

SYLLABUS FOR COMMON EDUCATIONAL SERVICES EXAMINATION

(INTERIOR DESIGN)

Total Marks : 200

Objective : 100

Descriptive :100

- 1. BASIC DESIGN AND SKETCHING: ELEMENTS OF DESIGN - LINE:** Its emotional effect, direction, shape, size, form, value and colour. Type of line, Straight, Vertical, Horizontal diagonal, curve. **PATTERN, TONES AND TEXTURE** - Shapes and patterns derived from natural forms, Textures of surface and their appearance, geometric forms, symmetry and asymmetry, ornamentation and abstraction, surface quality and light variations, articulation of planes, area division according to tones, Art exercises, Compositions in geometric shapes, patterns, tones textures variations.
- 2. INTRODUCTION TO INFORMATION TECHNOLOGY:** Introductory ideas about the components of computer - Hardware - Central Processing Unit, Input Unit, Output, Unit, Memory Unit, Auxiliary Unit, Peripherals - Monitor, Keyboard, Mouse, Printer, Hard disk, CD / DVD, USB storage devices, Micro SD Cards, etc. Software and firmware building blocks of a computer, its function and its use. Role of operating system. Classification of software - System Software, Application Software Translator - Compiler, Interpreter, Preprocessor, Operating System - Single User, Multiple User Windows XP/Vista / 7 / 8 - Definition of Windows, Windows element, Concept of Graphical user Interface, Concept of Icon, Working with File Management, Concept of GUI based software; concept of client & server, concept of www, Internet services, use of standard browsers, basics of HTML and searching.
- 3. BUILDING CONSTRUCTION & MATERIALS- I: CONCRETE** - Ingredients of concrete, properties of concrete, various finishes types of concrete such as Lime concrete, cement concrete, etc., their uses and applications in various finishes, etc. **METALS:** The application of various metals in interiors and various finishing options like electroplating, enameling, buffing, etc. Metals such as Cast iron, Wrought Iron, Steel, Mild Steel, Stainless Steel, Aluminum, Brass, Copper, Zink, Lead Alloys, Bronze **WOOD:** Properties, uses, availability and cost of soft, hard and medium wood. Wood for interiors. Defects in wood, recognition methods of superiors & inferior qualities. Preservation of wood, cane and bamboo. **ARCHES:** Opening in the form of arches; types of arches, lintels, doors and windows. Preparing drawings for: 1.Types of doors (simple) glazed, paneled, flushed fly proof single and double leafed doors. 2.Window (wooden metal and P.V.C. window) side hinge, bottom hinge, top hinge.3.Types of arches. **DESIGN IN BRICKS, STONE & CONCRETE** - Paving design in stone, bricks and concrete. Studio and workshop periods are devoted to the solution of simple construction problems and details as applicable to various types of interiors such as offices, residential, commercial, etc.. **INTERIOR DESIGN: DESIGN STANDARDISATION** - Standardization of various interior elements i.e. Window, doors, furniture, lighting and office automation system. **INTERIOR SCHEMES** - Preparing interior schemes for single room of generalized nature, Emphasis will be on lay out and circulation, Three dimensional views and rendering.

4. INTERIOR SERVICES: WATER SUPPLY AND DRAINAGE - A. Water Supply -

Hot and cold water supply system Geyser and boilers, types and sizes of pipes, water supply fittings to bathrooms, WCs, sink, bathtubs, washbasins, bidets, showers, urinals, etc. Sanitary fixtures like water closet, European and Indian, urinals, bath tubs, bides, washbasin, etc. soap tray, towel rods, shower curtains. Jacuzzi, Bath enclosure, Multi functional shower panels sauna, sensors. **B. Drainage:** Principles of drainage; Materials for drains - Traps - their types, function and uses. Earthen pipes, Cement pipe, P.V.C. pipes and C.I. pipes. Sanitary fixture - Wcs, washbasins, bath tube, sinks- their types, sizes. Septic tank - types, sizes, etc. **THERMAL AND SOUND INSULATION** - Thermal conductivity of different material, Acoustical defects such as Echo, Reverberation, Sound foci and methods of correction, Sound absorbing materials. **LIGHTING AND OTHER ELECTRICAL PLANS** - Different system of lighting - (Incandescent, Fluorescent) Kinds and media; Planning lighting for different work areas, Matching light with site such as drawing room, bed room, study, bath, kitchen, etc. and public places like offices, theatres, exhibition, display and such other areas including basic knowledge of materials, finishes and maintenance. Preparation of electrical layout for residences by symbolic representation as per IS: 962/1967 including selection of matching fittings. Study of different wiring systems. Conduit - types and uses. **AIRCONDITIONING AND VENTILATION** - Introduction to different kinds of air conditioning system and their merit and demerits for air conditioning (Window, Split and Central). **COMMUNICATION** - Telephone, Computers, PBX and other communication devices. **FIRE FIGHTING** - Fire detection, Fire alarm, fire Fighting

5. LIGHTING AND OTHER ELECTRICAL PLANS: (A) Different system of lighting - (Incandescent, Fluorescent) Kinds and media; Planning lighting for different work areas, Matching light with site such as drawing room, bed room, study, bath, kitchen, etc. and public places like offices, theatres, exhibition, display and such other areas including basic knowledge of materials, finishes and maintenance.(B) Preparation of electrical layout for residences by symbolic representation as per IS: 962/1967 including selection of matching fittings. Study of different wiring systems. (C) Conduit - types and uses. **AIRCONDITIONING AND VENTILATION** - Introduction to different kinds of air conditioning system and their merit and demerits for air conditioning (Window, Split and Central). **FIRE FIGHTING** - Fire detection, Fire alarm, fire Fighting.

6. BUILDING CONSTRUCTION II: THERMAL ACOUSTIC MATERIALS - Study of different types of materials used for sound proofing. Properties and use of the following : Polyurethane products such as low density and high density, fiber glasses. **GLASS AND MIRRORS** - Properties, sizes, design, price and availability of: Sheet, Plate, Wired, Laminated, Safety, insulating, coloured, tinted, heat resistant and glass blocks. **PAINTS, VARNISHES, POLISHES, DISTEMPERS, ETC** - Wall and furniture finishes like paints. Water base paints, dry distempers, plastic emulsion distempers, cement paints, varnishes, polishes lacquer, tar and bitumen, silica paints, solignum black paints and their trade names, properties, covering capacity, handling technique & uses. **WATER PROOFING MATERIALS:** Types available and where to use them. NOTE: Sample for each of the above may be collected and

demonstrated/exhibited to the students during the course of the lecturers. Students should be encouraged to collect these samples and maintain their own record through scrap book containing brochures samples, etc. **FURNISHING MATERIALS - Flooring:** Different types of carpets and dragnets: Woolen Carpet: (a) Hand Made Carpets (b) Hand tufted carpets (c) Machine made carpet (i) Cut pile (ii) Uncut pile Quality of raw wool, quality of other raw materials used; Impact of colours; Technical specification: Knots/Tuffs per Sqs. cm. pile height, Ply of yarn, count of yarn, weight, fastness, flame resistance tests, resilience tests and acoustic quality, trade names, ISI and wool mark. Sizes and mode of measurements. Installation - Installation of wall to wall carpets on floor fixing, carpets on wall ceiling for acoustics; joining, edge binding and fringing of carpets. Fitting and accessories; Types of underlay's; How to remove a fitted wall to wall carpet; How to relay wall to wall carpet. Care & Maintenance: Visits to manufacturing units and study wall to wall laying of carpet in process. **Curtain Materials (Draperies): TYPES:** Cotton curtains; Silk curtains; Cotton silk mixed; Synthetic fiber curtain; Woolen curtains; Synthetic and wool blended curtains; Flame resistant property. Wrap and weft texture, dyes blends, weight, cost, care of the above. Types of curtains like plain French pleated, etc. Lining materials, Fittings used - Curtain rods, rings, railing, hooks, sliding, stage curtains. Venetian blinds and space curtains. **Upholstery Covering Material (Tapestries & Other Items).** Introduction to various kinds of tapestries and their basic distinguishing qualities – Cotton – Silk – Synthetic – Woolen - Rexene- Leather – Blended. To study the properties, dye, design, texture, size, weight, stitching and care **Cushioning materials:** Springs; Jute, cotton, foams, rubber. **Miscellaneous Items:** cane, jute, leather straps, slips covers, fasteners, etc. **Other Furnishings:-** Bed cover, cushion covers - their designs, stitching, (handloom, mill made, tufted candlewick, khadi and other types - both woven and printed). - Table liner bath mats, toilet sets, etc.- Latest items of furnishings and visits.

7. COMPUTER AIDED DESIGN: INTRODUCTION TO AUTOCAD - Basic Auto cad commands line, fill, solids, arc, zoom, etc. use of layers, Dimensioning, Text writing, Use of W-block command and readymade symbols, Fixing of drawing sheet-size, Use of units, Scaling in AUTOCAD. Methods of preparation of simple interior drawings and sketches. Preparation of any one layout plan, including furniture. Preparation of sections and elevations. Preparation of electrical plans.

8. BUILDING CONSTRUCTION & MATERIALS III: Doors & Windows - A. Aluminum and steel doors and windows with grills. B. Swing doors/Pivot doors. C. Revolving doors. D. Shop window front. Movable Partitions. Different methods of support and finishes of false ceilings. Introduction of new buildings materials as per market demand.

9. ESTIMATING, COSTING AND SPECIFICATIONS: SPECIFICATION - Specification and analysis of all types of interior decoration material such as paneling, partitioning, false ceilings, flooring and floor covering, furniture, making specification for modern materials. **ESTIMATING** - Types of Estimates Methods of preparing estimates. Preparing bills of quantities from drawings and pricing. Preparing estimates from bills of quantities. **TENDERING-** Essential of tender documents. Preparation of schedules and progress

charts. Study of writing schedules for civil work, furniture items finishing items, services, etc. Study of units, mode of measurements, system of calculating quantities of different items like furniture, wall finishes, floor finishes, civil and plumbing works related to interiors.

N.B.: Estimation of class problems.

10. ENVIRONMENTAL EDUCATION: POLLUTION - Sources of pollution, natural and manmade, their effects on living environments and related legislation. **WATER POLLUTION** - Factors contributing water pollution and their effect. Domestic waste water and industrial waste water. Heavy metals, microbes and leaching metal. Physical, Chemical and Biological Characteristics of waste water. Indian Standards for quality of drinking water. Indian Standards for quality of treated waste water. Treatment methods of effluent (domestic waste water and industrial/ mining waste water), its reuse/safe disposal. **AIR POLLUTION** - Definition of Air pollution, types of air pollutants i.e. SPM, NOX, SOX, CO, CO₂, NH₃, F, CL, causes and its effects on the environment. - Monitoring and control of air pollutants, Control measures techniques. Introductory Idea of control equipment in industries i.e. A. Settling chambers B. Cyclones C. Scrubbers (Dry and Wet) D. Multi Clones E. Electro Static Precipitations F. Bog Fillers. - Ambient air quality measurement and their standards. -Process and domestic emission control - Vehicular Pollution and Its control with special emphasis of Euro-I, Euro-II, Euro-III and Euro IV. **NOISE POLLUTION** - Sources of noise pollution, its effect and control. **RADISACTIVE POLLUTION** - Sources and its effect on human, animal, plant and material, means to control and preventive measures. **SOLID WASTE MANAGEMENT** - Municipal solid waste, biomedical waste, Industrial and Hazardous waste, Plastic waste and its management. **LEGISLATION** - Preliminary knowledge of the following Acts and rules made there under- The Water (Prevention and Control of Pollution) Act - 1974.-The Air (Prevention and Control of Pollution) Act - 1981.- The Environmental Protection (Prevention and Control of Pollution) Act -1986. Rules notified under EP Act - 1986 Viz.

The Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 2000

The Hazardous Wastes (Management and Handling) Amendment Rules, 2003.

Bio-Medical Waste (Management and Handling) (Amendment) Rules, 2003.

The Noise Pollution (Regulation and Control) (Amendment) Rules, 2002.

Municipal Solid Wastes (Management and Handling) Rules, 2000.

The Recycled Plastics Manufacture and Usage (Amendment) rules, 2003.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) - Basic concepts, objective and methodology of EIA. - Objectives and requirement of Environmental Management System (ISO-14000) (An Introduction). **DISASTER MANAGEMENT** - Definition of disaster – Natural and Manmade, Type of disaster management, How disaster forms, Destructive power, Causes and Hazards, Case study of Tsunami Disaster, National policy- Its objective and main features, National Environment Policy, Need for central intervention, State Disaster Authority- Duties and powers, Case studies of various Disaster in the country, Meaning and benefit of vulnerability reduction, Factor promoting vulnerability reduction and mitigation, Emergency support function plan. Main feature and function of National Disaster Management Frame Work, Disaster mitigation and prevention, Legal Policy Frame Work, Early warning system, Human Resource Development and Function, Information dissemination and communication.

11. MANAGEMENT, ACCOUNTS AND PROFESSIONAL PRACTICE: ACCOUNTS:

Introduction, Necessity of accounts, Cash - Definition of cash, Treasury challan and its Procedure of filling Impress account. **PROFESSIONAL PRACTICES** - Introduction, Code of practice, Scale of charges, Code of conduct as per Architects Acts 1972, Council of Architects, Tender documents, Stages of payments, Settlement of disputes and arbitrations. **INTELLECTUAL PROPERTY RIGHTS** - Introduction to IPR (Patents, Copy Right, Trade Mark), Protection of undisclosed information, Concept and history of patents, Indian and International Patents Acts and Rules, Patentable and Non patentable invention including product versus Process. Basic terms used in land acquisition, Khasra, Khataoni, possession, allotment, free hold, Dhakhil-Kharig