, DML, Data control, Database objects: Views sequences, Indexes and synonyms, table Handling, Nested Queries.

**Transactions and Concurrency Management:** The transactions, the concurrent transactions, the locking protocol, Deadlock and its prevention, optimistic concurrency control.

**Database Recovery and Security:** Recovery, Recovery Techniques, Security and Integrity, Authorization.

**Distributed and Client Server Databases:** Need for Distribution Database Systems, Structure of distributed Database, Advantages and Disadvantages of DDBMS, Design of Distributed database, client server Database.

**Application Development:** Development of A Hospital Management System, Needs to Develop HMS, Creating a database for HMS, Developing Front and forms, Reports, using Queries and Record set.

**Study Centre Management System: A Case Study**

**A Introduction:** Introduction to Software, Software Development process: Analysis, System Designing, Software Development, Testing and Maintenance.

**MCA-07A (Computer Fundamentals and its Organization)**

**Computer Basks:** Algorithms. A Simple Model of a Computer, Characteristics of Computers. Problem-solving Using Computers**.**

**Data Representation:** Representation of Characters in computers, Representation of Integers, Representation of Fractions. Hexadecimal Representation of Numbers, Decimal to Binary Conversion, Error-detecting codes. Input & Output Devices. Description of Computer Input Units, Other Input methods. Computer Output Units Printers. Plotters)

**Computer Memory:** Memory Cell. Memory Organization, Read Only Memory, Serial Access Memory. Physical Devices Used to Construct Memories. Magnetic Hard Disk, floppy Disk Drives. Compact Disk Read Only Memory, Magnetic Tape Drives.

**Processor:** Structure of Instructions, Description of a Processor. Machine Language and Instruction set Processors used in desktops and lap tops. Specification of a desktop and Lap top computer currently available in the market (Specifications of Processor. motherboard &chipset, memory. interface & capacity of hard disk & DVD drives, 1/0 ports).

**Computer Architecture:** Interconnection of Units. Processor to Memory communication. LO to Processor Communication. Interrupt Structures, Multiprogramming. Processor Features, Reduced Instruction Set Computers (RISC), Virtual merman.

**Software Concepts:** Types of Software. Programming Languages. Software (Its Nature & Qualities). Programming Languages. Operating Systems: History and Evolution. Main functions of OS Multitasking. Multiprocessing. Time Sharing. Real Time Operating System with Examples

**MCA-E3 (Data Warehouse and Mining)**

* + - Introduction
    - Data Preprocessing
    - Data Warehouse and OLAP Technology: An Overview
    - Data Cube Computation and Data Generalization
    - Mining Frequent Patterns, Associations, and Correlations
    - Classification and Prediction
* Cluster Analysis
* Mining Stream, Time-Series, and Sequence Data
* Graph Mining, Social Network Analysis, and Multirelational Data Mining
* Mining Object, Spatial, Multimedia, Text, and Web Data
* Applications and Trends in Data Mining

Reference Book: Data mining: concepts and techniques

By Han, Jiawei, Micheline Kamber, and Jian Pei. (Morgan Kaufman Publication

**MCA-E4 (Systems Analysis and Design)**

**Introduction to Systems Development**

**Introduction to SAD:** Fundamentals of Systems, Real Time Systems, Distributed Systems, Development of a successful System, various Approaches for Development of information systems (Model Driven, Accelerated approach, Joint Application Development.

**System Analyst – A profession:** Needs Systems Analysts, users, Analysts in various functional Areas (Systems Analyst in Traditional Business, Systems Analyst in Modern Business), Role of a Systems Analyst, Duties of a Systems Analysts, Qualification of a Systems Analyst.

**Process of System Development:** Systems Development Life Cycle, Phases of SDLC, Products of SDLC Phrases, Approaches to Development (Prototyping, Joint Application Design, Participatory Design ), Case Study (College Library).

**Introduction to documentation of Systems:** Concepts and process of Documentation, Types of Documentation, Different Standards for Documentation, Documentation and Quality of Software.

**Planning and Designing Systems**

**Process of Systems Planning:** Fact Finding Techniques, Need for fact finding, Issues involved in Feasibility Study, Cost Benefit Analysis, Preparing Schedule, Gathering Requirements of System.

**Modular and Structured Design:** Design principles (Top Down Design, Bottom up Design), Structure Charts, Modularity (Goals of Design, Coupling, Cohesion).

**System Design and Modeling:** Logical and Physical Design, Process Modelling, Data Modeling (ER Diagram), Process specification Tools (Decision Tables, Decision Trees, Structured English Notation), Data Dictionary.

**More Design Issues and Case Tools**

**Forms and Reports Design:** Forms, Reports, Differences between forms and Reports, Process of Designing Forms and Reports, Deliverables and outcomes, Design specifications, Types of Information, General formatting Guidelines, Guidelines for Displaying Contents, Criteria for form Design, Criteria for Report Design.

**Physical file Design and Database Design:** Introduction to Database Design, Design of Database fields, Design of Physical Records, Design of Physical Files, Design of Database, Case Study (Employee database).

**Case Tools for Systems Development:** Use of Case Tools by Organizations, Advantages and Disadvantages of CASE Tools, Components of CASE, Types of CASE tools, classification of CASE Tools, Reverse and Forward Engineering, Visual and Emerging Case tools.

**Implementation and Security of Systems & MIS**

**Implementation and Maintenance of Systems:** Implementation of Systems, Maintenance of Systems.

**Audit and Security of Computer Systems:** Definition of Audit, Audit of Transactions on computer, Computer Assisted Audit Techniques, Computer System and Security Issues, Concurrent Audit Techniques.

**Management Information Systems:** Role of MIS in an organization, Different kinds of information systems, Expert Systems.

**MCA-09 (Software Engineering)**

**Block 1:     Overview of Software Engineering**

**Unit 1: Software Engineering and its models:** Evolution of Software Engineering, Software development models, Capability maturity models, Software process technology.

**Unit 2: Principles of Software Requirements Analysis**: Engineering the product, Modelling the system architecture, Software prototyping and specification.

**Unit 3: Software Design:** Data design, Architectural design, Interface design, HCI design, Modular design.

**Unit 4:  Software testing**: Testing techniques, Testing for specialized environments, Debugging.

**BLOCK 2:   Software Project Management**

**Unit 5: Software Project Planning**: Different types of project metrics, Software project estimation, Models for estimation, automated tools for estimation

**Unit 6: Risk management and Project Scheduling**: Identification of Software risks, Monitoring of risks, Management of risks, Formulating a task set for the project, Choosing the tasks of software engineering, Scheduling methods, The Software project plan

**Unit 7:  Software Quality Assurance**: Formal technical reviews, Software reliability, Software quality standards

**Unit 8:  Software change management**: Baselines, Version control, Change control, Auditing and reporting

**BLOCK 3: Advanced Software Engineering**

**Unit 9: Web Software Engineering**: Different layers, Issues of management of web based projects, Metrics, Analysis, Design, Testing.

**Unit 10: Mobile Software Engineering**: Transition from design to coding of mobile applications, Elements of mobile applications, Approaches to the development of mobile applications

**Unit 11: CASE tools**: Analysis tools, Design tools, SQA tools, UI design tools, Software testing tools, Web engineering tools

**Unit 12: Advanced Software Engineering**: Clean room Software engineering, Component based Software engineering, Re-engineering, Reverse engineering

**MCA-10 (Data Communication and Computer Networks)**

**Introduction to data Communication and computer network concepts Introduction to computer Networks:** Network Goals and Motivations, classification of Networks, Network topology, Application of Network, Networking model, Network Architecture, ARPANET, Types of Networks, Advantages of Networks.

**Data Transmission:** Data communication Terminology, Models of Data Transmission, Analog and Digital data transmission, Transmission Impairments, Transmission Media and its Characteristics, wireless transmission, wireless LAN.

**Data Encoding and Communication Technique:** Encoding, Analog-to-Analog Modulation, Analog to Digital Modulation, Digital to Analog Modulation, Digital to Digital Encoding.

**Multiplexing and Switching:** Multiplexing, Digital Subscriber lines, ADSL Vs. CABLE, Switching.

**Media Access Central and Data Link Layer**

**Data Link Layer Fundamentals:** Farming, Basics of Error Detection, Forward error Correction, cyclic redundancy check Codes for error detection, Flow Control.

**Retransmission Strategies:** Stop & wait ARQ, GO-BACK ARQ, Selective Repeat ARQ pipelining, piggybacking.

**Contention – Based Media Access Protocols:** Advantages of Multiple Access sharing of channel Resources, Pure Aloha, Slotted Aloha, CSMA, CSMA/CD, Ethernet frame format (IEEE 802.3).

**Wireless LAN and Data link layer switching:** Introduction to wireless LAN, wireless LAN architecture (IEEE802.11), Hidden station and Exposed Station problems, wireless LAN Protocols: MACA and MACAW, IEEE 802.11 protocol stack, switching at Data link layer.

**Network layer**

**Introduction to layer functionality and Design issues:** Connection oriented vs. connectionless services, Implementation of the network layer services, comparison between virtual circuit and Datagram subnet, Addressing, concept of Congestion, Routing concept.

**Routing Algorithms:** Flooding, shortest path routing algorithm, Distance vector routing, Link state routing, Link state routing, Hierarchical routing, Broadcast routing, Multicast routing.

**Congestion Control in Public Switched Network:** Reasons for congestion in the network, congestion control vs flow control, congestion prevention mechanism, General principles of congestion prevention mechanism, General principles Congestion control, open loop control, congestion control in Packet-switched Network.

**Internet working:** Internet working, Network layer protocols, ICMP, OSPF, BGP.

**Transport Layer and Application Layer Services**

**Transport Services and Mechanism:** Transport services, Elements of transport layer protocols.

**TCP/UDP:** Services provided by internet transport protocols, Introduction to (UDP, TCP), TCP segment header TCP connection establishment, TCP connection Termination, TCP Flow control, TCP Congestion control, Remote procedure call.

**Network Security-I:** Cryptography, Symmetric key cryptography, public key cryptography, Mathematical background.

**Network Security-II:** Digital Signatures, Management of public Keys, Communication Security, Web Security.

**MCA-11 (Java Programming)**

**Object Oriented Technology and Java**

**Object Oriented Methodology-1:** Paradigms of Programming languages, Evolution of 00 Methodology, Basic Concepts of OO Approach, Comparison of object oriented and procedure – oriented Approaches, Benefits of OOPS, Applications of OOPS.

**Object oriented Methodology-2:** Classes and objects, Abstraction and Encapsulation, Inheritance, Method overriding and Polymorphism.

**Java Language Basics:** Introduction to Java, Primitive Data Type and Variables, Java Operators.

**Expressions Statements and Arrays:** Expressions, Statements, Control Statements, Selection Statements, Iterative Statements, Jump statements, Arrays.

**Object oriented concepts and Exceptions Handling**

**Class and objects:** Class Fundamentals, Introducing Methods, this Keyword, Using objects as Parameters, Method overloading, Garbage collection, the finalize (), Method.

**Inheritance and Polymorphism:** Inheritance Basics, Access, Multilevel, inheritance, Method overriding Abstract classes, Polymorphism, Final Keyword.

**Packages and interfaces:** Package, Accessibility of Packages, using Package members, Interfaces, Implementing interfaces, interface and Abstract classes, Extends and Implements together.

**Exceptions Handling:** Exception, Handling of Exception, Types of Exceptions, Throwing, Exceptions, writing Exception subclasses.

**Multithreading, I/O, and Strings Handling**

**Multithreaded Programming:** Multithreading, The Main thread, JAVA Thread Model, Thread Priorities, Synchronization in JAVA, Inter thread Communication.

**I/O In Java:** I/O Basics, Streams and stream, Classes, the predefined streams, Reading from and writing to console, reading and writing files, the transient and volatile Modifiers, using instance of Native Methods.

**Strings and Characters:** Fundamental of Characters and Strings, the String class, String operations, Data Conversion using value of () Methods, Strings Buffer and Methods.

**Exploring Java I/O:** Java I/O classes and interfaces, Stream classes, Text streams, Stream Tokenizer, Serialization, Buffered stream, print stream, Random Access file.

**Graphics and user interfaces**

**Applets:** The applet class, Applet architecture, An applet Skeleton: Initialization and Termination, Handling events, HTML Applet TAG.

**Graphics and user interfaces:** Graphics contests and Graphics objects, user interface components, Building user interface with AWT, Swing – Based GUI, Layouts and layouts and layout Manager, Container.

**Networking Features:** Socket overview, Reserved parts and proxy servers, Internet Addressing: Domain Naming Services (DNS), Java and The Net: URL, TCP/IP Sockets, Datagrams.

**Advance Java:** Java database connectivity, an overview of RMI Application, Java Servlets, Java Beans.

**MCA-E5 (Mobile Computing)**

* + - Mobile Communications: An Overview
    - Mobile Devices and Systems
    - GSM and Other 2GArchitectures
* Wireless Medium access Control, CDMA, 3G and 4GCommunication
* Mobile IP network layer
* Mobile Transport Layer
  + Databases and Mobile Computing
  + Data Dissemination and Systems for Broadcasting
  + Data Synchronization in Mobile Computing Systems
  + Mobile Devices: Application Servers and Management
* Mobile Ad-hoc and Wireless Sensor Networks
* Mobile Wireless Short range Networks and Mobile Internet
* Mobile Application Languages- XML, Java, J2ME, and Java Card
* Mobile Application Development Platforms

# MCA-E6 (Parallel Computing)

Block –I Elements of Parallel Computing and Architecture

Unit 1 Introduction to Parallel Computing: Basic concepts about program/process/ thread concurrent Execution Parallel Execution, , granularity, Potential of Parallelism, Need of Parallel Computation, Levels of parallel processing, Parallel processing Vs. Parallel computing, Dataflow Computing concept, Applications of parallel processing: Scientific Applications / Image processing, Engineering ,Application, Database query / Answering applications, A I Applications, Mathematical simulations and modeling.

Unit 2 Classification of Parallel Computers: Types of Classification, Flynn’s/ Handler classification, UMA / NUMA /COMA, Loosely coupled / tightly coupled, Classification based grain size and Instruction level parallelism.

Unit 3 Interconnection Network: Need of Interconnection Network, Concept Bandwidth Nod degree diameter bisection bandwidth, In degree and Out degree, Static and Dynamic Interconnection network, Omega, Parallel Shifter, Bens, permutation, hypercube, butterfly, Shuffle exchange Network.

Unit 4 Parallel Computer Architecture: Introduction to various computer architecture, Pipeline processing, Vector / Array processing, VLIW and Super scalar architecture, Associative architecture: Multithreaded architecture.

Block 2 Parallel Algorithm & Parallel Programming

Unit 1 Parallel Algorithm: Introduction to Parallel Algorithms, Analysis of Parallel Algorithms, Different models of computation: Combinational circuit, Permutation Circuit, Sorting circuit, Matrix computation.

Unit –2 PRAM Algorithms: Message passage programming: Shared memory, Message passing libraries, Data Parallel programming, Data Structures for parallel algorithms: Link list, Arrays pointers, Hypercube network.

Unit 3 Parallel Programming: Introduction to Parallel Programming, Types of parallel programming: Programming based on message passing, Programming based on data parallelism, Programming for shared memory systems, Example programs for parallel systems

Block –3 Advanced Topics

Unit 1 Operating System for Parallel Computers: Basic issues of Operating Systems for Parallel Computers, Process Management, Resource Management, Memory management, I/O Management, Inter-Processor Communication, Vectorization Compiler.

Unit 2 Performance Evaluation: Introduction to performance evaluation, Metric of Parallel overhead, Law Speedup, Measurement Tools

Unit 3 Recent Trends for Parallel Computer: Development of last 3 years, Multicomponent CPU, Apex architecture IA, Hyperthreading.

**MCA-13 (Theory of Computation)**

**Finite Automata and Formal Languages**

**Finite Automata and Languages:** Regular Expressions (Introduction to Defining of languages, Kleene closure Definition, Formal Definition of Regular, Expressions, Algebra of Regular Expressions), Regular languages, Finite automata, Mealy and Moore Machines. Non Deterministic Finite Automata Equivalence of NFA and DFA, Pumping Lemma, Closure properties (Regular Languages and Finite Automata), Equivalence of Regular expression and Finite Automata.

**Context Free Grammar:** Grammar and its classification, Chomsky, Classification for Grammar, Context free grammar, pushdown Automata (PDA), Non-Context free languages, Pumping Lemma for context free Languages, Equivalence of CFG and PDA.

**Turing Machine and Recursive Functions**

**Turing Machine:** Prelude to formal definition, Instantaneous Description and transition diagrams, Turing Machines as Computer of functions, Modular Construction of Complex turing machines, Symbol Writing machines, Right/Left head moving machines.

**Turing Machine Miscellany:** Extensions –cum-Equivalents of Turing Machine, Universal Turing Machine (UTM), Languages Accepted/Decided by TM, The diagonal language and the universal language, Chomsky Hierarchy.

**Recursive Function Theory:** Recursive Function Theory Recursive Definitions, Partial, Total and Constant Functions, Primitive Recursive Functions, Intuitive Introduction to primitive recursion, Primitive Recursion is weak Technique, The Techniques of unbounded minimization, Partial Recursion and u-Recursion.

**Complexity of Computability**

**Computability/Decidability:** Decidable and undecidable problems, The halting, problem, Reduction to another undecidable problem, decidability of post correspondence problem, undecidable problems for context free languages.

**Complexity:** Notations for Growth rates of functions (The Constant Factor in Complexity Measure, Asymptotic considerations, well known Asymptotic growth rate Notations, The 0Notation, The Notation *θ*, The Notation *ω*, classification of problems, Reduction, NP-Complete and NP- Hard Problems, Establishing NP-Completeness of problems.

**Applications:** Applications of Finite Automata, Applications of Regular Expressions, Application of Context free grammars (Definition of C-type small language, Definition of Part of HTML), ACM Code of Ethics and Professional Conduct.

**MCA-14 (RDBMS)**

**RDBMS Design**

**RDBMS Terminology:** Introduction, Database, Database management system, Instances and Schemas, Traditional File Oriented Approach, Benefits of Conventional or Centralized DBMS, Data Independence, Data Dictionary, Database Security, Domain Definition, A Relation, Relational data integrity, Candidate keys, primary key, Foreign keys, Referential Integrity, Candidate keys and Nulls, Data dictionary checklist.

**Overview of Logical Database Design:** Introduction, The Steps of Database design, Conceptual Design, Schema Refinement, Physical database Design and Tuning, ER Model, ER Model basics (Entity, Entity type and Entity set), Attributes (Attribute, key Attributes in Entity types, Composite vs. Simple attributes, Single vs. Multi valued Attributes, Derived vs. Stored Attributes, Null values, value sets of Attributes, Relationship, Degree of Relationship type, Structural Constraints, weak entities, Components of an E-R Diagram, ER Diagram Development examples.

**Overview of Normalization:** Introduction, Redundancy and associated problems, Role of Normalization, Single valued dependencies, single valued normalizations, (1NF, 2NF, 3NF,BC NF), Desirable properties of decompositions (Attribute Preservation, Lossless-Join Decomposition,DependencyPreservation,LackofRedundancy,DerivingBCNF),Multivalueddependencies, Multivalued Normalization – Fourth Normal Form, The fifth Normal form, Rules of data Normalization.

**Practical on RDBMS:** Introduction, DBMS and file oriented approach, Relational Databases and Integrity Constraints Entity- Relationship diagram, Functional dependency and Normalization, Normalization Structured Query Language (SQL), Microsoft-Access, views and Security using SQL.

**RDBMS Lab: Introduction to MS Access**

**Introducing Microsoft Access:** Introduction, DBMS, Microsoft Access database, tables and Queries, forms and Reports,

**Microsoft Access Basics:** Introduction, Starting and Quilting Microsoft Access, Opening a database, The database window, objects of the Access database.

**Working with database:** Introduction, creating a Microsoft Access database, Creating objects, set toolbars to your working style.

**Creating a table:** Introduction, Plan fields and data types, create a table, set field properties, save and close a table, Add and save records, Edit records and close a table, Modify fields in a table, Modify Columns and rows in datasheet, Attach validation rule to a field.

**Finding Data:** Introduction, Find a value, find and replace, create and apply a filter, specify criteria, sort Records.

**Creating a Query:** Create a Query, The Query Window, Join tables, select fields, specify criteria sort Records, Calculate Totals, Modify a Query, Save a Query.

**Creating a form:** Introduction, Create a form with a form wizard, view records in a form, Add, Delete and save Records, Save and close a form.

**Customizing your form:** Introduction, Change a form’s design select and Resize controls, Move and Delete Controls, Change Fonts, Size and color of text.

**Showing data from more than one table on a form:** Introduction, create a form that contains a sub form, use a Query to include fields from more than one table.

**Creating Reports and mailing labels:** Introduction, Use Reports to present data, create a Report, preview, print and save a Report, A Report in design view, create and print mailing labels.

**MCA-15 (Operating Systems Concepts)**

**BLOCK 1 Introduction to Operating Systems, Process Management**

Unit 1 Operating System-An Overview, What is an Operating System (OS)?, Goals of an Operating System, Generations of Operating Systems, Types of Operating Systems, Desirable Qualities of OS, Operating Systems : Some Examples, Functions of OS.

Unit 2 Processes: Concept of Process, System Calls for Process Management, Process Scheduling, Scheduling Algorithms, First Come First serve (FCFS), Shortest Job First (SJF), Round Robin (RR), Shortest remaining time next (SRTN), Priority Based Scheduling or Event Driven (ED) scheduling , Performance evaluation of the Scheduling Algorithms.

Unit 3: Interprocess Communication and Synchronization: Interprocess Communication, Interprocess Synchronization, Semaphores, Classical problems in concurrent programming, Locks, Monitors and Conditional Variables.

Unit 4: Deadlocks: Characterization of a Deadlock, A Resource Allocation Graph, Dealing with Deadlock Situations, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery Deadlock detection and recovery, Deadlock Prevention, Havender‘s Algorithm, Deadlock Avoidance, Banker‘s Algorithm.

**BLOCK 2: Memory Management, File Management and Security**

Unit 1: Memory Management: Overlays and Swapping, Logical and Physical Address Space, Single Process, Monitor, Contiguous Memory Methods Paging , Principles of operation , Page allocation , Hardware Support for Paging , Protection and Sharing Segmentation , Principles of operation , Address Translation , Protection and Sharing

Unit 2: Virtual Memory Virtual Memory , Principles of operation , Virtual Memory management , Protection and sharing Demand paging Page Replacement policies Thrashing , Working Set Model , Page Fault Rate Demand Segmentation Combined Systems , Segmented paging , Paged segmentation

Unit 3: I/O and File Management: Organization of the I/O function, I/O Buffering, Disk Organization, Disk Scheduling, RAID Disk, Cache, Command language, user‘s view of File System, The System programmer‘s view of the file System, The Operating systems ‘view of file Management, Directories, Disk Space Management, Disk address translation, File related system services, Asynchronous Input / Output.

Unit 4: Security and Protection Security Threats: Security Policies and Mechanisms, Authentication, Passwords, Alternative Forms of Authentication Protection in Computer Systems Security Models, Access-Control Matrix, Mandatory Access Control, Discretionary Access Control, Rule-Based Access Control, Role-Based Access Control, The Take-grant Model, Multilevel Models.

**BLOCK 3: Advanced Topics and Case Studies**

Unit 1: Multiprocessor Systems: Multiprocessor and Processor Coupling , Multiprocessor Interconnections, Bus-Oriented Systems, Crossbar-Connected systems, Hypercubes, Multistage Switch-based systems, Types of Multiprocessor Operating System, Separate Supervisors, Master/Slave, Symmetric Multiprocessor OS, Functions and Requirements, Multiprocessor Synchronization , Test and set, Compare and swap, Fetch and Add.

Unit 2: Distributed Operating Systems, History of Distributed Computing, Distributed Systems, Key features and Advantages of a Distributed System, Design Goals of Distributed Systems, Design Issues Involved in Distributed Systems, Distributed System Structure, Mutual Exclusion in Distributed Systems, Remote Procedure Calls, Other Middleware Technologies

Unit 3: Case Study - UNIX

Unit 4: Case Study – WINDOWS 2000

**MCA-E7 (Artificial Intelligence)**

**Block 1: INTRODUCTION TO A.I.**

Unit 1: Introduction To Intelligence And Artificial Intelligence: Some Simple Definition of A.I., Definition by Eliane Rich, Definition by Buchanin and Shortliffe, Another Definition by Elaine Rich, Definition by Barr and Feigenbaum, Definition by Shalkoff.

Unit 2: THE PROPOSITIONAL LOGIC: Introduction, Logical Study of Valid and Sound Arguments, Non-Logical Operators, Syntax of Propositional Logic, Semantics/Meaning in Propositional Logic, Interpretations of Formulas, Validity and Inconsistency of Propositions, Equivalent forms in the Prepositional Logic (PL), Normal Forms, Logical Deduction, Applications.

**Block-2 Knowledge Representation**

[Unit-1 The First Order Predicate Logic (FOPL)](http://egyankosh.ac.in/handle/123456789/10531)**:** Syntax of Predicate Logic, Prenex Normal Form (PNF), (Skolem) Standard Form, Applications of FOPL.

[Unit-2 Deductive Inference Rules and Methods](http://egyankosh.ac.in/handle/123456789/10535)**:** Basic Inference Rules and Application in PL, Basic Inference Rules and Application in FOPL, Resolution Method in PL, Resolution Method in FOPL.

[Unit-3 Systems For Imprecise/Incomplete Knowledge](http://egyankosh.ac.in/handle/123456789/10539)**:** Fuzzy Systems, Relations on Fuzzy Sets, Operations on Fuzzy Sets, Operations Unique to Fuzzy Sets, Non-Monotonic Reasoning Systems, Default Reasoning Systems, Closed World Assumption Systems, Other Non-Deductive Systems.

**Block 3: A.I. Programming Languages**

[Unit-1 A.I. Languages-1: LISP](http://egyankosh.ac.in/handle/123456789/10549)**,** Basics of LISP, Data Structures and Data Values, The EVAL Function and Some Evaluations, Evaluation of Primitive Functions, Primitive List Manipulation Functions, Built-in Predicates, Logical Operators: AND, OR and NOT, Evaluation of Special Forms involving DEFUN and COND, The special forms DO and LET, Input/Output, Primitives, Recursion in LISP, Association List and Property List, Lambda Expression, APPLY, FUNCALL and MAPCAR, Symbol, Object, Variable, Representation and Dotted Pair, Destructive Updates, RPLACE, RPLACD and SETF, Arrays, Strings and Structures**.**

[Unit-2 A.I. Languages-2: PROLOG](http://egyankosh.ac.in/handle/123456789/10551), Foundations of Prolog, Notations in Prolog for Building Blocks, How Prolog System Solves Problems, Back Tracking, Data Types and Structures in Prolog, Operations on Lists in Prolog, The Equality Predicate ‘=’, Arithmetic in Prolog, The Operator Cut, Cut and Fail.

**BLOCK 4: Applications of Artificial Intelligence**

Unit 1: Expert Systems: Introduction and Concept of Planning, Representing and Using Domain Knowledge, Expert System, Shells Knowledge Acquisition

Unit 2: Intelligent Agents: Agents and environments, Rationality and other performance measures, Nature of environments, Structure of agents

**MCA-E8 (Embedded Systems)**

* Introduction to Embedded Systems
* 8051 and Advanced Processer Architectures Memory Organization and Real world Interfacing
* Devices and Communication Buses for Devices Networks
* Device Drivers and Interrupts Service Mechanism
* Programming Concepts and Embedded Programming in C, C++ and Java
* Program Modelling Concepts
* Interprocess Communication and Synchronization of Processes Threads and Tasks
* Real Time Operating System Programming II Windows CE OSEK and Real Time Linux Functions
* Design Examples and Case Studies of Program Modelling and Programming with RTOS1
* Design Examples and Cases Studies of Program Modelling and Programming with RTOS2
* Embedded Software Development Process and Tools
* Testing Simulation and Debugging Techniques and Tools
* Real Time Operating Systems
* Real Time Operating System Programming I MicroCOSII and VxWorks

**MCA-17 (UNIX Shell Programming)**

Book: UNIX Shell Programming

By Yashwant kanitkar (BPB Publications)

* Communication – Unix Style
* Shell Programming - The First Step
* Taking Decisions
* The Loop Control Structure
* Shell Meta characters
* Tricks of The Trade
* Shell Miscellany
* System Administration
* Shell Programming Project

**MCA-18 (Numerical and Statistical Computing)**

**BLOCK-1 Numerical Computing-I**

Unit 1 Floating Point Arithmetic and Errors, Floating Point Representation, Sources of Errors, Propagated Errors.

Unit 2 Solution of Non-Linear Equations, Bisection Method, Regula-Falsi Method, Secant Method, Newton-Raphson Method, Successive Iteration Method.

Unit 3 Solution of Linear Algebraic Equations, Direct Method, Gauss Elimination Method (without and with Pivoting), LU-Decomposition Method, Iterative Method, Jacobi Method, Gauss Seidel Method, Successive Over Relaxation Method.

**BLOCK-2 Numerical Computing-II**

Unit 1 Interpolation Differences – Forward and Backward Differences, Newton‘s – Forward and Backward Difference Formulas, Lagrange‘s Interpolation.

Unit 2 Numerical Integration Newton – Cotes Formulas, Composite Formulas, Gaussian Quadrature.

Unit 3 Numerical Solution of ODE, Euler‘s Method, Runge Kutta Method.

**BLOCK-3 Statistical Computing**

Unit 1 Probability Distribution: Discrete Distribution, Binomial Distribution, Poisson Distribution, Continuous Distribution, Uniform Distribution, Exponential Distribution, Normal Distribution, Chi-square Distribution

Unit 2 Pseudo Random Number Generation: Uniform Distribution, Method of Generation (Discrete Case), Inversion Method (Exponential Distribution), Acceptance and Rejection.

Unit 3 Regression: Linear Regression Model, Least Square for Parameter Estimation, Goodness-of-Fit, Residual Analysis, Non-Linear Regression.

**MCA-19 (Design and Analysis of Algorithm)**

**ELEMEMTARY ALGORITHMICS Structure :** Introduction, Objectives, Example of an Algorithm, Problems and Instances, Characteristics of an Algorithm, Problems, Available Tools & Algorithms, Building Blocks of Algorithms, Basic Actions & Instructions, Control Mechanisms and Control Structures, Procedure and Recursion, Outline of Algorithmic, Understanding the Problem, Analyzing the Problem, Capabilities of the Computer System, Approximate vs Exact Solution, Choice of Appropriate Data Structures, Choice of Appropriate Design Technology, Specification Methods for Algorithms, Proving Correctness of an Algorithm, Analyzing an Algorithm, Coding the Algorithm

**SOME PRE-REQUISITES AND ASYMPTOTIC BOUNDS Structure:** Some Useful

Mathematical Functions & Notations, Functions & Notations, Modular Arithmetic/Mod Function, Mathematical Expectation, Principle of Mathematical Induction, Concept of Efficiency of an Algorithm, Well Known Asymptotic Functions & Notations, Enumerate the Five Well-Known Approximation Functions and How These are Pronounced, The Notation O, The Notation *ω*, The *θ* Notation, The Notation o, The Notation w.

**BASICS OF ANALYSIS:** Structure, Introduction, Objectives, Analysis of Algorithms Simple Examples, Well Known Sorting Algorithms, Insertion Sort, Bubble Sort, Selection Sort, Shell Sort, HeapSort, Divide and Conquer Technique, MergeSort, QuickSort, Comparison of Sorting Algorithms, Best-Case and Worst-Case Analyses, Various Analyses of Algorithms, Worst-Case Analysis, Best-Case Analysis, Analysis of Non-Recursive Control Structures, Sequencing, For Construct, While and Repeat Constructs, Recursive Constructs, Solving Recurrences, Method of Forward Substitution, Solving Linear Second-Order Recurrences with Constant Coefficients, Average-Case and Amortized Analyses, Average-Case Analysis 3.8.2 Amortized Analysis.

**DIVIDE-AND-CONQUER:**Introduction,Objectives,GeneralIssuesinDivide-and-Conquer, Integer Multiplication, Binary Search, Sorting, Merge Sort, Quick Sort, Randomization Quick- sort, Finding the Median, Matrix Multiplication, Exponentiation.

**GRAPH ALGORITHMS:** Introduction, Objectives, Examples, NIM/Marienbad Game, Function For Computing Winning Nodes, Traversing Trees, Depth-First Search, Breadth-First Search, Algorithm of Breadth First Search, Modified Algorithm, Best-First Search & Minimax Principle, Topological Sort

**DYNAMIC PROGRAMMING:** Introduction, Objectives, The Problem of Making Change, The Principle of Optimality, Chained Matrix Multiplication, Matrix ’Multiplication Using Dynamic Programming.

### GREEDY TECHNIQUES: Introduction, Objectives, Some Examples, Formalization of Greedy Technique, Function Greedy- Structure (GV: set): Set, Minimum Spinning Tree, Prim’s Algorithm, Kruskal’s Algorithm, Dijkstra’s Algorithm.

**MODELS FOR EXECUTING ALGORITHMS-I: FA:** Regular Expressions, Introduction to Defining of Languages, Kleene Closure Definition, Formal Definition of Regular Expressions, Algebra of Regular Expressions, Regular Languages, Finite Automata, Definition, Another Method to Describe FA.

**MODELS FOR EXECUTING ALGORITHMS-II: PDFA & CFG:** Formal Language & Grammar, Context Free Grammar (CFG), Pushdown Automata (PDA).

**MODELS FOR EXECUTING ALGORITHMS - III : TM:** Prelude to Formal Definition, Turing Machine: Formal Definition and Examples, Instantaneous Description and Transition Diagram, Instantaneous Description, Transition Diagrams, Some Formal Definitions, Observations, Turing Machine as a Computer of Functions.

**ALGORITHMICALLY UNSOLVABLE PROBLEMS:** Decidable and Undecidable Problems, The Halting Problem, Reduction to Another Undecidable Problem, Undecidability of Post Correspondence Problem, Undecidable Problems for Context Free Languages, Other Undecidable Problems.

**COMPLEXITY OF ALGORITHMS:** Notations for the Growth Rates of Functions, The Constant Factor in Complexity Measure, Asymptotic Considerations, Well Known Asymptotic Growth Rate Notations, The Notation O, The Notation *ω*, The Notation *θ*, The Notation o, The Notation w), Classification of Problems, Reduction, NP-Complete and NP-Hard Problems, Establishing NP-Completeness of Problems.

**MCA-E9 (Computer Graphics)**

**BLOCK 1: Raster Graphics and Clipping**

Unit 1: Introduction to Computer Graphics What is Computer Graphics? Application of Computer Graphics , Presentation Graphics , Painting and Drawing , Photo Editing , Scientific Visualization 68 , Image Processing , Digital Art , Education, training, Entertainment and CAD , Simulation , Animation and Games Graphics Hardware Input and Output Devices , Touch Panel , Light Pens , Graphic Tablets , Plotters , Film Recorders Display Devices Refreshing Display Devices , Raster-Scan, Random-Scan Plasma Panel and LCD panels

Unit 2: Graphics Primitives Points and Lines Line-drawing Algorithms, DDA Algorithm , Bresenham‘s line Algorithm Circle-generating Algorithm , Properties of Circles , Midpoint Circle of Algorithm Polygon Filling Algorithm: Scan-Line

Unit 3: 2-D Viewing and Clipping Point Clipping Line Clipping, Cohen-Sutherland Line Clippings, Cyrus-Beck Line Clipping Algorithm Polygon Clipping: Sutherland Hodgman Algorithm, Windowing Transformation.

**BLOCK 2: Transformations**

Unit 4: 2-D and 3-D Transformations Basic Transformations , Translation , Rotation, Scaling , Shear Composite Transformations o Rotations about a point, Reflection about a line Homogeneous Coordinate Systems 3-D Transformations

Unit 5: Viewing Transformation Projections, Parallel Projection, Orthographic & Oblique Projections, Isometric Projections Perspective Projections

**BLOCK 3: Modelling & Rendering**

Unit 6: Curves and Surfaces Polygon Representation Methods, Polygon Surfaces, Polygon Tables, Plane Equations, Polygon Meshes Bezier Curves and Surfaces, Bezier Curves, Properties of Bezier Curves, Bezier Surfaces Surface of Revolution

Unit 7: Visible – Surface Detection Depth Buffer Method Scan-Line Method Area-Subdivision Method

Unit 8: Polygon Rendering and Ray Tracing Methods Illumination Model, Ambient Reflection, Diffuse Reflection, Specular Reflection Shading, Gouraud Shading, Phong Shading Ray Tracing, Basic Ray-Tracing Algorithm

**BLOCK 4: Multimedia and Animation**

Unit 9: Computer Animation Basic of Animation Types of Animation Simulating Accelerations Computer Animation Tools Applications

Unit 10: Multimedia Concepts and Applications Concepts of Hypertext/Hypermedia Multimedia Applications, Education, Video Conferencing, Training, Entertainment, Electronic Encyclopaedia Images Audio and Video, Analog and Digital Sound and Video, Mpeg, mpi, wav, etc. Multimedia Tools

**MCA-E10 (Operations Research)**

## Introduction to Operations Research

**Operation Research – An Overview:** History, Approach, Techniques and Tools, Relation- ship Between O.R. specialist and Manager, Applications of OR., Phases and Processes of O.R., Study, Limitations of operation Research,

**Decision and Loop Control Statements:** Review of Probability and Statistics Random Experiment and Probability, Random variable, Probability distribution, Standard Discrete Probability distributions, Continuous Probability Distributions.

**Programming Techniques – Linear Programming and Applications: Linear Programming – Graphical Method:** Formulation of a linear programming problem, Formulation with Different types of constraints, Graphical Analysis, Graphical Solution, Multiple, unbounded solution and infeasible problems, Application of linear programming in Business and Industry, self-Assessment Exercises.

**Linear Programming – Simplex Method:** Principle of Simplex Method, Computational Aspect of simplex Method, Simplex Method with Several Decision Variables, Two phase and M-Method, Multiple, unbounded solutions and infeasible problems, sensitivity Analysis, Dual Linear Programming problem.

**Transportation Problem:** Basic Feasible solution of a transportation problem (The North West Corner Rule, Matrix Minimum Method, Vogel Approximation Method (VAM), Modified Distribution (MODI) Method stepping store Method, Unbalanced Transportation problem, Degenerate Transportation problem, Transhipment problem, Maximization in a transportation problem,

**Assignment problem:** Unbalance Assignment problem, Problem with some infeasible Assignments, Maximization in an Assignment problem. Crew Assignment problem.

## Programming Techniques Further Applications

**Goal Programming:** Concepts of Goal Programming, Goal Programming Model Formulation, Graphical Method of goal programming, the simplex Method of Goal Programming, Application Area of Goal Programming,

**Integer Programming:** Integer Programming Formulation Techniques, Unimodularity, cut- ting plane method, Branch and Bound.

**Dynamic Programming**: Dynamic Programming Methodology, Definitions and Notations, D.P. Applications.

**Non-Linear Programming:** Solution of a Non-linear Programming problem, Convex and Concave function, KUHN TUCKER conditions for constrained optimization, Quadratic Programming, Separable Programming.

## Inventory and Waiting Line Models

**Inventory Control – Deterministic Models:** Inventory: An Essential Requirement, objectives of inventory, Functions of inventory, Classifications of inventory, Factors Affecting inventory, Inventory Modelling, Deterministic single item inventory models Deterministic Multi item inventory Models.

**Inventory Control : Probabilistic Models:** Inventory Model with probabilistic Demand, Single period probabilistic Models, Multi-period probabilistic Models, Inventory Control systems, Fixed Order, Quantity system, Periodic Review System, other variants of probabilistic Models.

**Queueing Models:** Characteristics of A Queueing Model, Notations and symbols, Statistical Methods, in Queueing, The M/M/I System, The M/M/C system, The M/E k /I System, Decision Problems in Queueing.

## Game Theory and Simulation

**Competitive situations: Game Theory:** Definitions and Explanation of some important terms saddle points, dominance, mixed strategies: Games without saddle points, 2 x n Games, Exploiting an Opponents and Mistakes.

**Simulation:** Reasons for using simulation, limitations of simulation, steps in the simulation process, Practical Applications of simulation, Hospital Simulation, Simulation and Inventory Control, Computer Simulation.

## Case Studies:

**Case 1:** Insulator India Limited.

**Case 2:** Use of Operations Research Techniques: A Case Study of ECS Corporation.

**MCA-22 (Probability and Distribution)**

**Unit 1: Probability measure and distribution functions**

Probability space of a random experiment .probability measures, random variables as a measurable function. Field induced by a sequence of random variables, decomposition of distribution functions in purely discrete, absolutely continuous and singular components.

**Unit 2: Probability Inequalities**

CR-inequality, Cauchy-Schwartz inequality, Holder inequality, Minkowski inequality, Jensen inequality, Lyapunov inequality, Kolmogorov inequality, Hajck-Renyki inequality.

**Unit 3: Convergence**

Sequences of distribution functions, Helly - Bray theorem, Different types of convergence of sequence of random variables distribution function of random vectors, Weak and strong law of large numbers, Khinchin. Borel and Kolmogorav theorems.

**Unit 4: Characteristic function and central limit theorems**

Borel-Cantelli lemmas and zero-one law, Characteristic function, Inversion theorem, Continuity theorem, One dimensional central limit problem: lindeberg-levy, Lyapunov, Lindeberg-Feller theorems.

**MCA-23 (Web Technology)**

**UNIT- I**

History of the Internet and World Wide Web -III ML 4 protocols - RCM, SMTP, POP), MIME, IMAP. Introduction to JAVA Scripts - Object Based Scripting for the web, Structures - Functions - Arrays - Objects.

**UNIT- II**

Introduction - Object refers, Collectors all and Children. Dynamic style, Dynamic position, frames. navigator, Event Model - On check - On load - Onenor - Main rel - Form process - Event Bubblers- filters -Transport with the Filter - Creating Images Adding shadows - Creating Gradients - Creating Motion with Bar-Data Binding - Simple Data Binding - Moving with a record set - Sorting table data, binding of an image and table

**UNIT- III**

database, Relational Database model - Overview, SQL - ASP - Working of ASP - Objects - File System Objects - Session tracking and cookies - ADO - Access a Database from ASP - Server side Active-X Components - Web Resources - XMIL - Structure in Data Name spaces - D7D- Vocabularies - DOM methods.

**UNIT -IV**

Introduction, Servlet, Overview Architecture - Dandling II P Request - Go and post request - redirecting request multi-tier applications - ISP - Overviews - Objects - scripting - Standard Actions - Directives. Brief survey of Web 2.0 technologies, introduction to Semantic web and other current technologies

**MCA-24 System Software**

**Block 1: Introduction to System Software and software tools**

**Unit 1: Language Processors:** Introduction, Language Processing Activities, Fundamentals of Language Processing & Language Specification, Language Processor Development Tools.

**Unit 2: Data Structures for Language Processing:** Search Data structures, Allocation Data Structures.

**Unit 3: Software Tools:** Software Tools for Program Development, Editors, Debug Monitors, Programming Environments, and User Interfaces.

**Unit 4: Assemblers:** Elements of Assembly Language Programming, A Simple Assembly Scheme, Pass Structure of Assemblers, Design of a Two Pass Assembler, A single pass Assembler for IBM PC.

**Unit 5: Macro Processors:** Macros and Macro Processors: Macro Definition and Call, Macro Expansion, Nested Macro Calls, Advanced Macro Facilities, Design of a Macro Preprocessor.

**Block 2: Compilers and Interpreters**

**UNIT 6 COMPILER- LEXICAL ANALYSIS**

Introduction to NFA and DFA, Lexical Analysis: Role of a Lexical analyzer, input buffering, specification and recognition of tokens, Finite Automata, Designing a lexical analyzer generator, Pattern matching based on NFA’s.

**UNIT 7 COMPILER- SYNTAX ANALYSIS**

Syntax Analysis: Role of Parser, Top-down parsing, recursive descent and predictive parsers (LL), Bottom-Up parsing, Operator precedence parsing, LR, SLR and LALR parsers.(First and follow technique for generating a parse table is to be taught), Phases of the Compiler, Aspects of compilation, Memory allocation. Compilation of expressions and control structures.

**UNIT 8 COMPILER- CODE GENERATION**

Intermediate languages: graphical representations, DAGs, Three address code, types of three address statements, syntax directed translation into three address code, implementation of three address statements.

**UNIT 9 COMPILER- OPTIMIZATION** Code Optimization: Machine dependent and machine independent code generation: Sources of optimization-Code Generation-Semantic stacks, evaluation of expressions, control structures, and procedure calls.

**Unit 10: Interpreters:** Use and overview of interpreters, pure and impure interpreters

**Block 3: Linker, Loaders and device Drivers**

**Unit 11: Loaders and Linkers**

Basic loader functions: Design of an Absolute Loader – A Simple Bootstrap Loader, Machine dependent loader features Relocation – Program Linking – Algorithm and Data Structures for Linking Loader. Machine-independent loader features – Automatic Library Search – Loader Options Loader design options – Linkage Editors – Dynamic Linking – Bootstrap Loaders. Implementation examples: MSDOS linker.

**Unit 12: Device drivers**

Design and anatomy of UNIX device driver, Types of device driver, General design of UNIX character device driver, General design of UNIX block device driver, UNIX device driver installation.

**MCA-E11 (Object Oriented Analysis and Design)**

**INTRODUCTION TO OBJECT ORIENTED MODELING:** Introduction, Objectives, Object Oriented Modeling, Basic Philosophy of Object Orientation, Characteristics Object Oriented Modeling, Class and Objects, Links and Association, Generalization and Inheritance, An Object Model, Benefits of OO Modeling, Introduction to OOA& Design Tools.

**OBJECT ORIENTED ANALYSIS:** Introduction, Objectives, Object Oriented Analysis, Problem Statement: An Example, Differences between Structured Analysis and Object Oriented Analysis, Analysis Techniques t, Object Modeling, Dynamic Modeling, Functional Modeling, Adding Operations, Analysis Iteration, Refining the Ratio Analysis, Restating the Requirements

**USING UML:** Introduction, Objectives, UML: Introduction, Object Modeling Notations: Ba- sic Concepts, Structural Diagram, Class Diagram, Object Diagram, Component Diagram, Deployment Diagram, Behavioral Diagrams, Use Case Diagram, Interaction Diagram, Activity Diagram, Statechart Diagram, Modeling with Objects, Summary.

**SYSTEM DESIGN:** Introduction, Objectives, System Design: An Object Oriented Approach, Breaking into Subsystems, Concurrency identification, Management of a Data Store, Controlling Events Between Objects, Handling Boundary Conditions

**OBJECT DESIGN:** Introduction, Objectives, Object Design for Processing, Object Design Steps, Choosing Algorithms, Selecting Data Structure, Defining Internal Classes and Operations, Assigning Responsibility for Operation, Design Optimization, implementation of Control, State as Location within a Program, State Machine Engine, Control as Concurrent Tasks, Adjustment of Inheritance, Rearranging Classes and Operations, Abstracting Out Common Behavior, Design of Associations, Analyzing Association Traversal, One-way Associations, Two-way Associations **ADVANCE OBJECT DESIGN:** Introduction, Objectives, Control awl its Implementation, Control as a Stake within Program, Control as a State Machine Engine, Control as Concurrent Task, Inheritance Adjustment, Association: Design, Object Representation, Design Optimization, Design Documentation.

**OBJECT MODELING:** Introduction, Objectives, Advanced Modeling Concepts, Aggregation, Abstract Class Multiple Inheritance, Generalization and Specialization, Meta Data and Keys, Integrity Constraints, An Object Model

**DYNAMIC MODELING:** Introduction, Objectives, Events, State and State Diagram, Elements of a State Diagram, Advanced Concepts in Dynamic Modeling, Concurrency - A Dynamic Model.

**FUNCTIONAL MODELING:** Introduction, Objectives, Functional Models, Data Flow Diagrams, Features of a DFD, Processes, Data Flows, Actors, Data Stores, Constraints, Control Flows, Design Flaws in DFD, A Sample Functional Model, Relation of Functional to Object and Dynamic Model

**IMPLEMENTATION STRATEGIES:** Introduction, Objectives, Implementation Associations, Unidirectional Implementations, Optional Associations, One-to-One Associations, Associations with Multiplicity ’Many’, Bi-directional Implementations, One-to-One and Optional Associations, One-to-Many Associations, Immutable Associations, Implementing Associations as Classes, Implementing Constraints, Implementing State Charts, Persistency.

**OBJECT MAPPING WITH DATABASE:** Introduction, Objectives, Relational Database Schema for Object Modes, General DBMS Concepts, Relational DBMS Concepts, RDBMS Logical Data Structure, Object Classes to Database Tables, Extended Three Schema Architecture for Object Models, The use of Object IDs, Mapping Object Classes to Tables, Mapping Associations to Tables, Mapping Binary Associations to Tables, Mapping Many-to-Many Association to Tables, Mapping Ternary Associations to Tables, Mapping Generalizations to Tables, Interfacing to Databases,

**CASE STUDY: INVENTORY CONTROL SYSTEM:** Introduction, Objectives, Class Diagram, Object Diagram, Generalization and Association Diagram, Collaboration Diagram, Activity Diagram and Events, Use Case Diagram, Deployment Diagram.

**MCA-E12 (Information and Network Security)**

Book: Cryptography and Network Security, by, William Stallings Or Book by, Atul Kahate

* Classical Encryption Techniques
* Block Ciphers
* Finite Fields
* Advanced Encryption Standard
* Confidentiality Using Symmetric Encryption
* Number Theory
* Public-Key Cryptography and RSA
* Other Public-Key Cryptosystems
* Hash Algorithms
* Digital Signatures
* Authentication Applications
* Electronic Mail Security
* IP Security
* Web Security
* Intruders
* Malicious Software
* Firewalls

**Skill Based Open Elective Course**

**(B.A. History in Second or Third year)**

**UGSHY-03**

**Indian Culture-Perspective for Tourism**

**Hkkjrh; laLd`fr % i;ZVu dk ifjn`”;**

**ikB~;Øe fu"d"kZ (CO)**

**CO1** Hkkjrh; laLd`fr ds fofo/k ,sfrgkfld i{kksa dh tkudkjhA

**CO2** Hkkjrh; lkekftd lajpuk ds ,sfrgkfld vk;keksa dh tkudkjhA

**CO3** Hkkjrh; dyk] laxhr u`R; rFkk jaxeap ds fofo/k vk;keksa dh tkudkjhA

**CO4** gM+Iik lH;rk ds fofHkUUk iqjkLFkyksa ds lkaLd`frd egRo dh tkudkjhA

**CO5** tutkfrvksa ds ,sfrgkfld ]/kkfeZd rFkk lkaLd`frd egRo dh tkudkjhA

**ikB~;Øe**

Hkkjrh; laLd`fr vkSj fojklr% ,sfrgkfld lanHkZ&1& laLd`fr vkSj fojklr& ifjHkk’kk dh fu/kZkfjr leL;k,a] laLd`fr vkSj blds fu/kkZfjr rRo] ,sfrgkfld fodklØe ¼gM+Iik ;qx] oSfnd lH;rk] ckS) dky] xqIr dky] iwoZ e/; dky½A Hkkjrh; laLd`fr vkSj fojklr % ,sfrgkfld lanHkZ&AA & ,sfrgkfld fodkl ¼mÙkj e/;] vk/kqfud ledkyhu ;qx½] foKku vkSj izkS|ksfxdh dk ,sfrgkfld fodkl] i;kZoj.k vkSj laLd`fr Hkkjrh; lkaLd`frd fojklr dh fo”ks’krk,aA laLd`fr dk laj{k.k%& i;ZVu dh laLd`fr cuke laLd`fr dk i;ZVu] laLd`fr dk laj{k.k],ssfrgkfld fojklr] iqjkrkfRod LFkyksa vkSj Lekjdksa dk laj{k.k] dykRed vkSj lkaLd`frd fojklr dk laj{k.k vkSj j[kj[kko] lkekftd& vkfFkZd fojklr dk laj{k.kA i;ZVu vkSj laLd`fr% dqN fopkj %& dqN vUrjkZ’Vªh; mnkgj.kksa dk v/;;u] ¼Lisu] bMksusf”k;k] xzhl] eSfDldksa] fu’d’kZ½] dqN Hkkjrh; mnkgj.kA

lkeftd lajpuk&lkekftd ,sfrgkfld ifjn`”;&1% & oSfnd dky esa Hkkjrh; lekt ¼iwoZ oSfnd mÙkj oSfnddky½] oSfnd ;qx ds ckn dk lekt] xqIrdky vkSj mlds ckn dk lekt] e/;dkyA lkekftd ,sfrgkfld ifjn`”;&AA %& Hkkjr esa lekt% ,d ,sfrgkfld ifjn`”; ¼vkSifuosf”kd]mÙkj vkSifuosf”kd rFkk ledkyhu Hkkjr½] Hkkjr esa tkfr vkSj oxZ]Hkkjr esa ifjorZu vksj fujarjrkA

jhfr&fjokt] vuq’Bku vkSj iFk%& jhfr&fjokt vkSj vuq’Bku ¼Hkwfedk] dk;Z] izdkj thou&pØ ls lacaf/kr rFkk vU; jhfr&fjokt] iaFk] lEiznk;] fgUnw] eqlyeku] flaD[k] ckS)] tSu] bZlkbZ½A esys vkSj R;ksgkj%& Hkkjr ds R;ksgkj vkSj esys% dqN egRoiw.kZ fo”ks’krk,]a i;ZVu rFkk esys vkSj R;ksgkjA

yfyr dyk,¡&u`R;%& u`R;% fl)kUr vkSj rduhd] u`R;% ,sfrgkfld fodkl] Hkkjrh; “kkóh; u`R; ¼Hkjr ukV;] dRFkd] dRFkddfy½ laxhr%& Hkkjrh; laxhr& “kSyhxr oxhZdj.k ¼ekxZ vkSj ns”kh laxhr] mÙkj Hkkjrh; rFkkdukZVd “kSfy;k¡] laxhr ds vfuok;Z rRo ¼Loj] rky] jkx½] laxhr& mn~Hko vkSj fodkl ¼izkphu]e/;;qxhu vk/kqfud½A

fp=dyk%&lkSUn;Z”kkL= ¼ifjHkk’kk] Hkkjrh; vkSj ;wjksih; lkSUn;kZuqHkwfr½] Hkkjrh; fp=dyk ¼lUnHkZ] jl dk fl)kUr] lkekU;] fo”ks’krk,a½] dky foHkktu ¼izkxSfrgkfld] “kkL=h;] e/;dky½] vk/kqfud fp=dyk ¼Hkkjr esa ;wjksih; dykdkj] vk/kqfud Hkkjrh; fp=dykA½ laj{k.kA yksdfiz; laLd`frA

Hkkjrh; jaxeap%& Hkkjr esa jaxeap ijEijk ¼laLd`r] yksd rFkk vk/kqfud jaxeap½] Hkkjr esa ukVd ijEijk ¼laLd`r laLd`rksRrj] vk/kqfud ukVd½] vk/kqfud Hkkjrh; jaxeap ¼ikjlh] vfHktkR; ] tuksUeq[kh jaxeap½] fofHkUu ukV~; “kSfy;ka ¼ik”pkR;] laLd`r] yksd ukV~; rFkk vU; ukV~; “kkSfy;k¡½A

Hkkjrh; flusek%& Hkkjrh; flusek dk ifjp; ¼ewy fQYeksa] Lora=rk ls iwoZ dh lokd fQYeksa rFkk LokrU=;ksRrj lokd fQYeksa dk ;qx½ ,d m|ksx ds :i esa Hkkjrh; flusek] Hkkjrh; flusek % ;FkkFkZ ;k QSaVslh] Hkkjrh; flusek esa jktuhfrd ifjizs{;] uk;d dh Nfo] ukjh dh Nfo] laxhr] miyfC/k;k¡A

LFkkiR;&izeq[k LFkkiR; “kSfy;k¡& gM+Iik lH;rk] izkphu Hkkjr ¼vkoklh;] /kkfeZd½ e/;dkyhu Hkkjr ¼Hkkjrh;&bLykeh] eqxy½] vkSifuosf”kd dkyA {ks=h; LFkkiR; “kSfy;k¡& izkphu dky ¼Lrwi] xqQk LFkkiR; eafnj½] e/;dky ¼iwohZ] if”peh&e/;&nD[ku Hkkjr] fot;uxj½] vkSifuosf”kd dky ¼jktkvksa ds Hkou] fczfV”kdky LFkkiR;½A LFkkiR; ds mi;ksx vk/kkfjr izdkj %& vkoklh;] /kkfeZd] vkuq’Bkfud] lkefjd] lkoZtfud mi;ksxA ewfrZdyk%& ewfrZdyk % vkdkj vkSj izdkj] vkjafHkd dky ¼gM+Iik lH;rk] ekS;Z] “kqax dq’kk.k dky½ xqIr dky] e/; dky] nf{k.k Hkkjrh; /kkjkA

iqjkrRo vkSj iqjko”ks’k&iqjkrkfRod LFky&1%&¼iwoZ gM+Iik vkSj gM+Iik½] iqjkrkfRod LFky ls rkRi;Z] gM+Iik lH;rk dh [kkst vkSj ukedj.k] HkkSxksfyd foLrkj] gM+Iik lH;rk dk dky] vkjafHkd gM+Iik cfLr;k¡] ifjiDo gM+Iik LFky ¼”khrqZ?kb] lqrdkxsasnj] eksgutksnM+ksas] gM+Iik] dkfycaxu] cuokyh] yksFky½] dqN lkekU; fo”ks’krk,aA iqjkrkfRod LFky&2 %& ¼mRrj gM+Iik½%& xkaxs; lH;rk ds iqjkrRo dk egRo] feV~Vh ds crZuksa dk egRo] xaxk ?kkVh esa feV~Vh ds crZu 3000 o’kZ iwoZ mRrj Hkkjrh; HkksT; inkFkZ] NVh “krkCnh bZ-iwoZ esa mRRkj Hkkjr ds dqN izeq[k “kgj] e/; Hkkjr] nf{k.k HkkjrA laxzgky; vkSj iqjko”ks’k%& laxzgky;&,d ,sfrgkfld ys[kk tks[kk ¼if”peh nqfu;k] Hkkjr½ fodkl ds pj.k] laxzgky;ksa ds izdkj] Hkwfedk mRrjnkf;Ro] laxBu]laxzgky; ds fy, oLrq,a dSls izkIr dh tkrh gSA iqjko”ks’k]laxzgky; vkSj Ik;ZVuA

gLrfyfi%fujarjrk vkSj ifjorZu&gLrf”kYiksa dk cktkjhdj.k%& oLrq vkSj cktkjhdj.k] Hkkjrh; gLrf”kYi dk bfrgkl] Ik;ZVu vkSj gLrf”kYi % nks dsl v/;;u ¼vesfjdk] FkkbZySaM½] Hkkjrh; gLrf”kYiksa dk foi.ku] gLrf”kYi {ks= dh detksfj;kaAfeV~Vh] iRFkj] ydM+h vkSj /kkrq f”kYi %& feV~Vh ds f”kYi vkSj crZu] iRFkj ls cuh oLrq,a]ydM+h ds leku] /kkrq f”kYi] dkjhxj vkSj f”kYihA gkFkh nk¡r] jRu vkSj vkHkw’k.k%& gkFkh nk¡r] jRu vkSj cgqewY; iRFkj] lksus&pk¡nh dk dke] xgus vkSj vkHkw’k.k] vU; f”kYiA oL= vkSj ifj/kku%& Hkkjr esa oL= m|ksx dk bfrgkl] oL= izkS|ksfxdh] Hkkjrh; ifj/kku] oL= uhfr vkSj Hkfo’; dh laHkkouk,a] oL= ifj/kku vkSj Ik;ZVuA

tutkrh; laLd`fr&vfLerk fuekZ.k%& tutkfr D;k gS] vfLerk D;k gS] vfLerk ds izdkj] tutkrh; vfLerk dk fuekZ.k] Ik;ZVu ds fy, vfLerk dks le>us dh vko”;drkA ,sfrgkfld vkSj HkkSxksfyd foLrkj %& lkaLd`frd vk;ke] HkkSxksfyd foLrkj% tutkrh; {ks= ¼mRrj vkSj mRrj iwohZ] e/; Hkkjr]

nf{k.k if”peh NqViqV tutkfr;ka½] bfrgkl] Hkk’kk vkSj tkrh;rkA Lkkekftd vkSj /kkfeZd O;oLFkk%& tutkrh; lekt ¼lkekftd alaxBu] oSokfgd laLFkk] ikfjokfjd <kapk] efgykvksa dh fLFkfr] xzkeh.k lajpuk½] tutkrh; /keZ] tutkrh; vFkZO;oLFkkA tutkfr;k¡ vkSj fodkl lEca/kh

uhfr;k¡%& tutkrh; fodkl dh ;kstuk vkSj dk;ZØe %Lokra=;ksRrj Hkkjr] ljdkjh uhfr;k¡ % ,d leh{kk] Ik;ZVu vkSj tutkrh; {ks=A laLd`fr laca/kh uhfrxr eqÌs&ljdkj%& Ik;ZVu] laLd`fr vkSj jkT;] ljdkj% uhfr vkSj fu;kstu] Ik;ZVu uhfr % laj{k.k vkSj izksRlkgu] Ik;ZVu uhfr% ,d ubZ n`f’V dh t:jrA O;kikj%& iqjkrkfRod] ,sfrgkfld vkSj lkaLd`frd LFky] dyk vkSj gLrf”kYi] eapkRed dyk,aA Tkulapkj%& tulapkj vkSj mlds izdkj] izHkko] Hkwfedk] tulapkj] laLd`fr vkSj Ik;ZVu]vfHkHkkod dh Hkwfedk esa tulapkjA

**UGSHY-05**

**Introduction to Buddhism and Description of Main Buddhist Pilgrimage Places**

**ckS) /keZ dk ifjp; ,oa ckS) /keZ ds eq[; ds eq[; rhFkZ LFkkuksa dk o.kZu**

**ikB~;Øe fu"d"kZ (CO)**

**CO1**.ckS} /keZ ds izkjfEHkd bfrgkl dh tkudkjhA

**CO2** cq} ds izeq[k fl}kURkksa rFkk cksf/klRo dh vo/kkj.kk dh tkudkjhA

**CO3** ckS} /keZ ds fofHkUUk lEiznk;ksa dh tkudkjhA

**CO4** fons”kksa esa ckS} /keZ ds foLrkj dh tkudkjhA

**CO5** fofHkUUk jktoa”kksa ds dky esa ckS} /keZ dh fLFkfr dh tkudkjhA

**ikB~;Øe**

ckS) /keZ ,d ifjp;&ckS) /keZ dk izkjfEHkd bfrgkl**&**ckS) /keZ dk izkjfEHkd bfrgkl] cq) dk thou & cq) thouA lEcksf/k voLFkk& lEcksf/k voLFkkA ckS) /keZ ,oa n”kZu &ckS) /keZ dk mnHko ,oa fodkl&ckS) /keZ dk mnHko ,oa fodkl] ckS) /keZ dk fodkl] ckS) laxhfr;k¡A cq) dh f”k{kk,a &cq) dh f”k{kk,a] iapLdU/kksa ds fl)kUr] v’Vkafxd ekxZ] fuokZ.k] deZ fl)kUr] vfgalk] n”kZuA cq)Ro izkfIr ds ckS) ekxZ& cq)Ro izkfIr gsrq cksf/klRo dh voLFkk;sa] vgZr] cksf/klRo] ikjferk;sa] Ng vfHkKk;sa Hkwfe;k¡A ckS) /keZ ,oa lekf/k Hkkouk& ckS) lekf/k] czãfogkj]A ckS) /keZ Lo:i] lEiznk; ,oa lkfgR;&ckS) /keZ ds lkekU; lEiznk;&ghu;ku]egk;ku otz;ku] lgt;ku] dkypØ;ku] vkfnA ckS) lkfgR;& /keZxzUFk laxzg] vonku] Fksjokn f=fiVd] /kEein] tkrd] egk;ku lkfgR;A ckS) /keZ dk Hkkjr vkSj fons”kksa esa izlkj&ekS;Z dky esa ckS) /keZ& ekS;Zdky esa ckS) /keZ] “kqax lkrokgu dky esa ckS) /keZ&“kqax lkrkokgu dky esa ckS) /keZA dq’kk.k dky esa ckS) /keZ ]xqIr dky esa ckS) /keZ ]g’kZdky esa ckS) /keZ]g’kZo/kZu ds dky esa ckS) /keZ]fons”kksa esa ckS) /keZ dk foLrkj]fons”kksa esa ckS)/keZ dk foLrkj] ckS) dyk okLrq&”kkó Lrwi] fogkj] pSR; ewfrZdyk& izrhd] fp=dyk jaxfp=& jaxfp=] fuekZ.k fof/k] milagkjA ckS) iwtk i)fr& cq) iwtk] milagkjA f”k{kk ,oa laLd`fr dks ckS) /keZ dk ;ksxnku ]Hkkjr esa ckS) f”k{kk ds dsUnz ,oa lkfgfR;d fo}ku&ckS) f”k{kk dsUnz ,oa lkfgfR;d fo}kuA izkjfEHkd ckS) fogkj&egRoiw.kZ ckS) ikfjHkkf’kd “kCn ,oa “kCnkofy;k¡&Hkkjr esa ckS) LFky&Hkkjr esa egRoiw.kZ ckS) LFky ]mÙkj izns”k esa ckS) LFky]Hkkjr esa ckS) /keZ dh voufr]ckS) /keZ ds iru ds dkj.k Hkkjr esa ckS) /keZ dk iqu:)kj]orZeku Hkkjr esa ckS) /keZ dk izlkjA

**UGSHY-06**

**Important Religious Place of Uttar Pradesh-Introduction, Importance and Descrription**

**mÙkj izns”k ds egRoiw.kZ /kkfeZd% LFkkuksa dk ifjp;] egRo vkSj o.kZu**

**ikB~;Øe fu"d"kZ (CO)**

**CO1**. fgUnw /keZ ls lEcfU/kr fofHkUUk /kkfeZd LFkyksa ds fo’k; esa tkudkjhA

**CO2** ckS} /keZ ls fofHkUUk /kkfeZd rFkk ,sfrgkfld LFkyksa dh tkudkjhA

**ikB~;Øe**

fgUnw] ckS) rFkk tSu /keZ ds egRoiw.kZ /kkfeZd LFky]fgUnw /keZ rFkk egRoiw.kZ /kkfeZd LFkku]

fgUnw /keZ ds vU; egRoiw.kZ LFky]ckS) /keZ ds egRoiw.kZ /kkfeZd LFky ]tSu /keZ ls lEcfU/kr LFky ]

fl[k] bZlkbZ] vkSj bLyke /keksZa ds egRoiw.kZ /kkfeZd LFky vkSj ys[kuA

**UGSSY-03**

**Crime Administrartive System in India and Role of Counselling**

**Block - 01 Criminology: Nature and Concept**

Unit -1 Meaning and scope of Criminology

Unit -2 Legal and Sociological Explanation of Crime

Unit -3 General Factors of Crime

Unit -4 Crime in India

**Block - 03 Crime and Its Type**

Unit -5 Organised Crime

Unit -6 Cyber Crime

Unit -7 Corruption and White-Collar Crime

Unit -8 Causes of Political Crime and New Criminal Personality

Unit -9 Crime against Women

**Block - 03 Prision, Crime Control and Human Rights**

Unit -10 Origin of Prision in India

Unit -11 Open Prision , Ideal Prision, Juvenile Delinquency, Reform Institution and Rehabilitation

Unit -12 The Role of Court in crime control( Probation and Parole) and Role of Police

Unit-13 Human Rights and Jail Management

**Block - 04 Criminology : Theory and School**

Unit -14 Classical and Neo-Classical thoughts of Crime

Unit -15 Scientific thoughts of Crime

Unit -16 Biological, Geographical and Psychological Theory of Crime

Unit -17 Economic Theory of Crime

Unit -18 Sociological and Cultural Theory of Crime

**UGSHI-01**

**lekpkj & ladyu ] ys[ku ,oa lEiknu**

**[k.M &1 lekpkj ladyu**

**bdkbZ&1** lekpkj % vFkZ] rRo ,oa lzksr % lekpkj dk vFkZ] ifjHkk"kk] rRo ¼U;wurk] lR;rk] lkehI;] lq#fpiw.kZrk] oS;fDrdrk] la[;k vkSj la'k;½] izdkj ¼rkRdkfyd] O;kih½ egRoiw.kZ lekpkj ¼vijk/k] LFkkuh;] Mkd] jsfM;ks] Vhoh½ visf{kr vkSj vkdfLed lekpkj] lekpkj ds lzksr ¼lekpkj lfefr] izsl fjyht] vU; lzksr½] Qkyks&vi ¼vuqorZu½A

**bdkbZ&2** fjiksfVZax % O;k[;kRed] vUos"k.kkRed ,oa vijk/k] vkeq[k ¼bUVªks½] O;k[;kRed fjiksfVZax ¼Lo:i] foospu] ifjHkk"kk] O;k[;kRed lekpkj dh lajpuk] fo'ks"krk,a lko/kkfu;ka½] vUos"k.kkRed fjiksfVZax ¼y{;] vuos"kh fjiksVZj ds xq.k] vUos"kh fjiksVZj rFkk dkuwu] iqfyl vkSj lekt½] vijk/k fjiksfVaZx vkSj izsl] vijk/k lekpkj ys[ku] vijk/k lekpkj ds lzksrA

**bdkbZ&3** laoknnkrk lEesyu vkSj lk{kkRdkj % laoknnkrk dh ;ksX;rk vkSj mlds fofo/k :i] fo'ks"k laoknnkrk] ;q) laoknnkrk] laoknnkrk lEesyu ¼rS;kjh vksj lko/kkuh] vuqlwph ,oa iz'ukoyh½] aloknnkrk lEesyu vkSj lk{kkRdkj esa vUrjA

**bdkbZ&4** bysDVªkfud ehfM;k esa fjiksfVZax % jsfM;ks fjiksfVZax ¼/;ku nsus ;ksX; ckrsa] jsfM;ks fjiksVZj ds xq.k ,oa dk;Z½] Vsyhfotu fjiksfVZax ¼fjiksVZj ds xq.k] vko';d midj.k] fjiksfVZax djrs le; lko/kkfu;ka½] gkV vku&ykbu lekpkj] bZ&tuZfyTe ¼bysDVªkfud v[kckj] lkbcj i=dkfjrk] osclkbV½A

**bdkbZ&5** laiknd vkSj laoknnkrk % lEiknd dk Lo:i] vo/kkj.kk] lEikndh; foHkkx dk funsZ'ku] ij[k'kfDr] ncko] yksdiky vkSj lEiknd] mi eq[; lEiknd vkSj mi laiknd ds xq.k( laoknnkrk % ifjHkk"kk] egRp] xq.k

**[k.M &2 fo'ks"khd`r fjiksfVZax**

**bdkbZ&1** vijk/k vkSj U;k;ky; fjiksfVZax % vijk/k dh O;k[;k] fofo/k :i] gR;k] pksjh] MdSrh] cykRdkj] oS';ko`fRr] naxs] vijk/k fjiksfVZax ,oa lekpkj] U;k;ky; % fofo/k :i] mPpre U;k;ky;] mPp U;k;ky;] v/khuLFk U;k;ky;] U;k;ky; ds lekpkj ,oa Lo:i] U;k;ky; fjiksfVZax esa lko/kkfu;kaaA

**bdkbZ&2** lalnh; fjiksfVZax] laln dk egRo vkSj mldh :ijs[kk] lalnh; fjiksfVZax vkSj mldh lko/kkfu;ka] lalnh; dk;Zokgh ¼iz'uksRrj½ % iz'udky] 'kwU; dky] rkjkafdr iz'u] vYi lwpuk ds iz'u vkSj rkjkafdr iz'u] /;kukd"kZ.k izLrko] lalnh; dk;Zokgh ¼fo/kk;h½ % fo/ks;dksa ij fopkj] dk;Z LFkxu izLrko] vfo'okl izLrko] fo'ks"k ppkZ] er foHkktu] ctV ,oa lalnh; lfefr;ka] laln ds vU; dk;Z % la;qDr vf/kos'ku] vuqPNsn 377 ds rgr mBk;s tkus okys eqn~ns] izsl nh?kkZ] O;ogkj lw=] ys[ku 'kSyh dh fof'k"VrkA

**bdkbZ&3** [ksy fjiksfVZax] bfrgkl [ksyksa vkSj [ksy lekpkjksa ds izdkj( fdzdsV] gkdh] QqVcky] vU; [ksy] [ksy lekpkjksa dh fjiksfVZax ,oa tkudkfj;ka] LFkkuh; [ksy] [ksy lekpkjksa dh Hkk"kk] 'kCnkoyh ,oa 'kh"kZd] fo'ks"kKrk dh vko';drk izeq[k] jk"Vªh; izfr;ksfxrk,a ,oa dqN [ksy lekpkjA

**bdkbZ&4** d`f"k] foKku vkSj izkS|ksfxdh] d`f"k txr] d`f"k dk Lo:i] d`f"k i=dkfjrk dk mn~Hko fodkl] xzkeh.k thou vkSj d`f"k i=dkfjrk] d`f"k lEcfU/kr fjiksfVZax( foKku % vo/kkj.kk] foKku dh ek=k] thou esa oSKkfud psruk] foKku i=dkfjrk( izkS|ksfxdh % Lo:i] fodkl izdkj tu thou dks izHkkfor djus okyh izkS|ksfxdhA

**bdkbZ&5** vkfFkZd] okf.kfT;d ,oa vkS|ksfxd i=dkfjrk % Hkkjr esa vkfFkZd] i=ksa dh 'kq#vkr] fodflr vkSj fodkl'khy ns'kksa esa vkfFkZd i=] vkfFkZd lekpkjksa ds izdkj] Hkkjr esa okf.kfT;d i=dkfjrk( izdkj mi;ksfxrk] lko/kkuh] Hkfo";] vkS|ksfxd i=dkfjrk] izfrf"Br % izfrf"Br if=dk,a] vkUrfjd tulEidZ if=dk,a] okg~; tulaidZ ,oa la;qDr tulEidZ if=dk,aaA

**[k.M&3 tuek/;eksa ds fy, ys[ku**

**bdkbZ&1** lekpkj ys[ku ds ewy rRo] Lo:i p;u ds vk/kkj % tukd"kZ.k] tu#fp] rF;ksa dh ifo=rk] yhM( lekpkjksa dh izLrqfr] vkeq[k] Hkk"kk 'kSyh( 'kh"kZd ys[ku( lajpuk] bysDVªkfud ek/;e esa 'kh"kZd] lekpkj dk;kZy; dh dk;Ziz.kkyh] ckDl rFkk bulsVA

**bdkbZ&2** Qhpj dh ifjHkk"kk] izeq[k rRo] Qhpj vkSj lekpkj] Qhpj vkSj fucU/k] Qhpj vkSj dgkuh] Qhpj ds izdkj % ekuo #fp vk/kkfjr] O;fDrRo ijd] oSKkfud] i;ZVu] ,sfrgkfld O;aX;kRed] fp=kRed] lkaLd`frd ,oa R;ksgkjksa ij vk/kkfjr] lekpkj Qhpj] Qhpj ys[ku dh dyk] fo'ks"krk] izHkkoksRikndrk] Qhpj ys[ku dh ;ksX;rk,a] Qhpj lkexzh dk p;uA

**bdkbZ&3** lEikndh; i`"B ,oa LrEHk] lEikndh; i`"B dh lajpuk] laikndh;@vxzys[k] lEikndh; fVIif.k;ka@lkef;d ys[k] lEiknd ds uke i=] O;aXk&fouksnkRed LrEHk] lEikndh; i`"B dk ys[ku] lEiknu] egRo ,oa izHkkoA

**bdkbZ&4** Lor= i=dkfjrk vkSj i=dkfjrk ys[ku % Lora= ys[ku % {ks=] fo/kk,a] fo'ks"krk,a mi;ksfxrk] dfBukb;ka] fof'k"Vrk] Qhpj lfefr;ka] lQy Lora= ys[ku( if=dk ys[ku( Hkk"kk'kSyh ,oa izLrqfr] if=dk esa Qhpj dk izLrqrhdj.kA

**[k.M &4 jsfM;ks ,oa Vhoh ds fy, ys[ku**

**bdkbZ&1** jsfM;ks lekpkj] lekpkj lsok] d{k] jsfM;ks lekpkj cqysfVu ds izdkj % fo'ks"k lekpkj dk;Zdze] fo'ks"krk,a] lekpkj izLrqfrdj.k % p;u] lekpkj dk xBu vkSj 'kh"kZd fu/kkZj.k] 'kSyh] Hkk"kk] laf{kIr ukeksa dk iz;ksx] in vkSj uke dk iz;ksx] jsfM;ks lekpkj dk ladYku vkSj lEiknu] lekpkj okpu] lekpkjksa dk egRoA

**bdkbZ&2** jsfM;ks ds fofo/k dk;Zdze] jsfM;ks tulapkj dk l'kDr lwpukRed] 'kS{kf.kd] eukjatd ek/;e] jsfM;ks ds fofHkUu dk;Zdze % laxhr] fofo/k Hkkjrh; ;k foKkiu lsok] okrkZ rFkk ifjppkZ] ukVd] :id] xzkeh.kksa ds fy, dk;ZØe] efgyk] cky ,oa ;qok] f'k{kk] [ksy vkSj fo'ks"k] dk;Zdze] lekpkj ,oa lelkef;d fo'o ij vk/kkfjr lsok,a] fons'k lsok,a] jsfM;ks ds ¼izkFkfed] jk"Vªh;] fofo/k Hkkjrh] ,Q-,e-]fons'k izlkj.k½] pSuy] jsfM;ks ds /ofu vfHkys[kkxkjA

**bdkbZ&3** Vh-oh- pSuYl % O;kidrk] vkjEHk] nwjn'kZu ds pSuYl] futh usVodkZsa ds pSuy] dqN izeq[k futh izlkj.k usVodZ] th usVodZ] LVkj lewg] lksuh lewg] Vh-oh-VqMs lewg] bukM lewg] pSuyksa dh izlkj.k O;oLFkk % lSVsykbV Vhoh] dsCky] Mh-Vh-,p izlkj.k] pSuyksa dh yksdfiz;rk] ykHk % oSfo/; iw.kZ euksjatu] fo'ks"khd`r pSuyksa dh miyC/krk] lgh og lR;kfir lwpukvksa dh izkfIr( pSuyksa dh gkfu i{k] u;h izlkj.k uhfr vkSj Hkkjrh; izlkj.k O;oLFkkA

**bdkbZ&4** Vsyhfotu izkstD'ku] LVwfM;ks izksMD'ku Vhe] Vsyhfotu izksMD'ku ¼rS;kjh] izkstD'ku] lEiknu½ Vhe ds lnL; vkSj muds dk;Z] vk/kkjHkwr ckrsa] vkfM;ks] ekbdzks Qksu ds izdkj] mRd`"V ifj.kke ds fy, LVwfM;ks lsVvi] LVwfM;ks dh vkUrfjd izdk'k O;oLFkk] dek.M vkSj D;w] fQYe % lapkj ds ek/;e % fQYe xfr'khy fopkjksa dk fp= lalkj] fQYe lalkj dks ikj dj ysuk gSA

**bdkbZ&5** QksVks ,oa fQYe] Lora= ,oa lekpkj QksVksxzkQh] QksVks i=dkj] mudh pqukSfr;ka] QksVks lEiknu] laiknd( fQYe peRdkjh tuek/;e ¼Qhpj fQYe] o`Rr fp=] U;wtjhy] vU; fQYEksa½] Hkkjr esa fQYesa] Hkkjrh; fQYEkksa dk bfrgkl] eq[;/kkjk] lekukUrj ,oa {ks=h; fQYesa] fQYe i=dkfjrk % fo"k; {ks=] fo/kk,a] fQYe i=dkj ds fy, visf{kr ;ksX;rk,a fQYe leh{kkA

**[k.M&5 lEiknu**

**bdkbZ&1** lEiknu ds fl)kar] ifjHkk"kk] vko';drk] lekpkj d{k] lEikndh; d{k dk xBu] lekpkj p;u ,oa fu/kkZj.k] lEiknu] 'kh"kZd] eq[; milEiknd] dkih ,MhVj ds xq.k] dk;Z] lekpkj d{k esa lanHkZ lkexzh] lEiknu ds ladsr vkSj muds fpUgA

**bdkbZ&2** QksVks lEiknu & fu;ksftr ,Oka Lora= QksVks i=dkj] QksVks i=dkfjrk % ekuoh; ,oa rduhdh n`f"V] QksVks i=dkfjrk dh pqukSfr;ka % [kksth i=dkfjrk ,oa QksVksxzkQh] Lora= QksVksxzkQh vkSj lekpkj] js[kkfp= vkSj QksVksxzkQ] QksVksQhpj] QksVks lEiknu izfdz;k % QksVks dzkfiax] dSI'ku] izdk'kdh; funZs'k] QksVks lEiknu vkSj dEI;wVj] QksVks lEiknu dh fof'k"Vrk] QksVksxzkQksa dk izs"k.k] lekpkj QksVks ,tsUlh] QksVks ykbczsjhA

**bdkbZ&3** bysDVªkfud lEiknu % ifjp;] mn~ns';] ?kVd] izdkj ¼vkuykbu rFkk vkQykbu lEiknu] LVsªsV dV ,fMV] ,lsEcy vkSj bUlVZ lEiknu] ,-ch- jksy uku yhfu;j lEiknu½] bysDVªkfud lEiknu dyk] lEiknu dh lexz j.kuhfr fxzfQFk dk lEiknu lw=A

**bdkbZ&4** eqnz.k ,oa i`"B lktlTtk&eqnz.k rduhd % dEiksftax VkbilsfVax] gkFk }kjk dEiksftax] e'khu }kjk dEiksftax ¼ykbuksVkbi] eksuksVkbi] QksVksVkbi] ystj Vkbi lsfVax] Cykd½] vk/kqfud eqnz.k] i`"B lkt&lTtk ¼Lo:i] izFke i`"B dk fMtkbu] Qksdl iz/kku i`"B fuekZ.k] ldZ luqek i`"B fuekZ.k] fojks/kkHkkl i`"B fuekZ.k] larqfyr i`"B fuekZ.k½] lkEizfrd i`"B fuekZ.k ¼i`"B fuekZ.k eas vk/kqfudrk] vk/kqfud Vkbi] fp=ksa dk iz;ksxA

**bdkbZ&5** vuqokn vkSj Hkk"kk n{krk % vuqokn dk Lo:i] ifjHkk"kk] fl)kar] laf{kIr bfrgkl] egRo ( Hkk"kk n{krk % lwpuk txr vkSj fgUnh] foKkiu vkSj fgaxzsth] tuek/;e vkSj fgUnh] Hkk"kk esa folaxfr] orZuh dh leL;kA

**UGSHI-03/UGSEC-01**

**lfpoh; dk;Z i)fr**

**[k.M 01 Lkfpoh; dk;ksZa laca/kh ewy ckrsa**

**bdkbZ 01%& lfpoh; dk;ksZa dk Lo#i vkSj {ks=**

lfpo fdls dgrs gSa\] lfpo dk egŸo] lfpo dh Hkwfedk] lfpo ds drZO;] lfpo dh ;ksX;rk,a] lfpoh; dk;ksZa dk egŸo] lfpoksa ds çdkj] futh lfpoA

**bdkbZ 02%& laxBuksa esa lfpoh; dk;Z**

laLFkk ;k Dyc dk lfpo] lgdkjh lfefr dk lfpo] LFkkuh; fudk; dk lfpo] ljdkjh foHkkx dk lfpoA

**bdkbZ 03%& daiuh lfpo**

dEiuh lfpo fdls dgrsa gSa\] dEiuh lfpo dh fLFkfr] ;ksX;rk,a] fu;qfDr] fu"dklu vkSj c[kkZLrxh ] dk;Z] vf/kdkj vkSj nkf;Ro] O;olk;h dEiuh lfpoA

**[k.M 02 lHkk,a**

**bdkbZ 04%& lHkkvksa laca/kh lkekU; fu;e &I**

lHkk D;k gksrh gSa\ lHkkvksa dk oxhZdj.k] oS/k lHkk ds fy;s vkok’;d 'krsZa] lHkkvksa laca/kh fu;e] lHkkvksa dh rS;kjh vkSj mudk lapkyuA

**bdkbZ 05%& lHkkvksa laca/kh lkekU; fu;e &II**

lHkkvksa esa fopkj&foe’kZ rFkk okn&fookn dks fu;fer djus ds fu;e] dk;Z dk Øe] çLrko] la’kks/ku ,oa ladYi] ernku dh fof/k;ka ,oa fu;e] lHkk ds dk;d`r] lfpo ds drZO;A

**bdkbZ 06%& daiuh dh lHkk,a&I**

dEiuh dh lHkk,¡] dEiuh dh lHkkvksa ds çdkj] dEiuh dh lHkkvksa ds vko’;d y{k.k] çLrko ,oa ladYi] dEiuh dh lHkkvksa esa ernku dh dk;Zfof/k;k¡ vkSj ç.kkfy;k¡] dEiuh dh lHkkvksa dk dk;Zo`rA

**bdkbZ 07%& daiuh dh lHkk,a&II**

lfpo ds drZO;&lkekU;] lfpo ds drZO; % lkafof/kd lHkk] lfpo ds drZO; % okf"kZd lk/kkj.k lHkk] lfpo ds drZO; % vlkekU; lk/kkj.k lHkk] lfpo ds drZO; % funs’kd eaMy dh lHkk,¡] lfpo ds drZO; % vU; lHkk,¡] lHkkvksa ds dk;Zko`ŸkA

**[k.M 03 O;kolkf;d i=&O;ogkj**

**bdkbZ 08%& i= ys[ku ds fu;e**

i=&O;ogkj ds ewy fu;e] O;kolkf;d i= dk #i o Øe] i= ds iwjdA

**bdkbZ 09%& O;kolkf;d i=&O;ogkj &I**

O;kolkf;d i=] i= fy[kus ds fy;s ;kstuk cukuk] QkeZ i=] fofHkUu çdkj ds O;kolkf;d i=A

**bdkbZ 10%& O;kolkf;d i=&O;ogkj &II**

çpkj vkSj tu&lEidZ] lEiknd ds uke i=] Mkd lsok,aA

**bdkbZ 11%& ljdkjh i=&O;ogkj**

Mkd vf/kdkfj;ksa ds lkFk i=&O;ogkj] LFkkuh; fudk;ksa ds lkFk i=&O;ogkj] ljdkjh foHkkxksa ds lkFk i=&O;ogkj] lkoZtfud lsok laLFkkvksa ds lkFk i=&O;ogkjA

**[k.M 04 fjiksVZ vkSj la{ksi.k**

**bdkbZ 12%& dk;kZy; dh fjiksVZ**

fjiksVZ dk vFkZ vkSj ifjHkk"kk] fjiksVksZa dk egŸo] vPNh fjiksVZ ds eq[; RkROk] fjiksVZ ys[ku] fofHkUUk çdkj dh fjiksVZ] fjiksVksZa ij fu;a=.kA

**bdkbZ 13%& fjiksVZ ys[ku**

fjiksVZ cukus ds lkekU; funsZ’ku] fjiksVZ fy[kus dh fof/k] fjiksVZ ys[ku esa fofHkUu pj.k] yEch fjiksVZ] NksVh fjiksVZA

**bdkbZ 14%& la{ksi.k**

la{ksi.k D;k gSa\] la{ksi.k D;ksa\] vPNs la{ksi.k ds y{k.k] la{ksi.k dh fof/k;k¡] la{ksi.k ys[ku esa dfBukb;k¡] dqN mnkgj.kA

UGSEN-01

**vuqokn % fl)kUr vkSj izfof/k**

**Translation Theroy and Techniques**

**izFke [k.M vuqokn dk vFkZ % ijEijk vkSj egRo**

**bdkbZ &01 vuqokn % vFkZ] ifjHkk"kk vkSj Lo:i**

vuqokn 'kCn dh O;qRifRr] vFkZ] ifjHkk"kk] foLrkj] vuqokn dk Lo:i ¼O;kid Lo:i] lhfer Lo:i] dF; dk izrhdkUrj.k] vuqokn O;kid] lanHkZ esa var% Hkkf"kd] vuqokn] vUrjHkkf"kd vuqokn] vUrj izrhdkRed vuqokn½ ]vuqokn lhfer lanHkZ esa ¼ikV /kehZ vk;ke] izHkko /kehZ vk;ke½A

**bdkbZ &02 vuqokn dh ijEijk ¼ik'pkR; okaxe; esa ½**

vuqokn dk vkjEHk] ckbfcy ds vuqokn] ltZukRed lkfgR; rFkk vU; okaxe; ds vuqokn ¼ySfVu esa vuqokn] vaxzsth esa vuqokn] teZuh esa vuqokn] Ýkalhlh esa vuqokn½] egRoiw.kZ miyfC/k;kWa] izkphu Hkkjrh; lkfgR; ds vuqoknA

**bdkbZ &03 vuqokn dh ijEijk ¼Hkkjrh; okaxe; esa ½**

izkphu Hkkjrh; okaxe; esa vuqokn dh fLFkfr] vuqokn dk iwoZ :i] ¼inikB vkSj fu:fDr] Hkk";] Vhdk½] varjkHkk"kk;h vuqokn] Hkkjrh; lkfgR; ds fons'kh Hkk"kkvksa esa vuqokn ¼oSfnd lkfgR;] czkge.k xzaFk] mifu"kn% jkek;.k egkHkkjr] iqjk.k vkfn] vU; laLd`r jpuk,a½] laLd`r xzUFkksa ds fgUnh vuqokn ¼e/;dky] vk/kqfud dky½] if'peh jpukvksa ds fgUh vuqokn] vk/kqfud Hkkjrh; Hkk"kkvksa ls fgUnh esa vuqoknA

**bdkbZ &04 vuqokn dk egRo**

vuqokn D;ksa\ vuqokn dh gSfl;r% jk"Vªh; ,drk esa vuqokn dk egRo] lkekftd laLd`fr ds fodkl esa vuqokn dk egRo] Hkkjrh; lkfgR; ds v/;;u esa vuqokn dk egRo] vUrjkZ"Vªh; lkfgR; ds v/;;u v/;kiu esa vuqokn dk egRo] rqyukRed lkfgR; ds v/;;u esa vuqokn dk egRo O;olk; ds {ks= esa vuqokn dk egRo] iz'kklfud {ks= esa vuqokn dk egRo] tu lapkj ek/;eksa esa vuqokn dk egRo] f'k{kk ds {ks= esa vuqokn dk egRoA

**f}rh; [k.M vuqokn dh izfdz;k] izdkj ,oa lhek,a**

**bdkbZ &05 vuqokn dh izfdz;k**

vuqokn dks le>us dh nks n`f"V; ¼ikBdijd] izfdz;kijd½] vuqokn dk O;kikj {ks=] vuqokn izfdz;k % fofHk }kjk izLrkfor izk:i] U;wekdZ }kjk izLrkfor izk:i] Hkwfe leL;k izk:i ½A

**bdkbZ &06 vuqokn ds izdkj**

vuqokn ds izdkjksa ds oxhZdj.k ds vU; ¼ek/;e izfdz;k ikB ds vk/kkj ij½] vuqokn ds izdkjksa ij foLr`r ppkZ ¼var% Hkkf"kd vuqokn] varjHkkf"kd vuqokn] varizZrhdkRed vuqokn] vk'kq vuoqkn] i|kuqokn] x|kuqokn] fyI;adu] fyI;arj.k ikB/kehZ vuqokn] izHkko/kehZ vuqokn] iw.kZ vuqokn] vkaf'kd vuqokn] lexz vuqokn] ifjlhfer vuqokn] 'kCn izfr 'kCn vuokn] Hkkokuqd Nk;kuqoknA

**bdkbZ &07 vuqokn dh lhek,a**

lzksr Hkk"kk vkSj ¼y{; Hkk"kk dh izd`frxr lhek,a] vuuqok|rk dh vo/kkj.kk ¼vuuqok|rk ls rkRi;Z] vuuqok|rk ds vk;ke& fo"k; oLrq ds Lrj ij vfHkO;fDr ds Lrj ij½] vuqokn dh lhek,a % lkekftd lkaLd`frd ifjizs{; esa] vuqokn dh {ks=h;rkijd lhek,aA

**bdkbZ &08 vaxzsth fgUnh vuqokn dh leL;k,a vkSj mudk lek/kku &** mi;qDr i;kZ; p;u dh leL;k] fdz;k fo'ks"k.k rFkk fo'ks"k.k 'kCnksa ds vuqokn] fdz;kin dk vuqokn] dr`ZokP; vkSj deZokP;] izR;{k vkSj ijks{k dFku] feJ okD;ksa dk vuqokn eqgkojs vkSj dgkorsa] lQy vuqokn dh igpku A

**bdkbZ &09 vuqoknd ds xq.k] nkf;Ro vkSj vis{kk,a &**

vuqokn dh pqukSfr;kWa ¼Hkk"kk lektksa dh Lok;Rrrk] feFkqd izrhd ,oa lkSUn;Z izfrekuksa dh fof'k"Vrk] lkfgR;kuqokn dh dfBukb;kWa½] vuqoknd ds xq.k] vuqoknd ds nkf;Ro] vuqoknd ls vis{kk,aA

**r`rh; [k.M vuqokn ds lk/ku midj.k&**

**bdkbZ &10 dks'k vkSj muds izdkj &**

dks"k ls rkRi;Z] vuqokn esa dks'k dh mi;ksfxrk] dks'kksa ds izdkj A

**bdkbZ &11 dks'kksa dk miHkksx &A**

ladsr iz.kkyh rFkk ladsrksa dh fo'ks"krk,a] 'kCndks'k ns[kuk ¼o.kZ dze] O;kdj.k dksfV] vU; tkudkjh] dks'k esa 'kCn <wa<uk½A

**bdkbZ &12 dks'kksa dk mi;ksx&AA**

^fFklkjl\* dk mi;ksx] i;kZ; dks'k dk mi;ksx] vU; Hkkf"kd dks'kksa dk mi;ksx] mPpkj.k dks'k dk mi;ksx] fo"k; dks'k] ifjHkk"kk dks'k rFkk fo'odks'k dk mi;ksx] lkfgR; dks'k dk mi;ksx] iqjk.k rFkk feFkd dks'sk dk mi;ksx] dc dkSu lk dks'k ns[ksaA

**bdkbZ &13 dks'k fuekZ.k vkSj dEI;wVj**

dks'k fuekZ.k D;ksa gksrk gS vkSj dkSu djrk gS\ 'kCndks'k fuekZ.k izfdz;k & laf{kIr ifjp; ¼ladyu] laiknu] izsldkih fuekZ.k@eqnz.k½] dEI;wVj dk laf{kIr ifjp;] 'kCn dks'k fuekZ.k esa dEI;wVj dk iz;ksx] dEI;wVj vuqokn esa 'kCndks'k dk iz;ksx ¼dEI;wVj vuqokn dh izd`fr] dEI;wVj 'kCn dks'k ysfDldkWu½A

**prqFkZ [k.M vuqokn ds lzksr Hkk"kk vkSj y{; Hkk"kk dh rqyuk**

**bdkbZ &14 O;frjsdh fo'ys"k.k iz.kkyh vkSj vuqokn &**

lzksr Hkk"kk vkSj y{; Hkk"kk ds Lrjksa dh lfEeJ.k] foHksn] vHksn vkSj va'kO;kfIr lekjkFkhZ lk/ku] drkZ vkSj mlds okD;xr vFkZA

**bdkbZ &15 vuqokn esa dqN tksM+uk ;k NksM+uk**

vuqokn esa lerqY;rk dk fl)kUr] bl fl)kUr ds ikyu dh lhek] Hkk"kkvksa dh fofo/krk] l`tukRed lkfgR; dh vis{kk,a] Hkkf"kd vis{kk,a ¼lkaLd`frd t:jras]ikSjkf.kd vis{kk,a] vusdkFkZrk] /ofur vFkZ] inikB }kjk vuqokn] laizs"k.kh;rk½] nk'kZfud lkfgR; dk vuqoknA

**bdkbZ &16 vuqokn dk lkekftd lkaLd`frd lUnHkZ ¼lzksr Hkk"kk vkSj y{; Hkk"kk dh rqyuk½ &**

laLd`fr] Hkk"kk vkSsj lkfgR; dk var%lacU/k ] laLd`fr ds fodkl esa vuqokn dh Hkwfedk ¼ekSf[kd lkfgR; dk vuqokn] fyfi vuqokn½] Hkk"kkvksa dh lkaLd`frd fof'k"Vrk] Hkk"kk dh foU;klxr fof'k"Vrk lkekftd lkaLd`frd fof'k"Vrkvksa dk vuqokn esa iqu%l`tuA

**bdkbZ &17 vuqokn esa yksdksfDr;kWa vkSj eqgkojs ¼lzksrHkk"kk vkSj y{; Hkk"kk dh rqyuk½ &**

eqgkojksa vkSj yksdksfDr;ksa dk Hkk"kk esa LFkku] fo'ks"krk] yksdksfDr;ksa vkSj eqgkojksa dk vuqokn] vaxszth fgUnh yksdksfDr;ka vkSj eqgkojuksa dh ijLij rqyukA

**bdkbZ &18** vuqokn foKku gS vFkok dyk vFkok f'kYi

**iape [k.M vuqokn ds vU; :i**

**bdkbZ &19 fyI;arj.k**

fyfi ls rkRi;Z] fyI;arj.k D;k gS\ lkekU; vuqokn vkSj fyI;a;rj.k esa vUrj] Lofufed varj.k vkSj fyI;arj.k esa vUrj] fyI;adu vkSj fyI;arj.k esa vUrj] vuqokn ds nkSjku fyI;arj.k dh vko';drk ¼fofHkUu izdkj ds vuu| 'kCn] O;fDrokpd laKk,] ikfjHkkf"kd 'kCn½]nsoukxjh ls jkseus esa fyI;arj.k jkseu ls nsoukxjh esa fyI;arj.k Hkkjrh; Hkk"kkvksa ds chp fyI;arj.k nsoukxjh o.kZekyk dk ifjof/kZr :i nsoukxjh fyfi esa tksM+s x;s fo'ks"k fpUg] fyI;arj.k dk O;kogkfjd i{kA

**bdkbZ &20 e'khuh vuqokn ¼dEi;wVj ij vuqokn½**

e'khuh vuqokn dk vkjaHk e'khuh vuqokn dSls gksrk gS\ dEI;wVj vk/kkfjr 'kCn dks'k] e'khuh vuqokn dh izeq[k izfof/k;kWa ¼lh/ks vuqokn] varj.k vuqokn] varHkkZf"kd e'khuh vuqokn i)fr½] e'khuh vuqokn esa O;kdj.k rFkk in O;k[;k] miHkk"kk,a] fu"iknu vkSj ewY;kadu] e'khuh vuqokn esa xq.koRRk euq"; e'khu lg;ksx ¼vuqokn lgkf;dk,a] vuqoknksRrj laiknu@ Ik'p laiknu iwoZ laiknu] Kku vk/kkfjr e'khuh vuqokn iz.kkyh] euq"; e'khu ikjLifjd lg;ksx iz.kkyh ¼baVj,fDVo iz.kkyh½ vuqokn ds fofo/k fo"k; {ks= vkSj e'khuh vuqoknA

**"k"Be [k.M vuqokn dk iqujh{k.k] ewY;kadu vkSj leh{kk**

**bdkbZ &21 vuqokn dk iqujh{k.k**

iqujh{k.k D;k gS\ dSls gksrk gS\ iqujh{k.k dkSu djrk gS\ iqujh{k.k izf'k{kd] iqujh{k.k dk egRo] iqujh{k.k dk vH;klA

**bdkbZ &22 vuqokn ewY;kadu vkSj vuqokn leh{kk**

vuqokn ewY;kadu D;k gS\ vuqokn ewY;kadu dh i)fr;kWa ¼iqujuqokn vk/kkfjr ewY;kadu] vuqfdz;k] vk/kkfjr ewY;kadu] Dykst ijh{k.k] okpu ijh{k.k½] vuqokn leh{kk% Lo:I vkSj izd`fr ¼o.kZukRed rFkk rqyukRed vuqokn leh{kk] vuqokn ds iqujh{k.k] ewY;kadu vkSj leh{kk esa varjA

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**Qhpj ys[ku**

**Feature Writing**

**izFke [k.M Qhpj ys[ku ds vk/kkjHkwr fu;e**

**bdkbZ &01 Qhpj ys[ku % ifjp; ] vFkZ ,oa egRo**

Qhpj ds fofHkUu i{k ¼izsjd rRo] ifjos'k] vk/kkj lkexzh] ys[kdh; n`f"Vdks.k] Hkk"kk vkSj 'kSyh½ Qhpj dh fo'ks"krk,a] Qhpj ds izdkj] Qhpj ys[kd ds xq.kA

**bdkbZ &02 Qhpj ys[ku dh fof'k"Vrk,Wa**

Qhpj ys[ku izfdz;k ¼fo"k; ;k ?kVuk ls ifjp;] vuqHkwfr ;k=k] fpUru euu dk oSf'k"V] visf{kr] 'kks/k] ;k=k ,oa lk{kkRdkj] rF; ,oa QksVks laxzg] fo"k; O;oLFkk ,oa izLrqfr½ Qhpj ys[ku ds fu;e] Qhpj ys[ku ds ykHk] Qhpj ,oa vU; fo/kk,WaA

**bdkbZ &03 fo"k; dk p;u] lkexzh fu/kkZj.k ,oa izLrqfr &**

Qhpj ds fofHkUu vax ¼varoZLrq] alajpuk] Hkk"kk ,oa 'kSyh½ lkexzh ladyu ds lzksr] lkexzh dk laiknu ,oa la;kstu ¼/;krO; ckrsa½A

**f}rh; [k.M Qhpj ys[ku ds {ks=**

**bdkbZ &04 lkekftd fo"k;ksa ij Qhpj ys[ku**

lkekftd Qhpj dk vFkZ] izdkj] fo"k; dk p;u] lkexzh&ladyu] lkexzh dk laiknu vkSj la;kstu] Qhpj ys[ku dh izLrqfr ¼vkjaHk] e/;] var vkSj 'kh"kZd] Hkk"kk 'kSyh½

**bdkbZ &05** lkaLd`frd fo"k;ksa esa Qhpj ys[ku ¼iwoZor~½

**bdkbZ &06** vkfFkZd fo"k;ksa esa Qhpj ys[ku & ¼iwoZor~½

**bdkbZ &07** i;kZoj.k fo"k; ij Qhpj ys[ku & ¼rFkSo½

**bdkbZ &08** foKku fo"k; esa Qhpj ys[ku & ¼rFkSo½

**bdkbZ &09** [ksydwn esa Qhpj ys[ku & ¼iwoZor~½

**r`rh; [k.M**  **fjiksrkZt vkSj ;k=k ys[ku**

**bdkbZ &10 fjiksrkZt % vFkZ Lo:i ,oa egRo**

jpukxr fof'k"Vrk ¼vUroZLrq] Hkk"kk 'kSyh] izfrik|½] fjiksrkZt ,oa vU; x| :i ¼dgkuh] js[kkfp=] laLej.k] fuca/k] Qhpj fjiksVZ½ fjiksrkZt dk egRo ,oa mi;ksfxrkA

**bdkbZ &11 fjiksrkZt % ys[ku ,oa izLrqfr**

fjikrkZt ys[ku dh rS;kjh ¼;k=k ls iwoZ dh rS;kjh] lacaf/kr ?kVuk] LFky dh ;k=k] lk{kkRdkj] rF;ksa dh tkWap½] lkaexzh dk la;kstu vkSj lEiknu] fjiksrkZt] dk ys[ku ¼leL;k dk fu/kkZj.k izklafxdrk ij fopkj] ikBd oxZ ij fopkj] izLrqfr dk <ax½] fjiksrkZt dh izLrqfr ¼vkjEHk] e/;] vUr] 'kh"kZd½] fjiksrkZt dh Hkk"kk 'kSyhA

**bdkbZ &12 ;k=k ys[ku dk egRo vkSj mlds fofo/k izdkj**

;k=k ys[ku dk mn~ns'; vkSj egRo] ;k=k ys[ku ds fofo/k izdkj ¼O;olk;ksUeq[k lwpukijd] fof'k"V] lkfgfR;d½] ;k=k ys[ku dh fofHkUu 'kSfy;kWa ¼o.kZukRed] laLej.kkRed] Mk;jh 'kSyh½

**bdkbZ &13 ;k=k ys[ku % fo"k; dk p;u vkSj izLrqfr**

;k=k ys[kd dh ;ksX;rk] ;k=k LFky dk p;u ¼:fp ,oa fo'ks"kKrk] ;k=k dh izklafxdrk vkSj egRo½ lkexzh dk ladyu ¼;k=k iwoZ v/;;u ] ;k=k dh rS;kjh] rF;ksa dk ladyu] vU; lkexzh½] lkexzh dk la;kstu ,oa laiknu] ;k=k ys[ku dh izLrqfr ¼vkjEHk] e/;] var ,oa 'kh"kZd½] Hkk"kk] ,oa 'kSyhA

**prqFkZ [k.M iqLrd leh{kk ,oa lk{kkRdkj**

**bdkbZ &14 leh{kk dh fo'ks"krk,a ,oa leh{kd**

iqLrd leh{kk dk vfHkizk;] egRo] iqLrd leh{kk ds fofHkUu i{k] vPNs leh{kd ds xq.k] iqLrd leh{kk dh fo'ks"krk,aA

**bdkbZ &15 iqLrd leh{kk % ys[ku ,oa izLrqfr**

iqLrd leh{kk ds izdkj ¼ifjp;kRed] fo'ys"k.kkRed] ewY;kaduijd½] ys[ku dh rS;kjh ¼iqLrd dk v/;;u] rF;ksa dh tkWap] vU; iqLrdksa dk v/;;u] iqLrdsa dh izklafxdrk½] iqLrd leh{kk dk ys[ku ¼iqLrd ,oa ys[kd dk ifjp;] dsUnzh; Hkko dks mtkxj djuk] fo"k; oLrq dk ewY;kdu] Hkk"kk 'kSyh dk ewY;kadu] izdk'ku Lrj ,oa ewY;½] iqLrd leh{kk dh izLrqfrA

**bdkbZ &16 lk{kkRdkj dh rS;kjh**

lk{kkRdkj dk egRo] izdkj ¼O;fDr vk/kkfjr] fo"k; vk/kkfjr½] lk{kkRdkj dh rS;kjh ¼O;fDr dk fu/kkZj.k] iwokZuqefr] vko';d v/;;u½A iz'ukoyh dk fuekZ.k ¼lk{kkRdkj ysuk] lk{kkRdkj dh fjdkfMZx Lej.k 'kfDr] uksV ysuk] Vsi fjdkMZj dk iz;ksx½A

**bdkbZ &17 lk{kkRdkj % lkexzh dk laiknu vkSj la;kstu**

lk{kkRdkj dh lgk;d lkexzh] lk{kkRdkj dks vafre :i nsuk] la'kks/ku ,oa iquysZ[ku] lk{kkRdkj dk lajpukRed :i ¼fofHkUu :i] ys[k ds :i esa] iz'uksRRkj :i esa 'kh"kZd nsuk½] lk{kkRdkj dk izdk'kuA

**bdkbZ &18 O;fDr fp=**

vfHkizk;% mn~ns';] vkSj egRo] O;fDr ds p;u dk vk/kkj] ys[ku dh rS;kjh ¼vko';d v/;;u] lk{kkRdkj] vU; lkexzh dk p;u½] O;fDr fp= ds fofHkUu i{k ¼thou ifjp;] dk;Z {ks=] miyfC/k ,oa ;ksxnku] izklafxdrk vkSj egRo½] O;fDr fp= dk ys[ku ¼vkdkj] 'kSyh Hkk"kk] 'kh"kZd½A

UGSEN-03

**O;kogkfjd vuqokn ds fofo/k Lrj vkSj {ks=**

**Translation Practice- Levels and Areas**

**izFke [k.M okD; jpuk dk lajpukRed fo'ys"k.k % rqyuk vkSj iqu%l`tu&A**

**bdkbZ &01** okD; jpuk % lkekU; ifjp; ¼vaxzsth fgUnh okD;½

**bdkbZ &02** laKk inca/k

**bdkbZ &03 fdz;k inca/k dk Lo:i vkSj dk;Z rFkk vuqokn &A**

fdz;k inca/k D;k gS\ fdz;k ds inca/k la?kVd rRo] dky vkSj i{k] dky ds fofHkUu :i ¼orZeku dky] Hkwrdky] Hkfo";dky½A

**bdkbZ &04 fdz;k inca/k dk Lo:i vkSj dk;Z rFkk vuqokn&AA**

^ld\* oxZ (Modals): Lo:i vkSj fo'ks"krk,a ¼^lduk\* o ^pkfg,\* dk vuqokn] ^pkfg,\* dk udkjkRed :i] Used to Dare dk iz;ksx½] okP; (Voice) Lo:i vkSj fo'ks"krk,a ¼okP; ifjorZu] okP; ifjorZu ds lkekU; vkSj fof'k"V fu;e] vkKkFkZ deZ okP;] lkekU;kFkZ deZokP;] ^ld\* oxZ (Modals) dk deZokP;] fu"ks/kkRed okD;ksa dk deZokP;] iz'uokpd okD;ksa dk deZokP;] deZokP; dk iz;ksx dc djsa vkfnA½

**f}rh; [k.M okD; jpuk dk lajpukRed fo'ys"k.k % rqyuk vkSj iqu% l`tu&AA**

**bdkbZ &05 fofHkUu izdkj dh fdz;k,a % mudh izd`fr] Lo:i vkSj dk;Z rFkk vuqokn &A**

;kstd fdz;k,a (Linking verbs) vkSj vuds vuqokn] ldeZd rFkk vdeZd fdz;k,a vkSj muds vuqokn] laKkFkZd fdz;k,a % d`nar (Infinitives) vkSj muds vuqokn] laKkFkZd fdz;k,a % d`nar (Gerunds) vkSj muds vuqoknA

**bdkbZ &06 fofHkUu izdkj dh fdz;k,a % mudh izd`fr] Lo:i vkSj dk;Z rFkk vuqokn &AA**

d`nUr (Participles)- orZekudkfyd (Present Participle) iw.kZdkfyd (Perfect Participle) vkSj Hkwrdkfyd d`nUr (Past Participle) dk;Z O;kikj gksrs jgus dk cks/k djkus okyh fdz;kvksa dk vuqokn] ck/;rk@okaNuh;rkewyd fdz;k,a vkSj mudk vuqokn] ekyk:i@ J`a[kykc) fdz;k,a (Catenative Verbs) vkSj mudk vuqokn] izsj.kkFkZ fdz;k,a (Causative Verbs) vkSj mudk vuqokn A

**bdkbZ &07 miokD; vkSj leqPp;cks/kuksa dh Hkwfedk**

miokD; dh lajpuk] rRo] leqPp; cks/kd (Conjunctions) izdkj] okD; la;kstd (Sentence Connectors) miokD;ksa ds izdkj] 'krZlwpd okD; (Conditional Sentences) ¼vuqokn ds dqN uewus Hkh½A

**bdkbZ &08** fo'ks"k.k] fdz;k fo'ks"k.k] lEcU/kcks/kd vO;; rFkk miin ¼vkfVZdYl½

**r`rh; [k.M i;kZ; p;u vkSj tfVy okD;**

**bdkbZ &09** i;kZ; p;u &A ¼fgUnh ls vaxzsth vuqokn ds lUnHkZ esa½

**bdkbZ &10** i;kZ; p;u &AA ¼vaxzsth ls fgUnh vuqokn ds lUnHkZ esa½

**bdkbZ &11** tfVy okD;ksa dk vuqokn &A ¼vaxzsth ls fgUnh vuqokn ds lanHkZ eas½

**bdkbZ &12** tfVy okD;ksa dk vuqokn&AA ¼fgUnh ls vaaxzsth vuqokn ds lanHkZ esa½

**prqFkZ [k.M fof'k"V iz;ksx rFkk vuqokn**

**bdkbZ &13 fof'k"V iz;ksx &A**

'kCn vkSj 'kCn la;ksx] 'kCn la;ksxksa esa i;kZ; p;u dh lhek,a] 'kCn la;ksx ds i;k; ds :i esa ,d 'kCn dk iz;ksx] 'kCn dks'kh; vFkZ vkSj 'kCnksa dk iz;ksx u, 'kCnksa dk vuqokn] cgqizpfyr 'kCnksa ds i;kZ;A

**bdkbZ &14 fof'k"V iz;ksx &AA**

vaxszth esa cgqopu ds iz;ksx dh fof'k"Vrk] vaxzsth esa orZeku dky ds fdz;k :i dk fgUnh esa Hkfo";r~ dky ds :i esa vuqokn] vaxzsth esa ferO;;rk vkSj lekax in] vazxzsth esa loZuke dk iwoZ iz;ksx] fujis{k mn~ns';] };FkZd okD;ka'kA

**bdkbZ &15 fof'k"V iz;ksx&AAA**

dkyksa ds dze dk egRo] izR;{k vkSj ijks{k dFku] eqgkojsnkj iz;ksx] dgkorsa rFkk yksdksfDr;kaA

**bdkbZ &16 fof'k"V iz;ksx & IV-**

'kCnksas vkSj 'kCn la;ksxksa dk lkekftd lkaLd`frd lanHkZ ¼i=dkfjrk] dgkuh] O;aX;ys[k] thouh o laLd`fr fo"k;d ys[k ls m)j.k nsdj Li"Vhdj.k½A

**iape [k.M lkjkuqokn**

**bdkbZ &17** lkjkuqokn % Lo:i vkSj izfof/k

**bdkbZ &18** lkjkuqokn ds fofo/k i{k

**bdkbZ &19** lkjkuqokn % O;ogkj &A ¼vaxzsth ls fgUnh½

**bdkbZ &20** lkjkuqokn % O;ogkj &AA ¼fgUnh ls vaxzsth½

**"k"Ve [k.M vk'kq vuqokn**

**bdkbZ &21** vk'kq vuqokn % Lo:i vkSj izfof/k

**bdkbZ &22** vk'kq vuqokn ds fofo/k i{k

**bdkbZ &23** vk'kq vuqokn % O;ogkj &A

vaxzsth ls fgUnh vk'kq vuqokn dh izfof/k] vk'kq vuqokn dh O;kogfjd leL;k,a vkSj lek/kku] /;krO; ckrsa A

**bdkbZ &24 vk'kq vuqokn % O;ogkj&AA**

fgUnh ls vaxzsth vk'kq vuqokn dh izfof/k] O;kogkfjd leL;k,a] /;krO; ckrsaA

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**ehfM;k ds fy, ys[ku@jsfM;ks ds fy, ys[ku**

**Writing for Media – Radio and Television**

**izFke [k.M lapkj ek/;eksa ds fy, ys[ku ds vk/kkjHkwr fu;e**

**bdkbZ &01 bysDVªkfud ek/;eksa ds fy, fof'k"Vrk %**

lapkj dh izfdz;k vkSj mldk laf{kIr bfrgkl] bysDVªkfud ek/;eksa dk ijaijkxr lapkj ek/;eksa ij izHkko] vk/kqfud lekt esa lapkj ek/;eksa dh Hkwfedk] bysDVªkfud ek/;eksa ds xq.k nks"kksa dk foospu] fodkl'khy lekt ds lUnHkZ esa bysDVªkfud ek/;eksa dk egRo vkSj [krjs] bysDVªkfud ek/;eksa dk fo'o Lrj ij tky A

**bdkbZ &02 jsfM;ks dh fo'ks"krk,a] {kerk,a &**

jsfM;ks vkSj tulapkj] jsfM;ks % ,d JO; ek/;e ¼Jksrk dh dYiuk 'kfDr dk mi;ksx] orZeku dk cks/k] yphykiu] rRijrk½] jk"Vªh; fodkl esa jsfM;ks dh Hkwfedk] jsfM;ks % ,d n`';ghu ek/;eA

**bdkbZ &03 jsfM;ks ds ifjisz{; esa jpuk izfdz;k**

jsfM;ks ys[ku ls vis{kk,a] jsfM;ks ys[ku ds midj.k ¼'kCn] /ofu] izHkko] laxhr½] jsfM;ks ys[ku ¼Hkk"kk] vkd"kZd vkjaHk] fo"k; lkexzh esa u;kiu] laf{kIrrk½A

**f}rh; [k.M Qhpj vkSj lekpkj ys[ku**

**bdkbZ &04 jsfM;ks if=dk] o`Rrfp= vkSj Qhpj**

MkD;weaUVª vkSj jsfM;ks :id] jsfM;ks if=dk] ¼jsfM;ksa if=dk dh vko';drk] foKku if=dk] jk"Vªh; [ksy if=dk] lkfgfR;d if=dk] jsfM;ks if=dk ds vko';d rRo½] O;fDr fp=A

**bdkbZ &05 okrkZ] lk{kkRdkj vkSj ckrphr**

jsfM;ks okrkZ ¼ifjHkk"kk ,oa Lo[kk ys[k vkSj okrkZ esa varj] okrkZ vkys[k ds vko';d rRo] okrkZ ds izdkj] Hkk"kk 'kSyh½] okrkZ ys[ku dh izfdz;k] lk{kkRdkj ¼vko';d rRo] izdkj] rS;kjh] iz'ukoyh dk fuekZ.k] lk{kkRdkj ysuk½] ckr phrA

**bdkbZ &06 lekpkj ys[ku**

lekpkj dh fo'ks"krk,a] jsfM;ks] Vh- oh- vkSj izsl lekpkj esa vUrj] jsfM;ks lekpkj % oxhZdj.k] lekpkj fo'ys"k.k@ la;kstu] lekpkj Jskr] jsfM;ks lekpkj ys[ku] laiknu ¼lekpkjksa dk p;u] lqf[kZ;ksa dk pquko] Hkk"kk dk lEiknu½] vkpkj lafgrk rduhd

**r`rh; [k.M fLdzIV ys[ku**

**bdkbZ &07** jsfM;ks fLdzIV ys[ku ds fofHkUu rRo ,oa i)fr;kWa

**bdkbZ &08 jsfM;ks ukVd**

Lo:i] jsfM;ks ukVd ds laokn ¼Hkk"kk dh fo'ks"krk] fofo/k n`';] /ofu izHkko] LFku vkSj le; ;k dky dh fujUrjrk] D;k ugha djuk gS½ jsfM;ks ukVdksa ds izdkjA

**bdkbZ &09 jsfM;ks :id ,oa /kkjkofgd**

Lo:i] fo'ks"krk,a] lajpuk ;k cukoV fy[kus dk rjhdkA

**bdkbZ &10 jsfM;ks foKkiu**

jsfM;ks foKkiu ,oa vU; ek/;e ] jsfM;ks foKkiu vkSj le;] foKkiu ys[ku & iwoZ rS;kjh] izLrqrhdj.k ¼lkekU; okpu] ukV;hd`r] ftxYl½] jsfM;ks foKkiu % /;ku nsus ;ksX; ckrsa] vkpkj lafgrk½A

**prqFkZ [k.M fofHkUu Jksrk leqnk;**

**bdkbZ &11 cPpksa ,oa fd'kkjksa ds fy, jsfM;ks ys[ku**

iz;kstu vkSj izklafxdrk] Jksrk oxZ dh igpku] mi;qDr fo"k; dk pquko] cky dk;Zdzeksa ds fy, ys[ku vkSj izLrqfr ¼cky dfork,a vkSj dgkfu;kWa] ckrphr] okrkZ,a vkSj HksVokrkZ,a] :id vkSj ;k=ko`RRkkUr] pqVdqys] iz'uksRrjh vkSj vUR;k{kjh½] cky dk;Zdzeksa dh Hkk"kkA

**bdkbZ &12 efgykvksa ds fy, jsfM;ks ys[ku**

efgyk dk;Zdzeksa dk egRo] efgyk dk;Zdzeksa dk izlkj.k&le;] izd`fr vkSj Lo:i% efgyk dk;Zdzeksa ds izklafxd fo"k;] dk;Zdze izLrqfr dh izeq[k fo/kk,aaA

**bdkbZ &13 xzkeh.kksa ds fy, jsfM;ks ys[ku**

vko';drk vkSj egRo xzkeh.kksa dh psruk] ifjfLFkfr vkSj vko';drk dh lgh tkudkjh] xzkeh.k dk;Zdzeksa ds fy, lgh fo"k;ksa dk fu/kkZj.k] dk;Zdzeksa ds fy, lkexzh tqVkuk] xzkeh.k dk;Zdzeksa dh fof'k"Vrk,a ¼vf'k{kk dk /;ku j[kuk] fof'k"V laLd`frd i`"BHkwfe] xzkeh.k dk;Zdzeksa dh Hkk"kk] izLrqrhdj.k vPNs xzkeh.k dk;Zdzeksa dh fo'ks"krk,aA

**bdkbZ &14 foKku fo"k;d jsfM;ks ys[ku**

foKku vkSj lapkj ek/;e] Jskrk oxZ dh igpku] mi;qDr fo"k;] rS;kjh] foKku ys[ku % fofo/k fo/kk,a] foKku vkys[k% rduhdh i{kA

**bdkbZ &15 vkWa[kksa ns[kk gky ¼desUVªh½**

rkRi;Z] fo'ks"krk,a] iwoZ rS;kjh] desUVªh laca/kh vko';d ckrsa] fofHkUu izdkj dh desUVªhA

**iape [k.M jsfM;ks vkSj f'k{kk**

**bdkbZ &16 Ldwy ds fy, izlkj.k**

iz;kstu] Jksrk oxZ dh igpku] mi;qDr fo"k;] rS;kjh] ys[ku dh fo/kk,A

**bdkbZ &17 xSj ijEijkxr f'k{kk esa jsfM;ks dh Hkwfedk**

xSj ijaijkxr f'k{kk D;ksa vkSj dSls] ijaaijkxr vkSj xSj ijaijkxr f'k{kk esa varj] xSj ijaijkxr f'k{kk esa jsfM;ks dh Hkwfedk] jsfM;ks ys[ku ds fofHkUu :i] jsfM;ks dk;Zdzeksa esa xSj ijaijkxr f'k{kk ds fy, fo"k; oLrq A

**bdkbZ &18 eqDr f'k{kk iz.kkyh esa jsfM;ks dh Hkwfedk**

eqDr f'k{kk iz.kkyh vkSj lapkj ek/;e ¼jsfM;ks½] jsfM;ks }kjk f'k{kk nsus dk Lo:i ¼okrkZ] ifjppkZ] Qhpj] lk{kkRdkj½] vkfM;ks ikB dh rS;kjh vkSj izLrqrhdj.kA

UGSST-01

**[k.M & 02 T;ksfrZxf.kr ,oa T;ksfrfoZKku**

bdkbZ &01 n”kk izdj.k

1. foU”kksRRkjh n”kk ,oa mldk o.kZu
2. vUrnZ”kk ,oa izR;UrnZ”kk
3. n”kk dk egRo
4. v’VksRrjh n”kk ,oa foU”kksRrjh n”kk esa vUrj
5. n”kk ls tkrd dk Qyk Qy dk Kku

bdkbZ &02 xkspj izdj.k

1. xkspj ls rkRi;Z
2. xkspj esa xzgksa dh xfr;k¡ ,oa dkykof/k
3. uoxzgksa dk xkspjh v/;;u ,oa O;k[;k
4. “kfu dh lk<+s “kkrh ,oa <S+s;k fopkj

bdkbZ & 03 iapkax izdj.k

1. Ikapkax ds ikap vaxksa dk foospu
2. Iakpkax dh mikns;rk
3. iapkax ,oa o’kZ Qy] mldh x.kuk ,oa O;k[;k
4. rkftd ;ksx x.kuk
5. iapkax ds vk/kkj ij “kqek “kqHk ;ksx
6. u{k=ksa ,oa jkf”k;ksa dk foospu

bdkbZ &04 fl)kUr T;ksfr’k

1. fl)kUr T;ksfr’k ls rkRi;Z
2. fl)kUr T;ksfr’k ds izeq[k tud
3. fl)kUrksa dh mi;ksfxrk
4. fl)kUrksa dh oSKkfudrk
5. fl)kUrksa dk vU; “kkL=ksa ls lEcU/k

bdkbZ &05 fl)kUrkiapd

¼d½ izkphu fl)kUr iapd

1. firkeg fl)kUr
2. of”k’B fl)kUr
3. jkse”k fl)kUr
4. ikSfy”k fl)kUr
5. lw;Z fl)kUr

¼[k½ orZeku fl)kUr iapd

1. vk/kqfud lw;Z fl)kUr
2. lkse fl)kUr
3. of”k’B fl)kUr
4. jkse”k fl)kUr

**UGSST-02 Qfyr T;ksfr’k**

[k.M &01 Qfyr T;ksfr’k% ,d v/;;u

bdkbZ & 01- xf.kr ,oa Qfyr T;ksfr’k dk vk/kkj rFkk tkrd ls lEcU/k

02- tUekM~-x dh vkOk”;drk

03- vk/kku dq.Myh dk tUe dq.Myh ls lEcU/k ,oa O;k[;k

04- Hkkxor Qy ds mn~ns”;

05- o’kZ ]i{k frfFk] u{k=] okj] ;ksx dk Qy

06- dj.k] rkjk& Qy fopkj ,oa dq.Myh Qy fu:i.k

bdkbZ &02 1-pUnzek ds cykcy dk fu/kkZj.k

2- Qfyr esa pUnzek dk egRo

1. ve`r fl) ;ksx] e`R;q ;ksx] nX?k ;ksx] ;e?kaV ;ksx fu/kkZj.k ,oa Qfyr esa mi;ksfxrkA
2. xtPNk;k ;ksx] v/kksZn;& egksn; ;ksx] iapd fopkj rFkk “kqHkk”kqHk Qykas dk fu:i.kA
3. mDr ;ksx esa R;kT; deZ vkSj fofgr deZ dk fu/kkZj.kA
4. jkf”k;ksa dh fn”kkvksa dk fu/kkZj.kA

bdkbZ &03 1- jkf”k;ksa dk Lo:Ik rFkk tkrdksa ij “kqHkk”kqHk Qyksa dk fu/kkZj.k

2- jkf”k;ksa ds vk/kkj ij LoHkko fu/kkZj.kA

3- xzgksa dk fopkj ,oa mns”;

4- xzgksa dh tkfr] xq.k /keZ] fyax dk fu/kkZj.kA

5- xzgksa dk LFkku QyA

6- xzgksa ds mPp &uhp LFkku ,oa n`f’V;k¡ rFkk voLFkkvksa dk fopkj

bdkbZ & 04

1. “kjhj ij fLFkr xzgksa dk izHkko
2. xq: ,oa “kqØ dk mn; ,oa vLr dky ,oa fofgr vkSj vfofgr deZ
3. Hkkoksa dk dkjdRo fopkj ,oa Qfyr esa mns”;
4. Eakxy dk lE;d fopkj
5. yXu ds vk/kkj ij “kqHkk”kqHk xzg dk fu/kkZj.k
6. Qfyr esa tkrd dk mRFkku iru] le; fu/kkZj.k

bdkbZ & 05

1. vfu’V dkjd Qy ,oa mlds lek/kku dk vk/kkj
2. jksx ls cpus ds mik;
3. jksx dk dky fu/kkZj.k
4. jksx dk vax fu/kkZj.k
5. xzgksa ds vk/kkj ij jksx izHkko dh vof/k
6. u{k=ksa ds izHkko ls jksx dk izHkko

bdkbZ & 06

1. uoxzg ;a=
2. uoxzg Lrks=
3. uoxzg dk ikSjkf.kd ifjp;
4. uoxzgksa dk ti nku dk mns”; ,oa izHkko
5. uoxzgksa dk ea=] ef.k ls laca/k ,oa izHkko
6. xzgksa ds fy, vkS’kf/k lsou fof/k ,oa “kqHk eqgwrZ dk fopkj

**[k.M &02 fookg laLdkj % ,d v/;;u**

bdkbZ & 01

1. fookg dk egRo ,oa izdkj
2. fookg esa esykid fopkj
3. ikidf=Z ;ksx dk fu/kkZj.k ekaxfyd nks’k fopkj
4. fookg eqgwrZ fu/kkZj.k
5. fookg ds nl nks’k dk fopkj ,oa ifjgkj

bdkbZ & 02

1. fookg esa ‘kMk’Vd] f}}kZn”kd] uoiape % nks’k fopkj
2. ukMh nks’k] x.k nks’k] o.kZ nks’k] rFkk xzg eS=h fopkj % nks’k ,oa ifjgkj
3. “k=q izhfr ‘k’M’Vkdkfn esa fopkj
4. Rkkjk eS=h fopkj
5. fookg ds fofo/k nks’kksa dk fopkj ,oa ifjgkj
6. rkjk “kkafr dk fopkj

bdkbZ & 03

1. lUrfr fopkj
2. lUrfr dk ;ksx
3. iq=&iq=h fu/kkZj.k
4. lUrku izfrca/kd ;ksx
5. cU/;k L=h dk izdkj
6. e`roRlk L=h ds y{k.k ,oa ifjgkj

bdkbZ & 04

1. lUrku ghurk ds ;ksx
2. vkrZnks’k] oh;Z nks’k] iape Hkko nks’k ds izHkko
3. lUrfr izkfIr esa iape Hkko ,oa dkjdxzg fopkj
4. xzgksa lUrfr ij izHkko
5. vfu’Vdkjh xzgksa ds nks’k “keu ,oa mipkj
6. lUrku ck/kk fopkj

bdkbZ & 05

1. L=h tkrd ij xzgksa dk izHkko
2. L=h tkrd ds y{k.k
3. L=h Tkkrd ds ekrk&firk dk lkSHkkX;&nqHkkZX; fu/kkZj.k
4. lkSHkkX;orh L=h ds y{k.k ,oa ;ksx
5. fo/kok L=h ds y{k.k ,oa ;ksx
6. vfookfgr L=h ds y{k.k

bdkbZ & 06

1. nqHkZxk L=h ds y{k.k
2. fo’kdU;k ;ksx
3. fookg foPNsn ;ksx
4. vUrtkZrh; fookg fopkj
5. fookgksijkUr lq[k nq[k fopkj
6. cky fookg ;ksx

**UGSST -03**

**okLrq ”kkL=**

**[k.M & 01 okLrq”kkL= & ifjKku**

bdkbZ & 01

1. okLrq “kkL= dk ifjp;
2. okLrq”kkL= dk mn~Hko ,oa fodkl
3. okLrq “kkL= dh vko”;drk ,oa egRo
4. okLrq”kkL= dk iapkax ls laca/k
5. okLrq esa ty dh vko”;drk
6. okLrq esa iaprRo fopkj

bdkbZ &02

1. Hkwfe dk izdkj
2. Hkou ds vkdkj izdkj ,oa Hksn
3. Hkwfe dk ijh{k.k
4. okLrq iq:’k dh mifRRk ,oa okl
5. x`g fi.M “kks/ku
6. uhao dh [kqnkbZ ,oa fuekZ.k

bdkbZ & 03

1. xzke fuokl fu’ks/k fopkj
2. okLrq pd
3. vkaxu fopkj
4. Hkou esa d{k fopkj
5. Tky fudklh fopkj
6. T;ksfr’kh; n`f’V ls izkIr Hkou fopkj

bdkbZ &04

1. x`g fuekZ.k ,oa okLrq esa “kqHkk”kqHk u+{k= dk mns”;
2. okLrq esa /otkfn dh LFkkiuk ,oa egRo
3. }kjkfn ij fopkj
4. x`gkjEHk esa dky fu’ks/k
5. x`g fuekZ.k esa pUnz fopkj
6. xzg izos”k eqgwrZ

bdkbZ & 05

1. fof/k fopkj
2. Hkou dh jpuk dk izdkj
3. Hkou fuekZ.k esa ikSjkf.kd egRo
4. czg~e LFkku dk fu:i.k
5. o`{k dk fopkj
6. okLrq esa okfVdk fopkj

bdkbZ &06

1. jktHkou dk y{k.k
2. o.khZ ds vuqlkj Hkou fof/k o.kZu
3. ;qojkt lphoksa dk o.kZu
4. pkS[kVkfn fu/kkZj.k fof/k
5. Ik”kq“kkykfn dh fuekZ.k fof/k
6. okgu”kkykfn dh fuekZ.k fof/k

**[k.M & 02**

bdkbZ & 01

1. okLrq “kkL= dk jax ,oa egRo
2. okLrq nks’k fuokj.k
3. ea= ,oa iz;ksx
4. jaxks dk “kkL=h; egRo
5. jax vkSj frfFk;k¡ aokj vkfn
6. okLrq nks’k D;ksa vkSj dSls

bdkbZ & 02

1. O;kolkf;d Ikzfr’Bku dk fopkj
2. tUe dq.Myh ls okLrq fopkj
3. okLrq nks’k ds T;ksfrf’k; mik;
4. uwru x`g ,oa th.kZx`g izos”k
5. izos”k esa fuf’k) u{k= fopkj
6. ikjEifjd ,oa vk/kqfud fof/k ls izos”k

bdkbZ & 03

1. okLrq iwtk ,oa u{k=
2. x`g izos”k esa fofgr vkSj vfofgr u{k=
3. okLrq iwtk ds izdkj
4. x`g izos”k ,oa fn”kk
5. Hkou esa /kkfeZd izrhdksa dk egRo LofLrdkfn
6. fcuk rksM+ QksM+ ds okLrq nks’k dk fuokj.k

bdkbZ & 04

1. vkoklh; rFkk O;kolkf;d izfr’Bkuksa esa Hksn
2. okLrq dh vko”;drk
3. tUe dq.Myh x`g izfr’Bku ,oa okLrq dk fopkj
4. lw;Z osnh Hkou dk fopkj
5. pUnz Hksnh Hkou dk fopkj
6. Hkou esa osn fopkj

bdkbZ& 05

1. okLrq esa nsokjk/ku% LFky fu/kkZj.k
2. nSoh; Hkou dh Å¡pkbZ
3. okLrq esa nsookl
4. Hkhrjh ,oa ckgjh nsorkvksa dk fuokl
5. nsorkvksa dh ewfrZ fu.kZ; ,oa fuekZ.k ij fopkj
6. nsorkvksa ds iapk;ru ij fopkj

bdkbZ & 06

1. izk.k izfr’Bk ds izdkj
2. izk.k izfr’Bk ds oSfnd Lo:i
3. vf/kokl fu/kkZj.k
4. lpy ,oa vpy izk.k izfr’Bk
5. vkoklh; Hkou esa ewfrZ;ksa dh LFkkiuk dk fopkj
6. nsoh nsorkvksa dh ewfrZ;ksa ds eki ,oa fn”kk dk fu/kkZj.k

**UGSST -04**

**eqgwrZ ,oa vk;qosZn T;ksfr’k**

**[k.M & 01 eqgwrZ &fopkj**

bdkbZ & 01

1. eqgwrZ dk rkRi;Z
2. eqgwrZ dk egRo
3. eqgwrZ ,oa iapkax
4. eklks ds vk/kkj ij “kwU; jkf”k] fo’ke frfFk ,oa nX/k yXukfn dk fopkj
5. eqgwrZ ds izdkj
6. eqgwrZ esa “kdqUk fopkj

bdkbZ &02

1. ;k=k gsrq “kqHkk”kqHk yXu fopkj
2. ;k=k esa “kqHkk”kqHk x`g fopkj
3. ;k=k esa ;ksx fopkj
4. ;k=k esa x`g cy fopkj
5. vf/k;ksx ;ksx fopkj
6. ;k=k esa nks’k ,oa ifjgkj fopkj rFkk “kqHkk”kqHk “kdqu] fn”kk”kwy dk fopkj

bdkbZ & 03

1. laLdkj ,oa eqgwrZ dk fpUru
2. 16 laLdkjksa dk izfriknu
3. jkgqdkykfn fu/kkZj.k
4. 16 laLdkjksa dk eqgwrZ
5. eqgwrZ ds nks’k ,oa ifjgkj vkSj fopkj
6. o/kw izos”k] f}jkxeu] jkT;fHk’ksd vkfn dk fopkj

bdkbZ &04

1. x`g fuekZ.k fopkj
2. x`g izos”k fopkj
3. tkr deZ] pwM+k deZ] fookgkfn % eqgwrZ dk egRo
4. iapd nks’k fopkj

bdkbZ& 05

1. Hknzk ls rkRi;Z
2. Hknzk fopkj
3. Hknzk ds izdkj
4. Hknzk nks’k ,oa ifjgkj
5. Hknzk fuokl
6. Hknzk esa dk;ksZa dk fu/kkZj.k

bdkbZ & 06

1. dky “kqf) izdj.k esa oftZr dky
2. flagLFk xq: nks’k ,oa of.kZr dk;Z
3. xq: dk vfrpkj ,oa of.kZr dk;Z
4. okj izo`fRRk
5. gksjk iz;kstu dk Qy
6. gksyk’Vd fopkj

**eqgwrZ**

**[k.M & 02 Uk{k= T;ksfr’k ,oa vk;qosZn izdj.k**

bdkbZ& 01

1. u{k= izdj.k& u{k= Lo:i
2. u{k=ksa ds Lokeh
3. u{k=ksa ds dk;Z
4. u{k=ksa ds izdkj& LoPN u{k=
5. vU/k yksp u ] ean u{k=kfn
6. u{k= ,oa okj ls ;ksx fuekZ.k fof/k

bdkbZ& 02

1. xHkkZ/kku& “kkSp&v”kkSp fo”ks’k fopkj
2. jtksn”kZu&eqgwrZ Lukukfn dk fopkj
3. xzgksa ds xkspj dk Qy
4. jfo “kfu dk o/k lHkh xzgksa ds LFkku dk Qy
5. xzgksa dh “kkafr
6. laØkfUr Qy ,oa nku dk egRo

bdkbZ & 03

1. vUR;sf’V laLdkj dk izHkko
2. v”kkSpkjEHk fu.kZ; fopkj
3. fi.M nku] Jk)kfn fopkj
4. xzgLFk&la;klh ;ksxh dh vR;sf’V ij fopkj
5. laØkfr esa tUe fopkj
6. vf/kekl& {k; ekl fopkj Qy

bdkbZ &04

1. fookg ds y{k.k
2. fookg ds dky fu/kkZj.k
3. fookg dh fn”kk&n”kk fu/kkZj.k
4. Hkk;kZ iz”kalk fopkj
5. iz”u yXu ls fookg ;ksx] fookg Hkax fopkj
6. dqEHk fookg] v”oRFk fookg] fo’.kq izfrHkk fookgkfn fopkj

bdkbZ & 05

1. jksx ,oa T;ksfr’k
2. jksxksa ds izdkj
3. u{k= okfVdk
4. jksx ,oa o`{kksa dh mi;ksfxrk
5. u{k= okfVdk ls lacaf/kr o`{k
6. jksx dk o`{kksa ls laca/k

bdkbZ & 06

1. okrt] fiRrt] dQ jksxksa dk T;ksfrf’k; funku
2. ouLifr ,oa xzg
3. ouLifr ,oa u{k=
4. vcqZn] dSalj] mnj] us= ,oa peZ jksxksa dk xzg & u{k=ksa ls laca/k
5. xzgksa dk ouLifr ls lEcU/k fopkj
6. fofo/k jksxksa esa ouLifr dh mi;kfxrk

**UGPH-02-** **lkekftd n”kZu**

**[k.M&1 lkekftd jktuhfrd n”kZu dh ewy vo/kkj.kk**

bdkbZ&1 lkekftd jktuhfrd n”kZu dh ewy vo/kkj.kk

bdkbZ&2 lekt”kkL= ,oa jktuhfrd 'kkL= esa laca/k

bdkbZ&3 n”kZu ,oa thou esa laca/k

**[k.M&2 lkekftd laLFkk,a**

bdkbZ&1 ifjokj dk Lo#i ,oa izdkj

bdkbZ&2 lekt dh ifjHkk"kk ,oa izeq[k rRo

bdkbZ&3 O;fDr vkSj lekt eas lEcU/k

**[k.M&3 jktuhfrd fparu ds vkn”kZ**

bdkbZ&1 Lora=rk

bdkbZ&2 lekUkrk

bdkbZ&3 U;k;

bdkbZ&4 lEizHkqrk

**[k.M&4 jktuhfrd vo/kkj.kk,a**

bdkbZ&1 iztkra=

bdkbZ&2 lektokn

bdkbZ&3 ekDlZokn

bdkbZ&4 Qklhokn vkSj /keZra=

**[k.M&5 lkekftd ifjorZu dh fof/k**

bdkbZ&1 lafo/kkuokn

bdkbZ&2 ØkfUr

bdkbZ&3 vkradokn

bdkbZ&4 lR;kxzg

**[k.M&6 xka/khokn**

bdkbZ&1 xka/kh n”kZu ds vk/kkj& lR;] vfgalk

bdkbZ&2 loksZn; dh vo/kkj.kk

bdkbZ&3 loksZn; dh izkfIr dk lk/ku

bdkbZ&4 ewY;kadu ,oa izklafxdrk

**[k.M&7 ijEijk ifjorZu vkSj vk/kqfudrk**

bdkbZ&1 ifjHkk"kk ,oa fo"k; {ks=

bdkbZ&2 ijEijk ds laca/k esa fopkjdksa ds er

bdkbZ&3 lkekftd ifjorZu ds izfreku ,oa izfdz;k,a

bdkbZ&4 vk/kqfudrk ifjHkk"kk ,oa fof”k"Vrk,a

bdkbZ&5 Hkkjrh; fopkj/kkjk esa ijEijk ds laca/k esa /kkj.kk

**[k.M&8 n.M ds fl)kUr**

bdkbZ&1 n.M ds fl)kUr dk egRo ,oa /kkj.kk

bdkbZ&2 izfrjks/k dk fl)kUr

bdkbZ&3 fuorZuoknh fl)kUr

bdkbZ&4 lq/kkjoknh fl)kUr

bdkbZ&5 e`R;qnaM dk vkSfpR;

UGSEC-01

**lfpoh; dk;Z i)fr**

**[k.M 01 Lkfpoh; dk;ksZa laca/kh ewy ckrsa**

**bdkbZ 01%& lfpoh; dk;ksZa dk Lo#i vkSj {ks=**

lfpo fdls dgrs gSa\] lfpo dk egŸo] lfpo dh Hkwfedk] lfpo ds drZO;] lfpo dh ;ksX;rk,a] lfpoh; dk;ksZa dk egŸo] lfpoksa ds çdkj] futh lfpoA

**bdkbZ 02%& laxBuksa esa lfpoh; dk;Z**

laLFkk ;k Dyc dk lfpo] lgdkjh lfefr dk lfpo] LFkkuh; fudk; dk lfpo] ljdkjh foHkkx dk lfpoA

**bdkbZ 03%& daiuh lfpo**

dEiuh lfpo fdls dgrsa gSa\] dEiuh lfpo dh fLFkfr] ;ksX;rk,a] fu;qfDr] fu"dklu vkSj c[kkZLrxh ] dk;Z] vf/kdkj vkSj nkf;Ro] O;olk;h dEiuh lfpoA

**[k.M 02 lHkk,a**

**bdkbZ 04%& lHkkvksa laca/kh lkekU; fu;e &I**

lHkk D;k gksrh gSa\ lHkkvksa dk oxhZdj.k] oS/k lHkk ds fy;s vkok’;d 'krsZa] lHkkvksa laca/kh fu;e] lHkkvksa dh rS;kjh vkSj mudk lapkyuA

**bdkbZ 05%& lHkkvksa laca/kh lkekU; fu;e &II**

lHkkvksa esa fopkj&foe’kZ rFkk okn&fookn dks fu;fer djus ds fu;e] dk;Z dk Øe] çLrko] la’kks/ku ,oa ladYi] ernku dh fof/k;ka ,oa fu;e] lHkk ds dk;d`r] lfpo ds drZO;A

**bdkbZ 06%& daiuh dh lHkk,a&I**

dEiuh dh lHkk,¡] dEiuh dh lHkkvksa ds çdkj] dEiuh dh lHkkvksa ds vko’;d y{k.k] çLrko ,oa ladYi] dEiuh dh lHkkvksa esa ernku dh dk;Zfof/k;k¡ vkSj ç.kkfy;k¡] dEiuh dh lHkkvksa dk dk;Zo`rA

**bdkbZ 07%& daiuh dh lHkk,a&II**

lfpo ds drZO;&lkekU;] lfpo ds drZO; % lkafof/kd lHkk] lfpo ds drZO; % okf"kZd lk/kkj.k lHkk] lfpo ds drZO; % vlkekU; lk/kkj.k lHkk] lfpo ds drZO; % funs’kd eaMy dh lHkk,¡] lfpo ds drZO; % vU; lHkk,¡] lHkkvksa ds dk;Zko`ŸkA

**[k.M 03 O;kolkf;d i=&O;ogkj**

**bdkbZ 08%& i= ys[ku ds fu;e**

i=&O;ogkj ds ewy fu;e] O;kolkf;d i= dk #i o Øe] i= ds iwjdA

**bdkbZ 09%& O;kolkf;d i=&O;ogkj &I**

O;kolkf;d i=] i= fy[kus ds fy;s ;kstuk cukuk] QkeZ i=] fofHkUu çdkj ds O;kolkf;d i=A

**bdkbZ 10%& O;kolkf;d i=&O;ogkj &II**

çpkj vkSj tu&lEidZ] lEiknd ds uke i=] Mkd lsok,aA

**bdkbZ 11%& ljdkjh i=&O;ogkj**

Mkd vf/kdkfj;ksa ds lkFk i=&O;ogkj] LFkkuh; fudk;ksa ds lkFk i=&O;ogkj] ljdkjh foHkkxksa ds lkFk i=&O;ogkj] lkoZtfud lsok laLFkkvksa ds lkFk i=&O;ogkjA

**[k.M 04 fjiksVZ vkSj la{ksi.k**

**bdkbZ 12%& dk;kZy; dh fjiksVZ**

fjiksVZ dk vFkZ vkSj ifjHkk"kk] fjiksVksZa dk egŸo] vPNh fjiksVZ ds eq[; RkROk] fjiksVZ ys[ku] fofHkUUk çdkj dh fjiksVZ] fjiksVksZa ij fu;a=.kA

**bdkbZ 13%& fjiksVZ ys[ku**

fjiksVZ cukus ds lkekU; funsZ’ku] fjiksVZ fy[kus dh fof/k] fjiksVZ ys[ku esa fofHkUu pj.k] yEch fjiksVZ] NksVh fjiksVZA

**bdkbZ 14%& la{ksi.k**

la{ksi.k D;k gSa\] la{ksi.k D;ksa\] vPNs la{ksi.k ds y{k.k] la{ksi.k dh fof/k;k¡] la{ksi.k ys[ku esa dfBukb;k¡] dqN mnkgj.kA

**BLISS-02**

**izlwphdj.k fl)kUr ds ewy rRo**

**bdkbZ & 1 %** xzUFkky; izlwph % ifjHkk’kk] dk;Z ,oa mn~ns”;

**bdkbZ & 2 %** xzUFkky; izlwph ds okg~; vkdkj ,oa Lo#i

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**bdkbZ & 4 %** izlwfp;ksa ds izdkj % izlwph ds vkUrfjd Lo#i

**bdkbZ & 5 %** izlwphdj.k fu;ekofy;k¡ % vkfoHkkZo] egRo rFkk fo”ks’krk,¡

**bdkbZ & 6 %** izlwphdj.k & milw= ,oa vkn”kZewyd fl)kUr % vfHkizk; ,oa vuqiz;ksx

**bdkbZ & 7 %** fo’k; izlwphdj.k % vo/kkj.kk] izfØ;k ,oa midj.k

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 (Filing and Arrangement of Entries : Procedures and Rules)

**BLISS-03**

# Computer Network and Security Maintenance

## Network Basics:

**Introduction:** Networking, Need, Advantages and Types.

**Network Topologies:** Terminology, Bus Topology, Ring Topology, Star topology, Hybrid Net- work Topology.

**Network Protocols, Hardware and Software:** Networking Protocols, Standards, Network Hardware, Internetwork and Network software.

**Network Design and Configuration:** Network components/Configurations, Directions, Procedure.

## Transmission and Network Elements:

**Signal Transmission:** Terminology, Data transmission, Connection- oriented and Connection- less Transmissions, Synchronous and Asynchronous Transmission, Transmission Media, Analog Signals.

**OSI Reference Model:** Terminology, the OSI Model.

**Ethernet:** Terminology, Ethernet origins, Ethernet configuration, Ethernet communication, Ethernet collision, Ethernet frames, Frames types.

**Network and Devices:** Token Ring Architecture, Fiber Distributed Data Interface (FDDI), Token Ring Case Study, ATM, Connectivity Devices, Transceivers, Repeaters, Hubs, Media De- pendent Adapter, Internetworking Devices, Gateways.

## Internet Connectivity:

**The Internet:** Usage, Architecture of the Internet, IP, TCP/IP Reference Model, Unified Net- works.

**The Internet Services:** E-Mail, Remote login, ISPs, Message transfer, File Transfer Protocol (FTP), Telnet, Leased line.

**ISDN and Bridge-Routers:** ISDN, NFAS, Advantages of ISDN, Interfaces, Physical layer Protocols, 2BIQ, Link layer Protocols, Bridge- Routers.

**ISP Connectivity:** Internet service Provider (ISP), ISP Connection Options, DSL, Cable Modem, DSL, SHDSL, Broadband Access, Dynamic DNS.

## Installation and Administration:

**Network Operating Systems:** Terminology, Network Operating Systems, Windows for Work- groups/Windows 95/Windows NT Server, UNIX/LINUX, MAC OS Apple Share.

**World Wide Web and client server Model:** www, architecture of [www.](http://www/)

**Network Planning and Management:** Quality of Service Analysis, Propagation Delay, Response Time, Throughput, Workload, Network, Maintenance and Management, Network Management tools.

**Network Security:** Cryptography, Encryption, Authentication, Firewalls, Proxy Servers, Virtual Private Networks (VPNs).

UGSEC-02/ PGDMM-04

UGSEC-04/ PGDMM-01