

INTERIOR & EXTERIOR DESIGN

- a) To enable students to recognize the basic principles and methods of creating an attractive interiors
- b) To gain better understanding of the principles of Interior Design
- c) To learn to provide adequate facility for work relaxation, comfort privacy maintenance and aesthetics through interiors & exteriors.
- d) To study the materials and services involved along with fittings and fixtures to be used in interiors schemes
- e) To understand the requirement for the preparation of complete interior & exterior schemes
- f) To study the need influence & effect of interiors on Physiology & Psychology of a human being

ENGLISH LANGUAGE

Paper – I

CLASS XI AND XII Marks – 50 (1½ hours)

Objective : To provide experience of the structure and vocabulary of English to enable students to

1. Study other subjects in the curriculum
2. Develop communication skills for vocational purposes.

There will be two papers as follows:

Paper 1 (1½ hours)

Question One **Either**

(a) Candidate will be required to write a report in about three hundred words based on information provided.

OR

(b) Candidates will be required to write a passage of about three hundred words in the form of a description of events, or of a process, directions or instructions.
[Both types – (a) and (b) – will be set]

Question Two

Candidates will be required to write a letter from a choice of two subjects. Suggestions will be given. The layout of the letter with address, introduction, conclusion, etc., will form part of the assessment.

Question Three

An unseen passage of prose of about three hundred words will be given. Questions based on the passage will be of the objective type and will include multiple-choice answers, which may be verbal or diagrammatic. All questions will have to be answered. Questions will test the candidate's understanding of ideas expressed in the passage as well as the meaning of words and the function of structures.

Question Four

An unseen passage of about two hundred and fifty words will be given. A question or questions will be asked to test the candidate's ability to extract information from a passage. Candidates will be directed to provide the required information in the form of enumerated notes, not in connected prose.

English – Paper II

1½ Hr

50 Marks

OBJECTIVE: To provide experience of a variety of English Prose, Poetry, Play, Addressing issues of human interest and concern.

Candidates are requested to answer five questions from the selected pieces. The question will be set to test the candidates ability to recall and respond to the information contained therein.

Question 1 will be compulsory, which will be set from the stories selected from Twelve Contemporary Short Stories. Another five questions will be set, one from each of the parts. i.e from twelve Contemporary Short Stories, Poems, Essays, Excerpts of plays and from Great Modern Lives. Candidates are to answer any four out of the five questions. Total five questions to be answered.

Q1. Compulsory + Any four.

I. Twelve Contemporary Short Stories. (OUP)

- | | | |
|--------------------|---|-------------------------------|
| 1. Ruskin Bond | : | The Eyes Have it. |
| 2. Roald Dahl | : | Parson's Pleasure |
| 3. Jug Suraiya | : | Badger |
| 4. R.K. Narayan | : | Martyr's Corner |
| 5. Bernard Malamud | : | The First Seven Years. |
| 6. Allen Seally | : | How Raj Kapoor Saved my Life. |

II. Poems

- | | | |
|---------------------------|---|----------------------|
| 1. Wystan Hugh Auden | : | The Unknown Citizen |
| 2. David Herbert Lawrence | : | The Best Of School |
| 3. Robert Frost | : | The Road Not Taken |
| 4. Edgar A Guest | : | It couldn't be done. |
- (The Art of Dynamic Thinking – Melvin Powers. Better Yourself Books)

III. Essays

1. J.B. Priestley : Too many people
2. E.R. Braithwaite : Job Hunting

IV. Excerpts from plays (Shakespeare)

1. Merchant of Venice
Prince of Arragon's Speech : "..... Who chooseth me shall get as much as he deserves"
2. Julius Caesar:
Mark Anthony's Speech : "Friends, Romans, Countrymen....."

V. 100 Great Modern Lives – Ed. John Canning (Rupa & Co.)

1. Douglas Collier : Jamshedji Tata
2. Andrew Ewart : Henry Ford.

**GENERAL FOUNDATION AND INDUSTRIAL
SOCIOLOGY ENTERPRENEURSHIP**

Class XI (1st. Year) Theory 3hrs. 50 Marks Total 40 Hrs.

Paper I – Sociology

- | | | |
|----|---|--------|
| 1. | Constitution of India | 2 Hrs. |
| 2. | Industrialization through five years plans. | 2 Hrs. |
| 3. | Industrial safety, First Aid and Hygiene & Safety Management. | 2 Hrs. |
| 4. | Population Education | 3 Hrs. |
| 5. | Unemployment and Automation | 3 Hrs. |
| 6. | Qualities of an Ideal Supervisor | 1 Hr. |
| 7. | Environmental Education | 2 Hrs. |
| 8. | Rural Development | 2 Hrs. |

Paper II – Environmental Education & Rural Development. 3 Hrs. 50 marks

- | | | |
|----|---|--------|
| 1. | 1. Environmental Resources, Human Resources and Natural Resources | 2 Hrs. |
| | 2. Population its impact. | 1 Hr. |
| | 3. Impact of industrialization on environment. | 1 Hr. |
| | 4. Effect of modern agriculture on environment. | 2 Hr. |
| | 5. Occupational Hazards. | 2 Hr. |
| 2. | Rural Development | 5 Hrs. |
| 3. | Globalization | 6 Hrs. |
| 4. | Concerns Today | 8 Hrs. |

2nd. Year (XII) Paper I 50 marks 3 Hrs.

Paper I.

- | | | |
|----|--|---------|
| 1. | 1. Trade Union Act – 1926 | |
| | 2. Factories Act – 1948 | |
| | 3. Minimum Wages Act – 1946 | |
| | 4. Workmen’s Compensation Act – 1923. | |
| | 5. Employees State Insurance Act – 1948. | |
| | 6. Payment of wages Act – 1936. | |
| | 7. Maternity Benefit Act – 1961. | |
| | 8. Contract Labour Act – 1971. | |
| | 9. Industrial Disputes Act – 1947. | |
| | 10. Employees Provident Fund Act – 1952. | 13 Hrs. |

- | | | |
|----|--|--------|
| 2. | 1. Entrepreneurship. | 2 Hrs. |
| | 2. All about small business including Indian Contract Act – 1872.
The sale of Goods Act – 1930. | 5 Hrs. |
| | 3. Estimating and Costing | 6 Hrs. |
| | 4. Project Planning and Project Report Making. | 4 Hrs. |
| | 5. Building people | 5 Hrs. |
| | 6. Science & Technology | 7 Hrs. |

Paper II 50 Marks 3 Hrs.

Entrepreneurship Project Plan

**GENERAL FOUNDATION
AND
INDUSTRIAL SOCIOLOGY ENTERPRENEURSHIP**

Class XI Theory 3 Hrs. Marks – 50

Sociology – Paper – I

1. CONSTITUTION OF INDIA.

Features Of The Constitution & Preamble.

1. Fundamental rights
2. Fundamental duties
3. Directive principles of state policy
4. Differences between fundamental Rights and Directive principles – citizen’s role in nation building
5. Role of taxes direct, indirect.

2. INDUSTRIALISATION THROUGH FIVE YEAR PLANS

1. VIII five year plan
2. IX five year plan (A critical appraisal)
3. Discuss – critically the industrial achievement during the plan period 1st. to 7th. Five year plan.
4. Importance of public sector.

3. INDUSTRIAL SAFETY, FIRST AID AND HYGIENE

- i. Efficient Worker Safe Worker.
 - a. Causes of work Injuries.
 - i. Bad house keeping
 - ii. Hand tools
 - iii. Portable electric tools
 - iv. Working around machines
 - v. Safety equipments
 - vi. Lifting weight
 - vii. Padders
 - viii. Fire
 - b. Types of injuries and appropriate first aid
 - i. Severe bleeding
 - ii. Cessation of breathing
 - iii. Shock
 - iv. Poisoning
 - v. Drowning
 - vi. Fractures
 - vii. Burns
 - viii. Fainting
 - c. Safety Management.

4. POPULATION EDUCATION.

- a. Family Planning, small family norms, gender equality, female infanticide, Abortion laws / Euthanasia.
- b. Worker and his family – Love and Sex – Qualities of an ideal husband – Qualities of an ideal wife. Setting up a home.

5. UNEMPLOYMENT AND AUTOMATION

- i. Definition of unemployment
- ii. Types of unemployment
 - a. Casual, seasonal, cyclical.
 - b. Technological, frictional.

Automation and Computerization

- i. Tools that substitute hand.
- ii. Machine that substitute muscles.
- iii Computers that substitute brains.

6. QUALITIES OF AN IDEAL SUPERVISOR

- 6.1 Be a part of the management
- 6.2 Be a leader of the workmen under you.
- 6.3 Be a policeman when needed
- 6.4 Knowledge of technical job.
- 6.5 Quality control and waste control.
- 6.6 Planning and scheduling.
- 6.7 Method of improvement.
- 6.8 Cost control.
- 6.9 Training your men.
- 6.10 Safety and first aid.
- 6.11 Working conditions of your men.
- 6.12 Problems in supervising women.
- 6.13 Wage payment.
- 6.14 Job evaluation
- 6.15 Merit rating
- 6.16 Labour laws.
- 6.17 Economics
- 6.18 Use of psychological tools.
- 6.19 Common sense
- 6.20 Cool and collective.

7. ENVIRONMENTAL EDUCATION

- 1. Environmental resources (energy, air, water, soil, minerals, plants, animals), carrying capacity, effects of exploitation.
- 2. Population explosion and incompatibility between resources and number, demands on environment to meet 'basic human needs' and 'aspiration of more ambitious goals, its effect on environment'.
- 3. Impact of industrialization on environment:
 - 3.1 Irreversible changes in landscape.
 - 3.2 Encroachment / degradation of environment and its effects.
- 4. Effects of modern agriculture on environment:
 - 4.1 Use of high-yielding varieties and deprivation of genetic resources.
 - 4.2 Canal irrigation and water logging.
 - 4.3 Use of fertilizers and pesticides and its effects on environment.
 - 4.4 The dangers in manufacturing, storing, transporting, disposing of insecticides.
- 5. Land use, soil degradation, population pressure and depletion of forests, grassland and cropland.

6. Environment pollution of air, water and soil and its effects on the living world.
7. Hazardous industrial and agricultural products:
 - 7.1 Safety and health risks connected with their use,
 - 7.2 Impact on environment when used.
8. Misuse of medical technology: the drug menace.
9. Properties of materials (bio-degradable & non-degradable)
10. Typical environmental problems
 - 10.1 Deforestation
 - 10.2 Desertification
 - 10.3 Landslides
 - 10.4 Silting and drying of water resources.
 - 10.5 Pollution of lakes and waterways.
 - 10.6 Toxic substances
11. Occupational hazards
 - 11.1 Organizational risks.
 - 11.2 Equipment related risks.
 - 11.3 Process related risks.
 - 11.4 Product related risks.
12. Environmental action
 - 12.1 Environmental protection and conservation of resources.
 - 12.2 Pollution control, environmental pollution laws and regulations.
 - 12.3 Waste disposal.
 - 12.4 Desirable nutrition and sanitation practices.
 - 12.5 Recuperation, recycling and substitution.
 - 12.6 Community action for ecological restoration, social and agro forestry.
 - 12.7 Economic use for resources (material, energy, money, time)
 - 12.8 Living in harmony with nature, the environmental ethics.
13. Occupational safety
 - 13.1 Fire safety
 - 13.2 Safe handling of equipment and materials.
 - 13.3 Safety precautions in lab/workshop/work site.
 - 13.4 First aid.
 - 13.5 Safety management.

8. RURAL DEVELOPMENT.
 1. Land use profile in India
 2. Causes of economic backwardness: the 'poverty trap'
 3. Measures to increase agriculture productivity by improving the inputs.
 4. Afforestation – social and farm forestry (environmental, social and economic enhancement).
 5. Rural waste re -cycling-biogas plant, compost making.
 6. Provision of basic health services for the community – provision of medical care, improvement of environmental sanitation, control of communicable diseases, mother and child health care, school health services. Development of desirable health, nutrition and environmental sanitation practices in the community.
 7. Activization of agencies responsible for rural development.(Integrated Rural Development Programme. Small Farmers Development Agency, etc.)
 8. Innovations and Development of Rural Industries.

ENVIRONMENTAL EDUCATION AND RURAL DEVELOPMENT

Class XI

Theory 3 Hrs.

Marks – 50

Sociology – Paper – II

1. i Environmental Resources (energy, air, water, soil, minerals, plants & animals)
- ii. Population – Human resources and Natural resource. Exploitation and Exploration of natural resources. Conservation of natural resources waste products management. Respect for laws regulating Community living. Respect for others freedom. Concern for public property.
- iii. Impact of industrialization on environment.
 - a. Irreversible change in landscape.
 - b. Encroachment / degradation of environment and its effects.
- iv. Effect of modern agriculture on environment.
 - a. Effect of high-yielding varieties and deprivation of genetic resources.
 - b. Canal irrigation and water logging.
 - c. Use of fertilizers and pesticides and effect.
 - d. The dangers in manufacturing, storing, transporting, disposing of insecticides.
- v. Land use, soil degradation , population pressure and depletion of forest grasslands and cropland. Environment pollution of air water and soil and its effect on the living world.
- vi. Measure of medical technology the drug abuse.
- vii. Biodegradable and non-degradable materials.
- viii Typical environmental problems. Deforestation, Desertification, Landslides, silting and drying of water resources, pollution of lakes and resources, toxic substances.
- ix Occupational Hazards
 - a. Organizational risks
 - b. Equipment related risks.
 - c. Process related risks.
 - d. Product related risks.

2. Rural development (with reference to the 20-point programme, 1986)
 - a. Land use profile in India.
 - b. Causes of economic backwardness, the poverty trap.
 - c. Measures to increase agriculture productivity by improving the inputs.
 - d. Afforestation – social and farm forestry. (environmental, social and economic enhancement)
 - e. Rural waste recycling – bio gas plant, compost making.
 - f. Provision for basic health service for the community – medical care, environmental sanitation, communicable diseases, mother and child health care, school health service.
Development of desirable health, nutrition and environmental sanitation practices in the community.
 - g. Activisation of agencies responsible for rural development. (Integrated rural development programme IRDP, small farmers development agency, marginal farmer's development agency.
 - h. Innovation and development of rural industry.

- 3 Globalization.
 - a. Globalization as a worldwide aspiration linking human values.
 - b. Modernism and Internationalism.
 - c. Global broadcasting and journalism, role of news agencies, effects of the global reach of broadcasting, risk to cultural values due to bombardment of foreign base media

4. Concerns today.
 - a. Nuclear disarmament - CTBT
 - b. Human rights, Gia hypothesis, Malthusian theory, Darwinism & Francis Galton and the Eugenists.
 - c. Consumer and the competitive market.
 - d. Dehumanization due to technological advances.
 - e. Advertising and its impact.
 - f. Impact of society moving towards quick fix solutions leading to corrupt practices.
 - g. Underemployment and unemployment.
 - h. The ethical and the moral impact of the Internet.
 - i. Reaching out : Types of communication networks and their utilities –e-mail, facsimile, video conferencing, understanding of the internet as a global knowledge base and communication network.

**GENERAL FOUNDATION &
INDUSTRIAL SOCIOLOGY
ENTERPRENEURSHIP**

Class XII

Paper – I

Part – A Compulsory objective type of questions covering the entire syllabus of class XI and class XII carrying 20 marks.

Part – B Will have 8 questions covering labour legislation and entrepreneurship, Building people & Science Technology of which candidates will have to answer 6 questions carrying 5 marks each = 30 marks.

Paper – II Will be of 3 hrs consisting of a complete project plan, preparations of a feasibility certificate and registration – 50 marks.

Paper I 3 Hrs. Marks - 50.

1. The trade union Act - 1926

1. Trade union
2. Registration
3. Various rules and regulations.
4. Cancellation of Registration.
5. Rights and duties of Trade union.

2. Factories Act – 1948.

1. Definitions of adult, adolescent, young person, manufacturing process worker, factory, occupier.
2. Scope :- applicable to
 - a. Establishment with 10 or more workers – work with the aid of power.
20 or more workers without the aid of power.
 - b. Establishment not in accordance with the above two cases but notified by the Government.

3. Main provisions

- i. Health, safety, welfare
- ii. Hours of work
- iii. Employment of young persons and women
- iv. Annual leave with wages
- v. Occupational diseases
- vi. Administration
- vii. Enforcement
- viii. Penalties for offences.

4. **Minimum Wages Act, 1948.**
 - i. Living wage, Fair wage, Minimum wage & subsistence wage.
 - ii. Scope
 - iii. Salient features
 - a. Minimum time rate of wages
 - b. Minimum piece rate
 - c. A guarantee time rate
 - d. Overtime rate.
 - iv. Provisions
 - a. Payment in cash
 - b. Cost of living
 - c. Maintaining records
 - d. Violation and enforcements.

4. Workmen's compensation Act – 1923
 - a. Objectives – imposition of compensation.
 - b. Scope – Certain category of railway men
 - c. To all wage earners earning up to Rs.1000/- per month in certain notified establishments.
 - d. For death, permanent total disablement, permanent partial disablement, Temporary disablement.

5. Employees State Insurance Act 1948.
 - i. Objectives - Benefits to employees in case of sickness, maternity, disablement, dependents, employment injury.
 - ii. Scope – Applies to all non-seasonal factories, shops, hotels, restaurants. Not applicable to men of armed forces and those drawing above Rs.5,000/- per month.
 - iii. Finance - Employees contribution – 2½ %
 - Employer's contribution – 5 %
 Those drawing less than Rs.6/- per day are exempt from contribution.

6. Payment of Wages Act – 1936.
 - i. Objectives – To ensure wages for employees drawing less than Rs.1600/- per month.
 - ii. Provisions : a. State Government to enforce.
 - iii. Fixation of wages periods
 - iii. Deductions :
 - a. Fines
 - b. Absence from duty
 - c. Damages, Loss
 - d. House / Accommodation
 - e. Advances or over payment
 - f. Income Tax societies.
 - g. Co-operative
 - h. Insurance premium
 - i Levy on mines.

7. Maternity Benefit Act - 1961
 - i. Objective – To regulate employment of women in certain establishment for certain period before and after child birth.
 - ii. Scope – Applies to factories, mines, circus, industries, plantations and Government establishment.
 - iii. Provisions – Eligibility conditions, period for benefit paid, rate of benefit.

8. Contract labour Act – 1970.
 - ii. Object – To regulate the employment of contract labour.
 - iii. Scope – Applies to establishment in which twenty or more workers are employed or were employed on any day of the preceding 12 months as contract labour to every contractor who employs or who employed on any day of the preceding twelve months, twenty or more workers.

 - iv. Terms – Contractor, Establishment

 - v. Main provisions.
 - a. Setting up of advisory Boards
 - b. Registration of establishments
 - c. Welfare and health of contract labour.
 - d. Penalties and Procedures.

9. Industrial Disputes Act – 1947.
 - i. Definition of industrial disputes.
 - ii. Machinery set up by the Act.
 - iii. Labour court, Board of enquiry, Industrial tribunal, Conciliation
 - iv. Adjudication

10. Employees Provident Fund Act – 1952.

Object & Scope – Applied to all factories and establishments and notified industries employing 20 or more people.

- i. Rate of contribution
- ii. Protection from attachment
- iii. Membership
- iv. Family pension scheme
- v. Benefit of the scheme.

(The latest amendments to the Act must be taken into consideration)

11. Entrepreneurship

12. All about small business.

- i. Small Business
- ii. Need for small business
- iii. Economic Contribution
- iv. Possible types of business
- v. Employer and labour relation
- vi. Buyer and seller relation
- vii. Incentives in certain areas
- viii. Assistance from District Industries Center.
- ix. Assistance from small scale industries.
- x. Service industries.

Managerial Qualities of an Entrepreneur

- i. Should be confident
- ii. Should be dynamic
- iii. Should be creative
- iv. Should be able to take initiative
- v. Should be flexible
- vi. Should be result oriented
- vii. Should be energetic and hard working
- viii. Should be far sighted
- ix. Should accept challenges
- x. Should be able to communicate effectively.
- xi. Should be aware of ancillary development.

13. Estimating and costing.
14. Project planning & project report making.
 - Indian Contract Act – 1872.
 - i. Definition of contract, offer, acceptance, performance of contract.
 - ii. Indemnity and Guarantee.
 - iii. Different kinds of agents.
 - The sale of Goods Act – 1930
 - i. Definition of Buyer, Seller, Delivery Goods.
 - ii. Price
 - iii. Formation of the contract sale.
 - iv. Difference between sale & hire purchase.
15. Building People.
 - i. Privatization v/s Nationalization
 - ii. The need for governments to govern and leave economic activities to the people, Role of NGOs.
 - iii. Generation of financial resources to meet governmental expenses.
 - iv. Impact of privatization on economic development with specific reference to Insurance, Telecommunications, Railways and Electricity.
16. Science & Technology.
 - i. Animal and human aggression
 - a. Human and non-human signals of aggression.
 - b. Weapons devised by man for offence and defence.
 - c. Nuclear weapons, control on weapons manufacture, sale of foreign power.
 - d. Technology – does it make war more or less likely?
 - ii. Science and Technology as change agents
 - a. Affect of scientific developments on our lives – at work and at home.
 - b. Business on net – e- commerce, its feasibility and implications.
 - iii. Cosmology and space research
 - a. Current theories about the origins of the universe.
 - b. Probability of existence of Extra Terrestrial Intelligence.
 - iv. Emergence of new technologies their appreciation
 - a. Non-Digital and Digital technology.
 - b. Communication technology.
 - c. Information technology.

ENTREPRENEURSHIP PROJECT PLAN
PAPER – II 3 Hrs.

CURRICULUM IN ENTREPRENEURSHIP DEVELOPMENT

Entrepreneurship curriculum is divided into five major modules:

1. Entrepreneurial career orientation.
2. Entrepreneurial spirit (values and attitudes) and behavioural competencies.
3. Entrepreneurial motivation.
4. Enterprise launching competency.
5. Enterprise management competencies.

1. **ENTREPRENEURIAL CAREER ORIENTATION**

Today, most prevalent and commonly pursued career after education is that of a wage earner. The great potential of self-employment and the incentives thereof are not well known. This information, orientation and necessity related to future career option will orient students to entrepreneurial career.

2. **ENTREPRENEURIAL SPIRIT AND BEHAVIOURAL COMPETENCIES.**

Entrepreneurial spirit consists of values and attitude. Since value provides the direction and attitude decides the tendency to act in a given situation, certain competencies are needed to actually take action governed by values and attitudes. These competencies will help students in entrepreneurial career.

3. **ENTREPRENEURIAL MOTIVATION**

Force, drive and energy are needed to pursue the path of entrepreneurial career. Since forces are provided by creating an urge in the individual for efficiency that reflects through competition with other or with one's standards of performance, the total process is termed as entrepreneurial motivation.

4. **ENTERPRISE LAUNCHING COMPETENCY**

This includes competencies related to sensing opportunities; project/product; project formulation availing incentives; resource mobilization and finally launching the enterprise.

5. **ENTERPRISE MANAGEMENT COMPETENCIES**

The enterprise may be small or big but it demands management abilities in its own/manager. The various management functions such as production, marketing, finance, etc., are crucial functions for entrepreneurs. This module will help students in developing enterprise management competencies.

ART BASIC DESIGN & DRAFTING

Theory Class XI 3 hours Full Marks 40

Introduction to Interior & Exterior Design

Introduction to design – Definition of art sense of beauty benefits offered by interior & exterior design and its effects ,role and importance of factors influencing interiors and exteriors: -family, individual, corporate, commercial needs, preferences, availability & suitability of materials, principles of design & budget & financial constraints.

Fine Arts Principles & Elements of Design:

Introduction to design

- a) Structural design – definition characteristics of structural design principles of design.
- b) Decorative design – definition characteristics with examples
- c) Principles of Design – Line, Form, Space, Texture, Colour, Balance, Harmony Function, rhythm, Emphasis and Unity.
- d) Lettering Scale – Usage of lettering scales.
- e) Balance – definition types, formal balance ,types of formal balance bi - symmetric & obvious informal balance.
- f) Harmony – definition, types, aspects of harmony, lines, shape ,size, texture & colour
- g) Rhythm – definition methods of obtaining.
- h) Emphasis – definition how to emphasize grouping of objects ,using contrasting colours using decoration ,having sufficient plain background ,using unusual lines, shapes, lines role of emphasis use of emphasis in daily life.

Electricals & Lighting, Fittings & Fixtures:

Role of lighting and also use of various fixtures in Bathrooms kitchen etc like Sanitary Doors Role of lighting in interior design .Quality and character of light – its influence on contour and texture. Types of lighting system & their proper application uses & disadvantages. Alternative lighting system and their application. Proper Safety and Illumination standards for specific spaces. Arrangement of space in relation to the performance. Usage of illumination for Special Halls , Commercial Conferences ,Corridors & Open Spaces like Roof Gardens etc.,Usage of Spotlights & Special lights for creation of Art & Artifacts. Points to be considered for while designing special residential houses, design of fixtures apartments , work homes mezzanine rooms.

Cost Analysis:

Preparing final costing of any project Correspondence regarding budgeting contract laws, Knowledge of professional ethics. Maintenance of Excellent Client Relationship. Documentation & interpretation of design information

Plumbing: -

Proper usage of Plumbing facilities for residential/ commercial establishments. Sanitary fittings-wash basin, sink, w.c.'s and their accessories like showers taps pipes etc., Hardware fittings uses of various types for enhancement of beauty & aesthetics Fire proofing fire fighting. Dampness – remedies

False Ceilings-

Usage and importance of false ceilings, Partition walls- Usage of and types of partitions used. Proper Use of Air Conditioning for effectiveness cooling effect. Floor & Wall finishes, Wooden Joineries & furniture detailing .Proper use of Soft furnishings, Right use of right furniture in the right place – Use of Art & accessories – Optimum utilization of space and better living environment.

Working knowledge of :

Working knowledge of the use of modern concepts like Vastu Shastra, Fengshui & other modern technologies including Fengshui techniques like form school ,basic Compass Formula, symbolic Fengshui, East House- West House Formula, mansions Kua Formula (pa Chai), Luo- Pan ,Empty line danger alignments ,Time dimensions, introduction to Xuan Kong Fengshui flying stars , Time taboos for renovation ,Great sun position formula ,Annual Flying stars knowledge of wind & water geomancy .

BASIC DRAWING EDITING & DRAFTING TECHNIQUES

Practicals Class XI

3 hours

Full Marks 40

Drawing aids -Detail working drawing of a comprehensive real life study problem for urban rural residential & Commercial spaces. Design fundamentals & drawings, Pottery decoration techniques. Utility of Wall Paper & its effect on the room ambience. Wall & Picture hangings ,posters, leather batik Use of pictures & their positioning. Design based on geometrical & decorative designs arrangement of motifs also with knowledge on use of various modern concepts like Vastu Shastra & Fengshui . Coordinating & measurement system Scale & plane Geometry Concepts of Plan, Elevation & Section of simple solids .Elevation , rendering & plotting techniques. Complex interior design with various elements concerned with colour & mix media.

Perspective Drawing:

Perspective and spatial conceptual drawings-

Planning for space creation-objective planning for interior. For single space use as of in Kitchen ,bathroom etc., Use of single room apartments. Drawing techniques to develop a visual understanding. Using computer aided design with both 2D & 3D basic drawing Hatching blocks working with view ports. Perspective rendering in ink & colour. Comprehensive color planning for interior . Suggestive colours to create the desired environmental feeling for different functional spaces. Knowledge of professional ethics & also proper working knowledge and use of Vastu Shastra & Fengshui . Maintenance of Excellent client relationship. Documentation & interpretation of design information.

LAYOUT & AUTOCAD

Theory Class XII 3 hours Full Marks 40

Basic Technical Drawing –

Various lines shapes & forms: Orthographic & metric projections of basic geometric shapes. Various lines , shapes & rooms; orthographic & metric projections of basic geometrical shapes & sizes. Design Applications:

1. design based on geometry –use of points ,line circles squares in pottery/ floral design
2. designs based on nature- realistic & stylized forms from nature-
3. foliage flowers bands and borders- panels rugs and carpets & textiles

Anthropometric measurement in relation to furniture and space standards in interiors.

Drawing of simple floor plans:-

- 1 Various income levels with/without use of Vastu Shastra /Fengshui
- 2 One room apartments
- 3 Work home

Rendering in ink & colour pen ,pencil. Application of colour, texture pattern finishes, materials and their psychological effect on interiors. Sectional Elevations of interiors of furniture units, isometric projections of furniture . Perspective of interiors and one point.

Field trips, seminars, models, project work to imbibe knowledge acquired. Working knowledge of modern beliefs like Fengshui & Vastu Shastra in planning homes & offices of everyday life.

Project & Practical Work –Class XII 3 hours Full Marks 60

Complete presentation of detailed schematic drawing of a total residential/commercial interior with measurement. Design Application: Design based on use of points line circle square in pottery ,floor decoration. Drawing of simple floor plans, for various income levels- one room apartments & work homes. Application of colour, texture pattern finishes, materials and their psychological effect on interiors Sectional Elevations of interiors of furniture units, isometric projections of furniture . Perspective of interiors and one point.

Working knowledge & use of Vastu Shastra / Fengshui principles in practical work.

Field trips, seminars, models, project work (Internal Marking) to imbibe knowledge acquired. To visit construction sites to gather knowledge & information

Working knowledge & practical knowledge of :

- 1) Practice in Lettering Techniques of letters and numerical in 3,5,8 and 12 mm series.
- 2) Practice of free hand sketching of:
Horizontal lines, vertical lines and inclined lines. Triangles and rectangles.
- 3) Sketching practice of pictorial views from given objects.
- 4) To sketch three views of simple objects with 3D effect & dimensions.
- 5) To draw missing line of a given incomplete drawing of a given object.
- 6) To read the given drawings of simple objects.
- 7) To read drawings of foundations, doors, windows, roofs, floors, beams and columns, etc.
- 8) To read complete set of given building drawings.
- 9) To make rough sketch of plan, elevation and sectional elevation of foundations, doors, windows, roofs, floors, slabs, stairs, beams, columns and complete building drawings.

AUTOCAD

Class XII

Theory & Practicals

Total Marks

Theory 40

Practicals 60

3 hours for each

FUNDAMENTALS OF COMPUTER:

Overview Of Operating System: Different DOS Commands, Working Concepts With Windows 95/98.

STARTING AUTOCAD:

Overview of CAD, Advantages of Auto CAD, Method of Drafting system requirements, Accessing Commands -(Using a Toolbar, a Menu, the command, line, commands, Transparently, Long file names), Switching from dialog box to command line, Editing command or text window text. Correcting mistakes, refreshing the screen display, Modifying the Auto CAD Environment, Opening Existing Drawing, Saving Drawings, Exiting Auto CAD.

ORGANISING YOUR DRAWING:

Conforming to standards, setting up new drawings, Using Different set up methods of organising information on Layers & using templates.

USING COORDINATE SYSTEM:

Using a Co-ordinate system to specify points, using a Direct distance entry, shifting and rotating the Coordinate System.

CREATING OBJECTS:

Drawing lines, Drawing curved objects, Creating point Objects, changing the drawing order of object, creating Solid-filled areas, creating Regions, Hatching Areas, Custom objects and proxies.

DRAWING WITH PRECISION:

Adjusting snap and grid alignment, Using ortho mode, Snapping to Geometric points on objects, Using points Filters Using Tracking, specifying measurement &

Divisions, Drawing construction line. Displaying coordinates and locating points.

CONTROLLING AND DRAWING DISPLAY:

Using Zoom & pan, Using Aerial View, Using Named View, Using Tiled Viewports, Turning Visual Element On & off.

EDITING OBJECTS:

Selecting objects, editing object using the object Properties toolbar, matching properties of other objects, Copying objects, moving objects erasing objects, resizing Objects, inserting breaks in objects, exploding Objects, editing polylines, editing multilines, editing Splines, chamfering objects, filleting objects, editing hatches.

USING LAYERS, COLOURS AND LINE TYPES:

Working with layers, working with colours, working with Line types, assigning layers, colours, and line types to Objects using modern concepts with working knowledge of Vastu Shastra & Fengshui.

ADDING TEXT TO DRAWINGS:

Working with Text styles, using line Text, Using Multiline text substituting fonts, using text editors for multiline text.

DIMENSIONING AND TOLERANCING:

Dimensioning concepts, creating concepts, creating Dimensions, adding dimensions, editing dimensions, Creating dimensions style, Using style families, using style Overrides. Working with Dimension styles, Adding Geometric tolerances. Creating and Modifying arrowheads.

USING BLOCKS, ATTRIBUTES AND XREFS :

Working with blocks, working with attributes, using External Reference.

COLOUR CONCEPT & APPLICATIONS

Theory CLASS XI 3 Hours FULL MARKS 40

Theory Of Colour

Importance of Colours . Colour wheel, tints & shades. Introduction to colours – Dyes, pigment & spectral colours: Classes of colours according to Prang system- primary secondary binary intermediate tertiary quaternary (any one colour scheme –(17).

Dimension of colours, value of Preference, Trend, Tradition Area , Space Creation. Hue names of colours, coolness & warmth, advancing and receding colours Value- lightness & darkness ,tint & shade, how to change the value.

Use of Colours in Exteriors . Use of Colour mixing methods by use of computers. Critical review of colours scheme .Factors influencing colour selection. Psychology of colour on human moods & feelings effect on shape & size of the room, activity, orientation & its effects .

Interaction between light & colour Preference of colour and harmonies in interior.Perception and sciences of vision. Colour conditioning,

Colours in interiors- principles of design in use of colour, Application of designing batik, tie & dye in house décor, Rangoli& Alpana.Use of art in every day life its use importance colour as an important element of art

Practicals Project Work :- Class Xii 3 Hours 60 Marks

Colour wheel-its importance. Tones-tints & shades.Colour schemes on computers. Colour relations.Murals & Collage.Relationship of colour with lighting surroundings, orientation , distance and area.Application of colour texture patterns finishes materials and their psychological effect on interiors.Visual aspects of colour with special reference to enclosed spaces. Comprehensive colour planning for interiors and suggestive colour schemes to create the s desired effect for different functional areas.Making of Projects and models on the use of Colour Layouts their effects . attend workshops & seminars arranged by Berger Paints etc renowned Multinationals & Fair organizers to understand & collect samples & project materials. Also use of search engines on Web for finding data related to Colour .Draw & present the use of colour in various rooms according to age budget size etc , upholstery furnishing Fittings . To visit sites for information & use of proper colour schemes for various homes, offices , residential plazas, spa areas

FURNITURE DESIGN

Theory Class XII

3 Hours

Full Marks 40

Design, size, selection of materials and finishes, production techniques. arrangement of and appreciate aesthetic value in design. Use of new technology & materials. Study of basic furniture dimensions based on anthropometric measurements, basic materials used for furniture-types of wood, processed wood (block boards) laminates veneers metals fiberglass plastic cane.

History of furniture styles-Renaissance to Modern, with emphasis on Indian types. Detailed knowledge of European furniture styles, . Furniture finishes, types natural & synthetic –varnishes, polishing, lacquering ,melamine painting, staining effective cost management & thorough knowledge of maintenance. Colours in interiors-principles of design in use of colours, relationship of colour with lighting surrounding orientation distance and area, colour scheme for interiors (review). Detailed knowledge of Joinery as applied to furniture. Identification specification & standardization in design. Documentation & interpretation of design information. Costing & budgeting laws. Professional ethics & relationship.

Anthropometrics & Ergonomics

Fundamental factor in design, Elementary anatomy and human body measurement. Environmental controlled factors in controlled space, Ergonomic assessment of typical design.

Appreciation of Visual Arts:

Understanding of Symbolism, Analysis of other forms of arts ,Values of Indian thought and philosophy in relation to visual communication medium.

Practicals & Project Work Class XII 3 Hours - 60 marks

Study Of Basic Furniture Dimensions Based On Anthropometric Measurements

Arrangement of space in relation to the performance. Knowledge & proper use of wooden joineries & furniture detailing.

Various kinds & types used in residential apartments:-

Beds, dining tables, Study Tables, Centre Tables, Side Boards, Cupboards, Wall cupboards Dressing Tables kitchen tables store cupboards bathroom closets- Plan elevation & Isometric view with details drawing & estimation with knowledge of various finishes.

Rendering in pencil , ink & colour . Perspective drawing – one point, two point Sectional elevation of interiors and elevation of furniture units. Project- Presentation of complete detailed schematic drawing of an interior with measurement (using Auto Cad –optional). Visits to furniture factories and residences. Market survey of furnishing materials finishes, exhibitions/seminars/forums on latest products

History of Interior Design

Furniture history from ancient days to the modern age. Traditional interior design- Hindu, Indosarscenic, other eastern cultures & African (Egypt). Impact of Modern Art , Architecture ,science & technology on interior design. Influence of religious , cultural social and other influences on art forms. Planning flow of space circulation space requirement abstract & functional spaces. Drawing line plan & elevation of single rooms apartments placement of furniture. Perspective of single rooms in black & white & colour .Interior planning .

- a. Floor composition –furniture arrangement of various areas with emphasis on space organisation and circulation(inter-room & intra room)
- b. Wall compositions- types selection ,cost budget choice , care,& maintenance .
- c. Ceiling Composition- Care cost selection , budget & maintenance.

Project work: Projects for Internal Assessment

1. Project work on types of furniture from renaissance to modern age.
2. Visits to sites & furniture factories
3. Furniture design making-various stages as project work
4. Planning furniture for spaces both functional and aesthetic
5. Collection of various brochures from various manufacturers
6. Furniture planning for single room apartments & usual homes
7. Planning furniture by utilizing room space provided

EXTERIOR DESIGN

Role of styles colours design on the exteriors. Use of various materials for maintenance & yet glossy look. Dampness & rifts in the wall. Elimination of noise pollution effects. Minimal effects of weathering. Creation of new novel looks, Use of granites tiles & marbles on the exteriors Heat repelling paints & decorations , use of Plants & other artifacts to decorate the exteriors.

Project work: Projects for Internal Assessment –

1. File work on types of Exterior
2. Models on various designs in Exteriors
3. Design of modern flats – with due consideration on noise pollution maintenance cost weathering etc
4. Various paints to be used
5. Various structure built
6. Proper utilization of natural resources for beautification
7. Exterior for commercial complexes , retail outlets, chain stores, gyms spas etc.,

MATERIALS & SERVICES

Class XI

Theory Marks 40

3 Hours

Building Materials used in Interiors:

Basic building components:-

Foundation Types of bricks , Stone ,Wood Glass ,Plastic ,Ceramic, Plaster ,
Leather And Rixin.

Openings-

Meaning & uses and types of Arches, Lintels Doors & Windows,

Floors roofs, Stairs & staircases.

Lighting Design – Light source & fixtures,

Water supply & Drainage system Landscaping, Airconditioning ,

False ceiling,

Flooring-

Use & knowledge of types of Textiles & Carpets ,Wall Coverings And Flooring,
scaffolding.

Use of Paint & Pigments, Carpentry & Designers tools, masons tools, electrical
tools.

False Ceiling Tinsmithing, Sound proofing Materials, Acoustics.

Accessories-importance types selection care & maintenance.

Decorative plants both natural & artificial - to enhance open spaces in Exteriors –

Use of Fountains, Sculptures, gardens, ponds, water surfaces to enhance beauty
of the site e

To know to find out the proper value of materials a& calculate the cost of materials
from layout to completion.

Use of current technology & materials.

BUILDING MATERIALS :-

To have detailed knowledge of :-

1) Stones

- 1.1 Rock and its classification.
- 1.2 Characteristics of a good building stone.
- 1.3 Properties and occurrence of various building stones, their use/trade names and their units of purchase.
- 1.4 Aggregate - its meanings, classification and use. Sieve analysis trade/commercial name and units to purchase of various types of aggregates.

2) Clay products : (Bricks, Tiles & Terra - cotta)

2.1 Bricks

- 2.1.1 Use of bricks.
- 2.1.2 Classification of bricks as per I.S.L NO. 1077 (Revised).
- 2.1.3 Field testing of bricks - for dimension, texture, colour, shape, water absorption and efflorescence
- 2.1.4 Shapes of bricks used for special purpose.
- 2.1.5 Stacking & counting of bricks.
- 2.1.6 Units of purchase.
- 2.1.7 Manufacture of modular bricks Fly ash bricks.

2.2 Tiles

- 2.2.1 Clay Flooring tiles and Roofing tiles.
- 2.2.2 General properties & uses of clay roofing tiles.
- 2.2.3 General properties & uses of glazed earthenware tiles, their properties & uses.

2.3 Terra – cotta

- 2.3.1 Meaning - earthen ware & stone ware.
- 2.3.2 Properties and uses of earthen and stone wares.
- 2.3.3 Soil Waste pipes.
- 2.3.4 Water closets.
- 2.3.5 Gully traps.

3) Cement

- 3.1 Meaning
- 3.2 Types of Cement, properties & uses.
- 3.3 Field test for ordinary Portland cement.
- 3.4 Units of purchase.
- 3.5 Storage of cement: Requirements of godown for cement. Method of stacking.

4) Lime

- 4.1 Meaning
- 4.2 Quick Lime and Hydrated lime.
- 4.3 Classification of lime as per I.S.I. 721 (Revised) properties and uses.
- 4.4 Local/Trade/Commercial names and units of purchase.
- 4.5 Methods of storage of different types of lime.
- 4.6 Field testing of Hydraulic lime.

5) Concrete and mortar

5.1 CONCRETE

- 5.1.1 Meaning
- 5.1.2 Cement concrete
- 5.1.3 Lime concrete
- 5.1.4 Surkhi concrete
- 5.1.5 Composite mortar concrete
- 5.1.6 Reinforced brick lime concrete
- 5.1.7 Pre - cast concrete
- 5.1.8 Pre - stressed concrete.

5.2 MORTAR

- 5.2.1 Meaning
- 5.2.2 Lime mortar
- 5.2.3 Cement mortar
- 5.2.4 Surkhi mortar
- 5.2.5 Mud mortar

1) Timber and Allied products

6.1 TIMBER

- 6.1.1 Meaning
- 6.1.2 Soft wood and hard wood
- 6.1.3 Characteristics of a good timber.
- 6.1.4 Qualities of seasoned timber.
- 6.1.5 General defects in timber, their causes and remedial measures.
- 6.1.6 Preservation of timber, names of preservatives and their uses.
- 6.1.7 Common India timbers, their properties, availability & use
- 6.1.8 Storage of timber
- 6.1.9 Market form of timber & their units of purchase.

6.2 ALLIED PRODUCTS

- 6.2.1 Plywood, hard board, Block board, Sunmica; their used and specifications.
- 6.2.2 Commercial names of above-mentioned products and units of purchase.

2) Building Finishing Materials

7.1.1 White washing materials required for white washing, their commercial names and units of purchase.

7.1.2 Colour washing materials required for colour washing, their commercial names and units of purchase.

7.1.3 Distemping, Types of distempers, their properties & uses/commercial names and units of purchase.

7.1.4 Wall papering, papers used for wall papering, their commercial names and units of purchase.

7.5 Paints

7.1.1 Characteristics of a good paint.

7.1.2 Ingredients of oil paints.

7.1.3 Preparations of oil paints.

7.1.4 Different types of paints, their properties & uses.

7.1.5 Ready made paints, their commercial names and units of purchase.

7.2 Varnish

7.2.1 Meaning

7.2.2 Characteristics of a good varnish

7.2.3 Ingredients of varnish, their uses, properties and commercial names.

7.3 Polish

7.3.1 Meaning

7.3.2 Types of polishes and uses.

7.3.3 Commercial names and units of purchase.

7.8 Hard Wares.

7.8.1 Screws

7.8.2 Nails

7.8.3 Nuts and Bolts.

7.8.4 Hinges

7.8.5 Door fittings - Tower bolt, Draw bolt, Haspenstible, Latches. Door knob.

7.8.6 Door closers & stoppers

3) Miscellaneous Materials

8.1 Plastics, Properties and their use in buildings.

8.2 Sound insulating materials, characteristics of a good sound insulating material, different sound insulating materials, their commercial names and units of purchase.

8.3 Fire proofing materials, characteristics of good fire proofing materials, different fire proofing materials, their commercial names and units of purchase.

8.4 Damp proofing materials, characteristics of good damp roofing material, different damp proofing materials, their commercial names and units of purchase.

- 8.5 Glass: types of Glass, market forms, specifications and units of purchase.
- 8.6 Sandpaper & Emery paper, their uses, specifications and units of purchase.
- 8.7 Names of cleaning materials for floor, walls, glass panes and their units of purchase.
- 8.8 Non – ferro us metals & alloys - such as Brass, Aluminium, Copper, their properties and uses.
- 8.9 Adhesives: Types, commercial names, uses, and units of purchase.
- 8.10 Linoleum - Market forms, properties and uses.

BUILDING MATERIALS

1. Market Survey: For trade/commercial names, specification, units of purchase and prevalent market rates for the following:
 - 1.1 Stone (Blocks & slabs)
 - 1.2 Bricks. Hollow blocks, etc.
 - 1.3 Tiles- Flooring tiles and clay roofing tiles.
 - 1.4 Terra Cotta-earthen ware, stone ware, S.W. pipes, water closets gully traps & glazed earthen tiles.
 - 1.5 Cement - ordinary Portland, quick setting cement & other special cement.
 - 1.6 Lime: Hydraulic lime, & limes.
 - 1.7 Stones Aggregates: Coarse aggregate, medium aggregate and fine aggregate.
 - 1.8 Brick ballast & surkhi.

 - 1.9 Marketable forms of various types timber available in market.
 - 1.1.0 Various preservatives of timber available in market.
 - 1.1.1 Timber allied products such as plywood, hard board, block board, and sunmica.
 - 1.10 Materials required for white Washing/colour wash such as lime, Zinc, white and Aluminum, etc.
 - 1.11 Various types of distempers such as oil bound and Water bound.
 - 1.12 Papers for wall papering.
 - 1.13 Various types of paint available in the local market.
 - 1.14 Various types of varnishes & polishes available in the Local market.
 - 1.15 Hardware - such as screws, nails, bolts & nuts, hinges for door fitting, door closer and stoppers.
 - 1.16 Plasters, and its products available in the local market.
 - 1.17 Sound insulating material available in the local Market.
 - 1.18 Fire proofing materials available in the local market.
 - 1.19 Dam proofing materials available in he local market, use of damp proofing chemical.
 - 1.20 Various types of glasses available in the local market.
 - 1.21 Sand paper & emery papers of various grades and qualities.
 - 1.22 Cleaning Materials for floors, walls, glass panes etc.
 - 1.23 Ferrous materials in various markets forms.
 - 1.24 Non ferrous materials such as Brass, Aluminum, Copper, zinc, & lead.
 - 1.25 Various types of adhesives
 - 1.26 Market forms of Linoleum.

2. Brick

- 2.1 Stacking of bricks
- 2.2 Counting of bricks
- 2.3 Field testing of bricks such as for texture, dimensions water absorption, colour & efflorescence.

3. Cement and Lime

- 3.1 Testing of cement & lime in the field.
- 3.2 Testing of brick, testing of cement concrete cubes.

4. Volumetric Measurement Of Coarse & Fine Aggregates - Sieve analysis fineness modules of sand.

5. Type Of Joinery

Dove Tail Joint, Mortice and tenon Joint , Tongue and groove joint. Longitudinal joints bearing joints framing joints, oblique & shoulder joints widening on side joints. knowledge & use of joinery.

Deep Foundation, Engineering classification of soil, Bearing capacity. General concept of piled, foundation.

6 Stone Masonry

- 6.1 Tools required for stone masonry.
- 6.2 Types of stone masonry.
- 6.3 Different types of joints in stone masonry.

7 Brick Masonry

- 7.2 Tools required for brick masonry.
- 7.3 Methods of laying Bricks in walls.
- 7.4 Precaution to be taken in construction of walls.
- 7.5 Methods of fixing new work with old work (Toothing Racking back and Block Building)
- 7.6 Defects in Brick work, Maintenance of Brick Masonry construction.

8 Mortar and Concrete

- 8.1 Concept of water cement ratio, workability & curing.
- 8.2 Tools required for preparation of different types of mortar.
- 8.3 Methods of preparation of different types of mortar of different proportions.
- 8.4 Function affecting the strength of mortar.
- 8.5 Tools required for preparation of concrete.
- 8.6 Preparation of concrete of different proportion (This includes batching & mixing).
- 8.7 Factors affecting strength of concrete.

9 Concept of frame structure

- (i) R.C.C. frame including foundation
- (ii) Structural steel frame Relative advantage.

10 Floors

- 10.1 Tools required for laying cement Concrete, Terrazzo, Mosaic, Marble and Stone slab.
- 10.2 Materials required for cement Concrete, Terrazzo, Mosaic, Marble and stone slab floors.
- 10.3 Method of construction of cement concrete floor of 1:2:4 mix.
- 10.4 Method of construction of Terrazzo & Mosaic floor, Methods of construction of Marble and stone slab floors.
- 10.5 Methods of construction of Brick floor.
- 10.6 Causes of defects in Brick, Cement concrete, Terrazzo & Mosaic marble and stone floors and their remedies.
- 10.7 Repair of old floors.
- 10.8 Methods of Cleaning, Cutting & polishing of Mosaic, Terrazzo and marble floors -(Materials & tools required).

11 Roofs

- 11.1 Tools required to fix A. C. sheet & G. I. Sheet & roof covering.
- 11.2 Methods for fixing of A. C. sheet and G. I. sheet roofs coverings.
- 11.3 Tools required to lay R.C.C. (including knowledge for bending and binding and placement of bars)
- 11.4 Repair of cracks in R.C.C. structure (Methods, Tools & Materials required).

12 Wall, Fencing & Gates

- 12.1 Construction & Maintenance of Compound wall, Fencing.
- 12.2 Fabricated steel gate.

13 13.1 Road work

- 13.1.1 Earth work for Road formation, Embankment & cutting,
- 13.1.2 Road construction and road surfacing.
- 13.1.3 Method of embankment construction, simple and culverts.

13.2 Surface Finishes

- 13.2.1 Plastering.
- 13.2.2 Tools required for Plastering.
- 13.2.3 Methods of cement & lime plastering.
- 13.2.4 Preparation of surface for plastering.
- 13.2.5 Application of plaster coats.
- 13.2.6 Curing of plaster.
- 13.2.7 Defects in plasterwork and their preparations.
- 13.2.8 Repairs of defective plaster.

14. Pointing.

- 14.1.1 Tools & Material required for painting.
- 14.1.2 Operation involved in painting of a masonry works.
- 14.1.3 Repair of old painting.

15. Painting of wood work

- 15.1.1 Tools required for painting.
- 15.1.2 Painting of a new wood work - preparation of surface Knotting, Priming, Stopping, Under Coat & finishing coat.
- 15.1.3 Repairing of old wood work - Methods of cleaning old surface repairing of old surface.

16. Painting or iron and steel work.

- 16.1 Methods of painting of new steel work.

17. Painting of other surfaces

- 17.1 Methods of painting of brick work and plastered surface.
- 17.2 Faults or defects in painting work and their remedial measures

18 Varnishing and polishing

- 18.1 Tools required for varnishing and polishing.
- 18.2 Process of varnishing and Polishing. Preparation of surface, knotting and priming. Application of varnish coats.
- 18.3 Methods of polishing metal.

19. Distempering.

- 19.1 Tools required for distempering.
- 19.2 Methods of application of distempers – Preparation of surface, riming coat & final coat.

20 Cement painting

- 20.1 Tools & materials for cement painting.
- 20.2 Process for application of cement paint on new and old surfaces.

21. Wall papering.

- 21.1 Tools and materials required for wall papering.
- 21.2 Process for placing wall paper in old and new walls.

22. Damp proofing :

- 22.1 Sources of Dampness.
- 22.2 Effect of Dampness.
- 22.3 Precautions to be taken to prevent dampness.
- 22.4 Methods of damp proofing basement ground floors, plinth and walls. Special damp proofing arrangements in bathrooms, W.C. and kitchen. Damp proofing for flat and pitched roofs and window sills.
- 22.5 Methods for laying damp proof Coats in existing buildings.

10) Timber Works

10.1 Repair and maintenance of decayed timber components in buildings & replacement of fittings.

11) Glazing Work

11.1 Tools required

11.2 Methods of cutting glass and fixing glass as described

11.3 Material required for cleaning old glass panes and method of cleaning.

12) Vitrified Tiles Work

12.1 Method of cleaning of China Clay glazed Tiles and materials required for cleaning, use of glazed tiles for flooring, wall dado etc.

13 Anti- termite Treatment in Buildings

13.1 Method of anti-termite treatment for walls.

13.2 Anti-termite treatment for soil.

13.3 Anti-termite treatment for wood work in Building.

14) Rolled Structural Steel Section

14.1 Rolled Structural steel section comprising of Beam, Channel & angles

14.2 Use of such materials for fabrication of Shed

14.3 Method of fabrication by riveting, bolting and welding

14.4 Maintenance of Steel Structures and prevention from corrosion.

BUILDING TECHNIQUES

1. Carpentry

- 1.1 Carpentry tools, their use their care and maintenance.
- 1.2 Joints in wood work.
- 1.3 Uses of timber for various purposes.
- 1.4 Joinery, Materials used in joinery- screw, nails, nuts, bolts, glues,

2. Fittings

- 2.1 Tools used in filing, tapping, marking and measuring.

3. Masonry

- 3.1 Tools of a mason, their use, care and maintenance.

3. Shuttering

- 4.1 Object of shuttering
- 4.2 Types of shuttering
- 4.3 Materials used in shuttering.
- 4.4 Characteristics of a good shuttering
- 4.5 Constructional details of shuttering for beams, columns and slabs.

5. Scaffolding

- 5.1 Purpose of scaffolding.
- 5.2 Materials used for scaffolding.
- 5.3 Types of scaffolding.
- 5.4 Characteristics of a good scaffolding.
- 5.5 Various types of rope knots and metal coupling.
- 5.6 Erection of a scaffolding.

6. Plumbing

- 6.1 Different types of pipes & fittings for water supply, their specifications & use.
- 6.2 Different types of pipes & fittings for sewerage , their specifications & use.
- 6.3 Sanitary fittings & fixtures such as water closets, wash basins, Urinal-posts, spot cock, kitchen suck, bid cock, pillar cock.
- 6.4 Materials for joints for water pipe & sewers.
- 6.5 Pipe and sewer joints. Procedure to be adopted while making joints in water pipes & sewer.
- 6.6 Gradient followed in a sewer laying of sewer. Brief ideal of inspection chamber, manhole, intercepting ,chamber and ventilating pipes and their use.
- 6.7 Plumber tools, their use, care and maintenance.

7. Steel Structures

- 7.1 Rolled Structural Steel section comprising - Beam, Channel and Angle
- 7.2 Use of such material for fabrication of shed
- 7.3 Method of fabrication by riveting, bolting and welding.
- 7.4 Maintenance of Steel Structures and prevention from corrosion.

CONSTRUCTION SERVICES

Class 12 Theory paper Full marks 40 3 hours

1. Meaning & use of arches & lintels, glossary & terms used in arches, types
2. Meaning & use of various types of doors & windows, glossary & terms used in doors & windows along with working knowledge of Vastu Shastra & Fengshui in modern times for correction of the various problems in daily life.
3. Floor finish topping under layer , base course, rubble filling & their purpose , Types of floor finish.
- 4 Knowledge of relation between rise & tread width of the stairs ,landing characteristics of good stairs. Types of stairs details & calculations .
5. Characteristics of a good paint . Ingredients of oil paints, types .Preparation of oil paints. Different types of paints, their properties and uses Ready made paints, their commercial names and units of purchase.
6. Meaning characteristics of a good varnish Ingredients of varnish, their uses, properties and commercial names.Polish Meaning types of polishes and uses. Commercial names and units of purchase.

Working drawing basics – Building codes and standards for reference, Selection of appropriate scale for drawings, Procedure of preparing working drawings, Plans – Standard symbols for wiring and electrical fittings, plumbing symbols, Heating / Air-conditioning and ventilating symbols, Roof plans and plot plans, Elevations –Exterior elevations,

Interior elevations, Sections-Residential building upto five floors.

- (i) Commercial building/Residential Multistoried building with lifts
- (ii) Institution building/show rooms, spas ,clubs, gyms ,Exclusive retail outlets with escalators /lifts fountains/game parks/restaurants music stores departmental stores etc.,
- (iii) Community centre / Library building/Entertainment centres
- (iv) Landscaping
- (v) Colouring of the drawing on the print. Conforming to Building bye law
- (vi) Structural detailing (R.C. + steel) sessional sheets

Detailed working knowledge of :-

1. Plumbing:

Knowledge of different types of pipe & pipe fittings such as water closets wash basins urinal posts stop cock bib cock pillar cock their use care & maintenance

2. Carpentry

Carpentry tools, their use their care and maintenance. Joints in wood work. Uses of timber for various purposes. Joinery, Materials used in joinery- screw, nails, nuts, bolts, glues,

3 Masonry

Tools of a mason, their use, care and maintenance.

4. Shuttering

Object of shuttering, Types of shuttering ,Materials used in shuttering .Characteristics of a good shuttering ,Constructional details of shuttering for beams, columns and slabs.

5. Scaffolding

Purpose of scaffolding. Materials used for scaffolding. Types of scaffolding. Characteristics of a good scaffolding. Various types of rope knots and metal coupling. Erection of a scaffolding

6. Wall, Fencing & Gates

Construction & Maintenance of Compound wall, Fencing. Fabricated steel gate.

7. Road work

Earth work for Road formation, Embankment & cutting, Road construction and road surfacing. Method of embankment construction, simple and culverts

8. Surface Finishes

Plastering. Tools required for Plastering. Methods of cement & lime plastering. Preparation of surface for plastering .Application of plaster coats. Curing of plaster. Defects in plasterwork and their preparations. Repairs of defective plaster.

10. Pointing.

Tools & Material required for painting. Operation involved in painting of a masonry works. Repair of old painting.

11. Painting of wood work

Tools required for painting. Painting of a new wood. Woodwork - preparation of surface. Knotting, Priming, Stopping, Under Coat & finishing coat. Repairing of old wood work - Methods of cleaning old surface repairing of old surface.

12 Painting or iron and steel work.

Methods of painting of new steel work.

13 Painting of other surfaces

Methods of painting of brick work & plastered. Surface Faults or defects in painting work and their remedial measures

14 Varnishing and polishing

Tools required for varnishing and polishing. Process of varnishing and Polishing. Preparation of surface, knotting and priming. Application of varnish coats Methods of polishing metal.

15 Distempering.

Tools required for distempering. Methods of application of distempers - reparation of surface, riming coat & final coat.

16 Cement painting

Tools & materials for cement painting. Process for application of cement paint on new and old surfaces.

17 Wall papering.

Tools and materials required for wall papering. Process for placing wall paper in old and new walls.

18 Damp proofing :

Sources of Dampness. Effect of Dampness. Precautions to be taken to prevent dampness. Methods of damp proofing basement ground floors, plinth and walls. Special damp proofing arrangements in bathrooms, W.C. and kitchen. Damp proofing for flat and pitched roofs and window sills. Methods for laying damp proof Coats in existing buildings.

19 Timber Works

Repair and maintenance of decayed timber components in buildings & replacement of fittings.

20 Glazing Work

Tools required :-

Methods of cutting glass and fixing glass as described. Material required for cleaning old glass panes and method of cleaning.

21 Vitrified Tiles Work

Method of cleaning of China Clay glazed Tiles and materials required for cleaning, use of glazed tiles for flooring, wall dado etc.

22 Anti- termite Treatment in Buildings

Method of anti-termite treatment for walls .Anti-termite treatment for soil. Anti-termite treatment for wood work in Building.

21 Rolled Structural Steel Section

Rolled Structural steel section comprising of Beam & Channel & angles. Use of such materials for fabrication of Shed. Method of fabrication by riveting, bolting and Welding. Maintenance of Steel Structures and prevention from corrosion.

22 Knowledge of drawings:

Methods of construction of ellipse, including its elementary properties, parabola and rectangular hyperbola cycloidal (sp.) and involute curve.

CONSTRUCTION SERVICES

PRACTICAL CLASS XII 6 HOURS 60 MARKS

1. To calculate quantities of materials for:
 - a. Plain concrete of different proportion.
 - b. Bricks and stone masonry in cement and lime mortar.
 - c. Plastering and pointing with cement mortar in different proportions.
 - d. White washing and colour washing.
2. To do rate analysis of the following items of work.
Earth work in excavation. Cement concrete in foundation. R.C.C. and R.B.C. in roof slabs. Brick masonry in cement mortar. Coarse rubble measuring stone in concrete mortar. Coarse procedure. Cement Plaster. White washing on a new surface. Painting new wood work .Cement concrete floor. Panelled and glazed door.
3. To prepare a detailed estimate of a small residential building with flat roof.
4. Building bye law paper matter can be increase depending on revision of municipal rules
5. Working drawing basics – Building codes and standards for reference, Selection of appropriate scale for drawings, Procedure of preparing working drawings, Plans – Standard symbols for wiring and electrical fittings, plumbing symbols, Heating / Air-conditioning and ventilating symbols, Roof plans and plot plans, Elevations –Exterior elevations,
6. Interior elevations, Sections-Residential building upto five floors.
 - I. Commercial Building/
 - II Residential Buildings/different rooms /work homes one room apartments with full utilization of space &budget
 - III Institution building/Schools/
 - IV Community centre / Library building
 - V Landscaping
 - VI Colouring of the drawing on the print. Conforming to Building bye law using AUTOCAD(optional)

FURNISHING & FITTINGS

CLASS XI

Theory

Marks 40

3 Hours

Design & layouts for furnishing. size, selection of materials and finishes with proper working knowledge of newer technologies & use of Vastu Shastra & Fengshui .

Production techniques and criteria arrangement of, appreciate aesthetic value in design ,use of new technology & materials. Applications to various raw materials used in furniture wood, metal furnishings upholstery glass etc. fundamental factor in design, elementary anatomy and human body measurement ,environmental controlled factors in controlled space,ergonomic assessment. Use of new technology & materials e.g. Types of Curtain , rods, hooks, tapes, rings etc. Materials of curtains& upholstery – Types & styles for urban & semi urban -e.g. springs & construction detailing. File work of samples to be collected with price, width & types to be used for upholstery & drapes. Door knobs, Locks handles fittings of doors & windows Switches – types to collect, brochures to be taken, prices, Built in furniture. Furnishings & fittings of different upholstery. Use of different trends & styles. Curtains, drapes ,paintings & beautiful show pieces statues, small water falls. Floor coverings light fixtures, vases, cultural artifacts, - their Cost, selection, care and maintenance. Creative use of Fittings & fixtures to appeal to the eyes, novelty with various materials cost effective

Appreciation of Visual Arts:

Understanding of Symbolism, Analysis of other forms of arts ,Values of Indian thought and philosophy in relation to visual communication medium.Symbolism in Arts ,Religious Cultural & Cross cultural ,Social Current trends influence on Art Forms & their effects. Communication graphics of design ideas.

Electricals & Lighting – Fitting & Fixtures:

Role of lighting .Use of various fixtures in various interiors (residences offices & commercial spaces. Role of lighting in interior design Quality and character of light – its influence on contour and texture. Use of Natural Lights Sunlight & proper conservation of artificial light. Types of lighting system & their proper application uses & disadvantages. Alternative lighting system and their application. Proper Safety & Illumination standards for specific spaces. Arrangement of space in relation to the performance .Usage of illumination for Special Halls , Commercial Conferences Corridors & Open Spaces like Roof Gardens etc.,Usage of Spotlights & Special lights for creation of Art &

Artifacts Points to be considered for while designing special residential houses. Design of fixtures apartments , work homes mezzanine rooms.

Market survey of basic materials used for finishing & furnishing of interiors with Project work by attending seminars fairs & exhibitions.

FURNISHING FITTINGS & ACCESSORIES.

Practicals & Project Work Class XI 3 hours 60 MARKS

Use of furnishing & Fittings

Its uses & importance, types, Furnishing for walls floors & furniture. Aesthetics involved –role of accessories – types according to choice & budget, urban high style to middle income group, selection, cost, care & maintenance. Importance of gadgets & fittings with interior schemes. Use of modern technologies & utilities proper utilization of gadgets & artifacts for proper effect.

Textiles used for furnishing:-

Knowledge of types of textiles & leather natural & synthetic-purpose & design use of –maintenance care & cost. Quality of printing, designing, patterns, dyeing techniques, textures & mix & matching textiles to create the right effect. To know the cost effectiveness & maintenance & washing related issues & problems.

Curtain & upholstery fittings-

Drapery materials, Curtain-fittings rods etc Curtain fittings. Window dressing styles, lining materials trims & tiebacks. Venetian Blinds.

Use of Art & accessories

Upholstery fittings, Paintings, Floor coverings, Light fixtures Vases, artifacts-selection arrangement, care & maintenance. Optimum utilization of space and better living environment Proper use of Soft furnishings, Utility articles-wrapping paper, gift-wrappings.

Textiles

stenciling fabric painting right use of right furniture in the right place. Use of colours in interiors factors influencing colour selection shape size of rooms activity orientation, preference & colour harmonies in interior.

Indoor Plants

Role of indoor Plants/ bonsai/artificial plants & flowers in decoration in commercial establishments, residential homes, apartments, complexes, corporate houses, retail malls, retail chain outlets, eateries, restaurants, food joints, cafes, bars, pubs, meeting rooms and offices. Proper & effective usage of space colour texture creation of beauty & radiance. Proper use & display arrangements-with emphasis on Lighting, Space organization materials etc. Scope of display techniques and related factors including light, colour form & space. Communication graphic of design ideas. Role of indoor plants in decoration both

indoors & outdoors. Indoor gardening-brief introduction.- selection of suitable plants & their care & proper maintenance. Scope of display techniques and related factors including light ,colour form, and space.

Field trips, seminars , models , project work (Internal Marking) to imbibe proper knowledge acquired.

To visit construction sites, residential houses visits to exhibitions ,seminars & create models .Also to read materials both in print and through internet available in various international & monthly publications basically to gather knowledge & information and make project report files to be assessed internally using the techniques like Structural &,Decorative design using principles of Design: Line, Form, Space, Texture, Colour, Balance, Harmony Function, Rhythm ,Emphasis and Unity, Harmony –its effectiveness in daily life.

1. Project work on types of furnishings used from renaissance to modern age.
2. Visits to sites & furnishing units
3. Creating new furnishing design making-
4. Collection of various brochures /samples from various manufacturers create project reports.
5. Furnishing to plan for single room apartments & residential homes
6. Planning to furnish Retails outlets ,entertainment areas etc.,

DISPLAY WINDOW DRESSING & ACCESORIES

CLASS XII

THEORY MARKS 40

3 HOURS

Types of display and their scores, display as a part of total advertisement effort. Board Classification- Store display in retails chain malls retail outlets, exclusive showrooms , shopping malls, entertainment houses , etc., window display exhibitions display, shelf product display for impulsive sales, product launch display. Simple Stands, boards light fittings & mechanical devices used in display. Colour & light in display, light and its effect on colour .Light as a means of highlighting or suppressing any feature ,different types of light sources and their proper uses. Planning designing. Designing displays for shop windows selling various products. Use of ethnic styles- use of earthen & classy wares to enhance effects. Display Lighting. Trail Selection of material for display. Space Organisation, Role of Sculpture & Murals indoors and outdoors.

Mechanism of display apparatus ,display of lighting effects created, trail selection of materials for display ,space organisation ,preparation of graphic display material, role of sculpture & mural in and out of building.

PRACTICALS & LIVE PROJECT WORK:- Class XII 3 Hours 60 Marks

1. Store display window ,display exhibition ,merchandising display ,shelf product display for impulsive sales, product launch display,
2. Colour Effect – on Windows ,Shelves Racks Display Counters /hanging racks
3. Effect of seasons – Window displays/racks display counters
4. Use of various themes, Occasions, Pujas, Important festivals, Valentine's day Xmas /world cups , Any important event ,effect of movies music/international events & activities. etc
5. Display of product at Strategic Location at eye- level proper product Merchandising
6. Use of ribbons ,various textiles dry flowers laces curls proper backdrops for windows shelf using proper shapes sizes & use of light & colour .
7. New Product launch- for eye catching impact, Use of right materials, frills special lights & backgrounds backdrops for right ambience

LIST OF EQUIPMENTS:-

Requirements:-

1. **Drafting tables**
2. **Computers**
3. **Reference books**
4. **Working labs-Home science Laboratories**
5. **Carpenter tools**
6. **Masons Tools**
7. **Paint Brushes & cans**
8. **Masonry devices**
9. **Tin Smith's working instruments**
10. **Scaffolding materials/temporary staging materials**
11. **Electrical Drills – with various measures**
12. **Safety equipments**
13. **Sand Paper, Adhesives non-ferrous metals Brass Aluminum Copper**
14. **T Square & set Squares, Pens Rotering**
15. **Model display Table**
16. **Cupboards**
17. **White Board- Markers & dusters**
18. **Display Boards**
19. **Glass Cupboards for display of materials**
20. **Show cases for display of models/awards etc.**
21. **Wall Open space – Functional Use**
22. **Racks to store materials**

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