

West Bengal State Council of Technical &
Vocational Education and Skill
Development
(Technical Education Division)



Syllabus
of

Diploma in Interior Decoration [ID]

Part-II (4th Semester)

Revised 2022

CURRICULUM STRUCTURE | INTERIOR DECORATION

West Bengal State Council of Technical and Vocational Education and Skill Development

Fourth Semester

Sl.No.	Category of course	Code No.	Course Title	Hours per week			Credits	Marks
				L	T	P		
1	Pro. C. C.	IDPC202	Evolution of Interior Design -II	2	0	0	2	100
2	Pro. C. C.	IDPC204	Materials & Construction-II	2	0	0	2	100
3	Pro. C. C.	IDPC206	Services-II	2	0	0	2	100
4	Pro. C. C.	IDPC208	Interior Landscape	2	0	0	2	100
5	Pro. C. C.	IDPC210	Design & Drawing-A (6 hr. Exam)	1	0	0	1	100
6	Pro. C. C.	IDPC212	Graphics-(4 hr. Exam)	1	0	0	1	100
7	Pro. C. C.	IDPC214	Graphics-II(Lab)	0	0	4	2	100
8	Pro. C. C.	IDPC216	CAD Lab-II(Lab)	0	0	2	1	100
9	Pro. C. C.	IDPC218	Interior Working Drawing-I (Lab)	0	0	4	2	100
10	Pro. C. C.	IDPC220	Interior Design & Drawing-I (Lab)	0	0	4	2	100
11	Pro. C. C.	IDPC222	Market Study-II	0	0	2	1	100
12	Pro. E. C.	IDPE*	*	2	0	0	2	100
13	Minor Project	PR202	Furniture Design	0	0	2	1	100
TOTAL				30			21	1300

Total Contact periods per week – 30

PRO E.C. – Programme Elective Course – 1 no

- LIST OF PROGRAMME ELECTIVE COURSE ARE GIVEN BELOW
- 1. IDPE224 Low Cost Building Technology
- 2. IDPE226 Green Building & Energy Conservation

EVOLUTION OF INTERIOR DESIGN-II

Subject Code	Course offered in	Duration	Periods/Week	Full Marks 100	
IDPC202	4 th Semester	17weeks	2 lectures	Int.Assess.40	Examination 60

OBJECTIVE:

The course aims to inculcate an awareness and appreciation among the students about the history of art and architecture, its growth and development through the ages, with specific reference and focus on the interior spaces- for living, working, entertainment and worship particularly in the Indian context. The awareness of the influences of various styles will help in the innovation of new thoughts and ideas in the students.

MODULAR DIVISION

Group	Module	Topic	Contact Periods	Group	Module	Topic	Contact Periods
A	1	Modern Era: Europe, America	6	C	5	Islamic Style	3
B	2	Pre-Historic and Riverine Civilizations	6		6	British Raj -	3
	3	Buddhist Style	6				
	4	Hindu and Jain Style	6				
Contact Periods 30			Internal Assessment 4		Total Periods 34		

EVALUATION SCHEME

1. Examination (60marks)

2. Internal Assessment (40marks)

- a. Mid Semester: 20marks
- b. Teacher's assessment: 10 marks
- c. Attendance: 10marks

DETAIL COURSE CONTENT

GROUP A	Modern Era: Europe, America	6 periods
Module 1	Modern Era	6 periods
1.1 Late 19 th century Styles Development and onwards: Art & Crafts-Art Nouveau-Colonial Revival-Eclectic-Modern-Bauhaus-Art 1.2 Deco-Surrealism-Scandinavian Modern-Post Modernism-Contemporary (Parametric and Dynamic)		
GROUP B	Architecture of Ancient India & Evolution of Indian styles	18 periods
Module 2	Pre-Historic and Riverine Civilizations	4 periods
2.1 Indus River Valley Civilizations (3300 B.C. to 1300 B.C): Overview - Harappa - Mohenjo-Daro 2.2 Rock Shelters of Bhimbetka		
Module 3	Buddhist Style	6 periods

A	1	Ferrous & Non-Ferrous Metals	4	B	5	Stairs	3
	2	Plastics & Glass	5		6	Upper Floors	5
	3	Joinery & Building Hardware	4		7	Form Work	2
	4	Foundation & Plinth	5		8	Partition Walls, False Ceiling	2
Contact Periods- 30			Internal Assessment 4			Total Periods 34	

EVALUATION SCHEME

1. Examination (60marks)

2. Internal Assessment (40marks)

a. Mid Semester: 20marks

b. Teacher's assessment: 10 marks

c. Attendance: 10marks

DETAIL COURSE CONTENT

GROUP A 18 periods

Module 1 Ferrous & Non-Ferrous Metals 4 periods

General characteristics of metals: Ductility – Elasticity – Malleability– Toughness – Weldability. Ferrous Metals (IRON & STEEL): Definitions, comparison of average chemical composition with specific reference to carbon content and properties of pig iron, cast iron, wrought iron, mild steel (plain carbon steel), alloy steel (hard steel), HYSD and high tensile steel. Non-Ferrous Metals–Aluminium & Brass. Properties and different uses of Aluminium. Properties and mention of different uses of Brass.

Module 2 Plastics & Glass 5 periods

Plastics: Properties, merits & demerits of Plastics – Various types of plastics: Thermosetting and Thermo-plastic–PVC, Nylon, Acrylic Polybutylenes , Epoxy, Polyvinyl acetate, Polyurethanes , Polystyrene , Phenolic , Polypropylene- their applications as building materials–Uses of composites such as Polycarbonates, Glass-reinforced fibre, reinforced plastic-metal reinforced plastic

Glass: Definition of glass – Principal constituents of glass : silica, sodium or potassium carbonate (or sulphate) , lime, lead, manganese dioxide, pigments, cullet–Classification of glass based on composition: Soda lime glass–Potash lime glass–Potash lead glass – Boro-silicate glass (Properties & Uses)- Classification of glass according to commercial forms : Sheet glass – Plate glass –Obscured glass – Wired glass – Structural glass – Laminated glass – Glass wool – Foam glass (Properties & Uses)- Process of manufacturing of Sheet Plate and Float glass- Post processing of glass such as Etching, Acid washing, Toughening , Straining, Bending, Edge Polishing, Film application (Sun control & Decorative)

Module 3 Joinery Building Hardware 4 periods

Introduction to concepts of joinery and joints; study of material specific limitations of joinery and study of structural joints focusing on load transfers based on use of different materials - types of joints such as lengthening, widening, bearing, framing in different materials such as wood, glass, metals
Fixing and fastening for doors and windows: Nails–Screws–Hinges–Bolts–Rivets–Handles

Module 4 Foundation & Plinth 5 periods

Foundation: Definition – Purpose – Classification of Shallow Foundation & Deep Foundation, Spread Footings: Wall Footings –Reinforced Concrete Footing–Inverted Arch Footing–Isolated Column Footing(Definition-uses):Definition of Plinth, Purpose of Plinth, Plinth filling

GROUP B **12 periods**

Module 5 **Stairs** **3 periods**

Definition of Stairs-Ladders-Ramp-Technical terms used in stairs construction –Location of Stairs-Requirement of a good stair-Riser & Tread Relationship – Classification of stairs on the basis of their forms –Classification of stairs on the basis of materials-Wooden Stairs-Steel Stairs-RCC Stairs—Fixing Details:(i)Balusters(metal& wood)& (ii)No sing to steps(iii) Hand rails to post

Module 6 **Upper Floors** **5 periods**

Suspended floors in timber–single floor-R.C.C. Floors :Slab-(one-way, two-way &cantilever)–Beam & slab–Flat Slab–Ribbed floor-Pre-Cast Concrete Floor(Concept only)

Module 7 **Form work** **2 periods**

Definition–materials used in formwork–requirements of good form work-Rules to be followed in the removal of form work at different locations-Formwork-Steel & Timber–Their comparison

Module 8 **Partition Walls, False Ceiling** **2 periods**

Partitions walls: Definition–Types–Uses–Details of construction False ceiling: Definition–Types–Uses–Details of construction

SUGGESTED READINGS

- Building Construction Volume,I,II,III&IV (MetricEd.)/J.K. McKay&W. B.McKay /Orient Longman
- The Construction of Buildings Volume1,2, 3,4 &5/R.Barry/English Language Book Society
- A Text Book of Building Construction /S.P.Aurora&S. P.Bindra
- Building Construction/Sushil Kumar/Standard BookHouse

SERVICES- II

Subject Code	Course offered in	Duration	Periods/Week	FullMarks100	
IDPC206	4 th Semester	17 weeks	2 lectures	Int.Assess.40	Examination 60

OBJECTIVE

The course aims to acquaint the students with the concept and principles of basic services. It also aims at developing their analytical skill in designing appropriate services layout to optimize use of resources like water, electricity etc.

MODULARDIVISION

Group	Module	Topic	Contact Periods	Group	Module	Topic	Contact Periods
A	1	Ventilation	12	B	Electrical Installation	Electrical Installation	8
	2	Lighting	10				-

Contact Periods30

Internal Assessment4

Total Periods34

EVALUATIONSCHEME**1. Examination (60marks)****2. Internal Assessment (40marks)**

a. Mid Semester: 20marks

b. Teacher'sassessment:10 marks

c. Attendance: 10marks

DETAIL COURSE CONTENT**GROUP A 22 periods****Module 1 Ventilation 12 periods**

Climate & Weather-Basic Climatic Zones-Climatic Factors- Solar Radiation & Temperature, Clouds, Relative Humidity, Prevailing wind; measuring instruments and Slunits—Aspects of Daylighting-Comfort: Desirable Conditions Requirement of Ventilation–Heat Balance of Body: Fanger's comfort equation–Air Change per Hour-Recommended Values of Air Changes for residential, commercial ,business ,Institutional spaces and garages. [values only]- Methods of Ventilation : **Natural Ventilation**-Ventilation Principles–Position of Openings– Size and Control of Openings: sashes, canopies, louvers —Wind Shadow-Humidity Control: wind scoop: **Mechanical Ventilation** : Fan: propeller & centrifugal -Installation of Fans: local & central — Systems of Ventilation- exhaust, plenum (positive ventilation) & combined - **Mechanical Cooling** : refrigerant, compressor, condenser, pressure release valve, evaporator — Refrigerator & AirCooler-Ton of Refrigeration-**Simple Air-Conditioner**: propelling, filtering, washing, humidifying, cooling, dehumidifying, heating or re-heating.

Module 2 Lighting 10 periods

Principles of Lighting– Aims of Good Lighting– Planning the Brightness Pattern- considering the Visual Task, the background of the task (Central Field& Visual Field-Peripheral Field) – Glare-Recommended Values of Illumination Level for activity spaces. Day lighting-skylight, ERL-IRL, direct sunlight- Working plane-Daylight Factor-**Artificial Lighting**–Necessity-Selection of Light Source & Luminaires-Types of Luminaires-Incandescent & Fluorescent-(definitions, properties & suitability of uses) - Quality of light from sources-such as: Incandescent, Fluorescent, Vapours ,Halides, Halogen, Gas-filled -neon, argon ,LED &Lasers- Types of lighting-General, Task and Accent–Modes of Lighting-Up Lighting, DownLighting & Wall Washing (definitions, properties& suitability of uses)

GROUP B 8 periods**Module 3 Electrical Installation 8 periods**

Concept and definition of Substation– Location-Room / Spaces required for supply company's switchgear room, high voltage switchgear room (HT), transformer room, low voltage switchgear room (LT), standby generator room- Distribution of Supply cables , cleat; circuit ,circuit breaker; fuse –fuse-element , fuse switch; distribution board; energy meters; switch – switchboard; socket-outlet – schedule of socket outlets in a residential apartment (concept and definition only);Three-wire three-phase wiring (AC & DC)-Voltage& Frequency of supply (values only). Architectural Symbols for preparing Electrical Layout of interior of building

SUGGESTED READINGS

- SP7(5):2005 NATIONAL BUILDING CODE OF INDIA GROUP5–PART IX PLUMBING SERVICES/Bureau of Indian Standards
- A Text Book of Water Supply and Waste Engineering /TTTI-10
- Text Book of WATER SUPPLY AND SANITARY ENGINEERING/S.K.Hussain/Oxford &IBHPublishingCo.Pvt.Ltd.
- Solid Waste Management/ Sasi kumar & Gopi Krishna/ PHILearningPvt.Ltd.,NewDelhi
- Hand Book of Water Supply &Drainage Engineering/S.K.Sharma/DhanpatRai& Co.,NewDelhi

GROUP B **18 periods**

Module 5 **Purpose & Benefits of Interior Plant scape** **2 periods**

Emotional and symbolic, Sensual, Architectural, Engineering, Aesthetic

Module 6 **Organizing space with plants** **4 periods**

Grouping of plants, Contrasting shapes, Brighteningsmallareastolargeareas, Climbingandtrailingplants, Decorativebaskets Residential Spaces- OutdoorCourtyards, IndoorCourtyards, VerandahsorBalconies, Roofs, Terraces, IncidentalSpaces, Entryways

Module 7 **Special types** **6 periods**

Terrariums, Hanging basket garden, Window garden, Bottle garden, Table garden, Dish or bowl garden, Vertical garden, Aero Garden

Module 8 **Environment for house plants** **6 periods**

Lighting, Types of Grow Lights, LightMovers, ReflectiveMylar, Containers, Temperature, Humidityand Maintenance

SUGGESTED READINGS

- Planting Design/Brain Hackett/
- Landscape Architecture/John Ormsbee Simonds McGraw-Hill
- Time Saver Standards for Interior Design and Space Planning/Joseph De Chiara, Julius Paneroand MartinZelink/Mcgraw-Hill(Tx)
- Interior Decoration/Satish Chandra Agarwal/Dhanpat Rai and Sons

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DESIGN & DRAWING A (6Hr.Exam)

Subject Code	Course offered in	Duration	Periods/Week	FullMarks100	
IDPC210	4 th Semester	17weeks	1 lecture	Int.Assess. 40	Examination 60

OBJECTIVE

This course aims that the students build up the practical skill of solving a problem of designing and presenting it in a graphical manner within a stipulated time. This also aims that the students achieve the confidence in learning by solving an unknown problem .

DETAIL COURSE CONTENT

Students should perform time bound design problems with design process and draw it in the class

EVALUATION SCHEME

1. Examination (60marks)

A six-hour examination is to be held during the Part – II Second Semester examinations on the syllabus of “Interior Design & Drawing - I”. Out of two questions set; any one (1) is to be answered. The two (2) internal assessments of 3 hours duration each are to be taken on the same syllabus. Question should be placed such that the planning area does not exceed 30(twenty)sqm.

2. Internal Assessment(40marks)

- a. MidSemester:20 marks
- b. Teacher’s assessment: 10 marks
- c. Attendance:10 marks

GRAPHICS (4Hr.Exam)

Subject Code	Course offered in	Duration	Periods/Week	FullMarks100	
IDPC212	4 th Semester	17weeks	1 lecture	Int. Assess. 40	Examination 60

OBJECTIVE

This course aims that the students build up the practical skill of solving a problem of sociography and presenting it in a graphical manner within a stipulated time. This also aims that the students achieve the confidence of learning by solving an unknown problem.

EVALUATION SCHEME

1. Examination (60 marks)

A four-hour examination is to be held during the Part–II Second Semester examinations on the syllabus of “Graphics-I & Graphics-II”. Out of 2(two) questions set; any 1 (one) is to be answered. The two internal assessments of 2 hrs’ duration each, are to be taken on the same syllabus.

2. Internal Assessment (40 marks)

- a. Mid Semester:20 marks
- b. Teacher’s assessment:10 marks
- c. Attendance:10 marks

GRAPHICS–II (Lab)

Subject Code	Course offered in	Duration	Periods/Week	Full Marks100	
IDPC214	4 th Semester	17weeks	4 Practical	Int.Assess.60	Ext.Assess.40

OBJECTIVE

This subject aims that the students learn the graphical technique of sciography to visualize the shadow pattern in exterior and interior space. It also intends that the students understand interior lighting design with the concept of shadow and shade.

MODULAR DIVISION

Group	Module	Topic*	Contact Periods#	No.of Sheets
A	1	Sciography: Definition-Techniques of drawing shadow and shades on orthographic projection of Lamina, Right regular Solids taking sun as light source	10	2
	2	Orthographic projections of Buildings with Sciography	10	1
B	3	Drawing shadows of any two furniture on the floor taking point light source	10	1
	4	Drawing shadows of furniture on the floor in one-point perspective projection of residential interior space	15	2
C	5	Drawing shadows of furniture on the floor and the wall in one-point perspective projection of business or commercial interior space	15	2

*Assignments are to be carried out in a journal-form on large size square grid pad and/or drawn to scale on A2 size drawing sheet as per instructions.

#The periods exclude tutorials

EVALUATIONSCHEME

Name of the course	Marks Allotted
Graphics-II	a. Continuous internal assessment of 50marks is to be carried out by the teachers through out the semester b. Attendance of 10 marks c. External assessment of 40 marks shall be held at the end of the Semester on the entire syllabus i.e. assignment

SUGGESTED READINGS

- Geometrical Drawing for Students /L.H.Morris/Longman,Green&Co.
- Manual of Rendering with Pen and Ink/RobertW.Gill/Thamesand Hudson
- Art of Perspective Drawing /Simon Graco/WalterBrooks
- Engineering Drawing /N.D.Bhat/CharotarPublishingHousePvt.Ltd

CAD LAB–II (Lab)

Subject Code	Course offered in	Duration	Periods/Week	FullMarks100	
IDPC216	4 th Semester	17weeks	2 Practical	Int.Assess.60	Ext.Assess.40

OBJECTIVE

The course aims to inculcate the knowledge of basic commands along with tools necessary for professional 2D drawing, design and drafting using AutoCAD software. It also aims at enabling the students in competency of plotting their drawings in printed form.

MODULAR DIVISION

Module	Topic	Contact Periods	Module	Topic	Contact Periods
		Sessional			Sessional
1	Viewport & Model Setting	4	5	Solid Editing	4
2	Drawing 3D surfaces	6	6	User co-ordinate system	2
3	3D views	6	7	Object linking & embedding	4
4	Solid Modeling	4	8	Rendering	4

ASSIGNMENT

To be carried out in computerized printed format on A-3 size sheets (Landscape orientation) Design, prepare, render, generate & print

Description	No. of Sheets
Design, prepare, render, generate & print: A portfolio of presentation drawings consisting of plan, sectional elevations & 1-point perspective of a master bedroom.	2
Design, prepare, render, generate & print: A portfolio of presentation drawings consisting of plan, 2-point perspective & flooring layout of an Executive cabin	2

EVALUATION SCHEME

Name of the course	Marks Allotted
CAD Lab-II	a. Continuous internal assessment of 50 marks is to be carried out by the teachers throughout the semester b. Attendance:10 marks c. External assessment of 40 marks shall be held at the end of the Semester on the entire syllabus

DETAIL COURSE CONTENT

Module 1 Viewport & Model Setting 4 Sessional periods

Model Space Viewports – Displaying viewports as tiled areas: VPORTS command – Making a viewport current – Joining two adjacent view ports – Model space: MSPACE command – Paper space: PSPACE command – Editing the viewports: Controlling the display of the objects in the viewport, Locking the display in the viewports, Controlling the display of the hidden lines in the viewports, Clipping the existing viewports–PAGESETUP command–MVSETUP command

Module 2 Drawing 3D surfaces 6 Sessional periods

RULESURF command–TABSURF command–REVSURF command–EDGESURF command–3DMESH command–3DFACE command –3DPOLY command–3DARRAY command –MIRROR3D command–ROTATE3D command –ALIGN command –HIDE command

Module 3 3D views 6 Sessional periods

VPOINT command–Plan View–Top–Bottom–Left–Right–Front–Back–3D Orbit

Module 4 Solid Modeling 4 Sessional periods

Constructing a composite solid: UNION, SUBTRACT, INTERSECT, REVOLVE, FILLET, CHAMFER commands – Slicing solids: SLICE,SECTION commands

Module 5 Solid Editing 4 Sessional periods

Constructing a composite solid: UNION, SUBTRACT, INTERSECT, REVOLVE, FILLET, CHAMFER commands – Slicing solids: SLICE,SECTION commands

Module 6 User co-ordinate system 2 Sessional periods

World Co-ordinate System(WCS)– User Co-ordinate System(UCS)–UCSICON command –UCS command

Module 7 Object linking & embedding 4 Sessional periods

OLE feature–Clipboard–Object Embedding: COPYCLIP command–Linking objects: COPYLINK command

Module 8 Rendering 4 Sessional periods

Rendering – Loading and unloading AutoCAD Render – Elementary Rendering – Selecting different properties for rendering: Rendering type, Rendering option, Rendering procedures, Destination, Sub sampling, Background, Fog / Depth cue – Inserting and modifying lights–Defining and rendering a scene–Attaching and detaching materials–Saving a Rendering

Module 2 Requirement Framing 3 periods

Activity areas, area analysis, Physical and Behavioral Requirements, furniture selection, identify desired atmosphere and color themes, such as warm/cool. Neutral/pastel, etc.

Module 3 Plan Layout 15 periods

Provide furniture layout plans showing the outline of all freestanding furniture, built-in Counters and storage spaces.

Module 4 Interior Finish Plans 15 periods

Indicate wall and floor patterns and color placement, material transitions and extents of interior finishes.

Module 5 Interior Elevations, Sections and Details 15 periods

Indicate material, color and finish placement.

Module 6 Reflected Ceiling Plan 10 periods

Showing positions of luminaries and fans/AC duct-outlet

SUGGESTED READINGS

- The Interior Design Reference & Specification Book/Linda O’Shea, ChrisGrimley, MimiLove
- Interior Design Course:Principles,PracticesandTechniquesforAspiringDesigner/TomrisTangaz/Barron’s
- Neufert Architect’s Data/EmstNeufert/Wiley-Blackwell
- National Building Code
- Time Saver Standards for Interior Design and Space Planning /Joseph DeChiara,JuliusPaneroand Martin Zelink/Mcgraw-Hill (Tx)
- Time Saver Standards for Building Types /Joseph De Chiara, and John Hancock Callender/Mcgraw-HillSubsequentEdition
- Interior Decoration /SatishChandraAgarwal/DhanpatRaiandSons

MARKET STUDY – II

Subject Code	Course offered in	Duration	Periods/Week	Full Marks 100	
IDPC222	4th Semester	17 weeks	2 Practical	Int. Assess.60	Ext. Assess. 40

OBJECTIVE

This subject intends the student to understand professional and practical aspects of Interior Design through workshops, market surveys, case studies & site visits related to the course contents of Indian Art, Materials & Construction – II and Services -I ,Services-II and Interior Landscape. It also aims that the students are able to present individual report on their study work.

MODULAR DIVISION

Module	Topic	Contact Periods
1	Individual analytical reports on case studies & site-visits	10
2	Compilation of data on market surveys	12

MODULAR DIVISION

Group	Module	Topic	Contact Periods	Group	Module	Topic	Contact Periods
A	1	Low Cost Housing Technology	6	B	3	Roofing /Flooring Systems	6
	2	Walling System periods	6		4	Doors and windows	6
					5	Low Cost Infrastructure Services	4
Contact Periods 30			Internal Assessment 4		Total Periods 34		

EVALUATION SCHEME

- 1. Examination (60marks)
- 2. Internal Assessment(40marks)

- * Mid Semester: 20 marks
- * Teacher’s assessment:10marks
- * Attendance: 10 marks

DETAIL COURSE CONTENT

GROUP A 12 periods

Module 1 Low Cost Housing Technology 6 periods

Introduction to the concept of cost effective construction -Innovative cost effective construction techniques: Use of Modular design- Prefabrication- total and partial

Module 2 Walling System periods 6 periods

Single Brick thick load bearing wall- Half brick thick load bearing wall -Uses of different types of materials - Concrete Blocks- Stabilized Mud Blocks- Sun-dried bricks- Rammed earth- Stabilized soil blocks- Kiln-burnt bricks- Laterite/stone- Timber/bamboo- Stone block masonry- Precast/factory-made walling units using light weight cellular concrete- Lime-Pozzolana Cement- Gypsum Board- Fiber Reinforced Cement Components- Fiber Reinforced Polymer Composite- Thin precast lintels- Thin ferro cement precast shelves

GROUP B 16 periods

Module 3 Roofing /Flooring Systems 6 periods

Mud Housing technology- Mud roofs- Characteristics of mud- Fire-resistant treatment for thatched roof- Soil stabilization Precast RCC solid planks/joists for roof/floor -Ferro-cement-Clay/micro-concrete tiled roofing with insulation over timber/ferrocement rafters- Stone roofing with distributors- Terraces with insulation - Madras Terrace- Corrugated sheet: asbestos, galvanized iron (GI) and asphaltic- Prefabricated brick panel- 'L'panel roofing- Filler slab roofing with various filler material- Precast cellular concrete roofing unit (celcon roof)- RCC channel units- Precast joist and hollow block construction- Light Weight Beams- Funicular shells over edge beams

Module 4 Doors and windows 6 periods

Components of precast door window frames- Technical specifications- Applicability- Advantages

Module 5

Low Cost Infrastructure Services

4 periods

Low cost sanitation’s- Domestic well- Water supply – Ferro cement water tanks- Precast well rings for water wells -Ferrocement based sanitation units/cladding- Precast sanitation unit rings- Precast septic tanks- Precast jalousies- Precast poles for lighting- Precast posts for boundary walls

SUGGESTED READINGS

- Building materials for low –income houses – International council for building research studies and documentation.
- Hand book of low cost housing - by A. K. Lal – Newage international publishers.
- Light weight concrete- Academic Kiado- Rudhai. G – Publishing home of Hungarian Academy of Sciences 1963.
- Modern trends in housing in developing countries – A.G. Madhava Rao- D.S. Ramachandra Murthy & G. Annamalai
- PRECAST CONCRETE DOOR AND WINDOW FRAMES Production and Construction Guide ISBN : 978-81-87395-78-2 (7) Published by : Development Alternatives

GREEN BUILDING AND ENERGY CONSERVATION

Subject Code	Course offered in	Duration	Periods/Week	Full Marks100	
IDPC226	4 th Semester	17weeks	2 lectures	Int. Assess. 40	Examination 60

OBJECTIVE

This course aims that the students develop the soft skill of understanding the concept of green building and energy conservation techniques using design principles, different materials and appliances. The students are also expected to be familiar with the rating system of green building following some standard norms and codes.

MODULAR DIVISION

Group	Module	Topic	Contact Periods	Group	Module	Topic	Contact Periods
A	1	Introduction to Green Buildings	8	B	4	Indoor Environmental Quality	6
	2	Site selection and planning	8		-		
	3	Building materials	8				
Contact Periods 30			Internal Assessment 4		Total Periods 34		

EVALUATIONSCHEME

1. Examination (60marks)

2. Internal Assessment (40marks)

*MidSemester:20 marks

*Teacher’sassessment:10marks

*Attendance: 10 marks

DETAIL COURSE CONTENT**GROUP A** **24 periods****Module 1** **Introduction to Green Buildings** **8 periods**

Definition of green buildings and sustainable development, typical features of green buildings, benefits of green buildings towards sustainable development.

Module 2 **Site selection and planning** **8 periods**

Criteria for site selection, preservation of landscape, soil erosion control, minimizing urban heat island effect, maximize comfort by proper orientation of building facades, day lighting, ventilation, etc. Water conservation and efficiency: Rainwater harvesting methods for roof & non-roof, reducing landscape water demand by proper irrigation systems, water efficient plumbing systems, water metering, waste water treatment, recycle and reuse systems.

Module 3 **Building materials** **8 periods**

Methods to reduce embodied energy in building materials: (a) Use of local building materials (b) Use of natural and renewable materials like bamboo, timber, rammed earth, stabilized mud blocks, (c) use of materials with recycled content such as blended cements, pozzolana cements, fly ash bricks, vitrified tiles, materials from agro and industrial waste. (d) reuse of waste and salvaged materials: Handling of construction waste materials, separation of household waste, on-site and off-site organic waste management

GROUP B **6 periods****Module 4** **Indoor Environmental Quality** **6 periods**

Indoor Environmental Quality for Occupant Comfort and Wellbeing: Day lighting, air ventilation, exhaust systems, low VOC paints, materials & adhesives, building acoustics. Introduction to Codes related to green buildings: NBC, ECBC, ASHRAE, UPC, etc. Green building rating systems – GRIHA, IGBC and LEED, overview of the criteria as per these rating systems.

SUGGESTED READINGS

1. IGBC Green Homes Rating System, Version 2.0., Abridged reference guide, 2013, Indian Green Building Council Publishers.
2. GRIHA version 2015, GRIHA rating system, Green Rating for Integrated Habitat Assessment.
3. Alternative building materials and technologies by K.S. Jagadish, B.V. Venkatarama Reddy and K.S. Nanjunda Rao.
4. Non-Conventional Energy Resources by G. D. Rai, Khanna Publishers.
5. Sustainable Building Design Manual, Vol.1 and 2, TERI, New Delhi 2004.
6. Mike Montoya, Green Building Fundamentals, Pearson, USA, 2010.
7. Charles J. Kibert, Sustainable Construction – Green Building Design and Delivery, John Wiley & Sons, New York, 2008.
8. Regina Leffers, Sustainable Construction and Design, Pearson / Prentice Hall, USA, 2009.

MINOR PROJECT-FURNITURE DESIGN

Subject Code	Course offered in	Duration	Periods/Week	Full Marks	
PR202	4 th Semester	17weeks	2 Practical	100	Ext. Assess. 40
				Int.Assess.60	

OBJECTIVE

This course aims that the students exhibit their understanding of materials, construction in the full design process of making a model of a piece of furniture. It also desires that they will be able to start with conceptual development and production of working drawings, and end with the building of a reduced- scale furniture, along with the exhibition of their work.

ASSIGNMENT

The assignment is to design and build a model of a piece of furniture. The structure of the furniture may be from balsam wood and/or wood based materials but other materials can also be included as well. All materials are at the student’s own cost. The finished piece cannot exceed 50 x50 x 50 cm. The program for the furniture is individual, decided by the student and guided by the faculty.

It is preferable that the students work conceptually on a new piece of furniture or re-interpret a well-known type of furniture based on students` individual analysis and design development. The model furniture must have a visual and structural clarity and consequently express the main idea behind the design.

The final presentation of the assignment - the model must be accompanied with the student’s sketchbook / visual journal for design development in order to ensure process documentation.

Final Presentation may be evaluated on basis of:

Completeness: Student should present the required deliverables - well- crafted drawings, models and other visual presentation material - to convincingly communicate the scope and content of the project in a meaningful and creative manner.

Delivery: Student should present the project in a well-prepared and organized way, in a professional manner.

Design: Student should present a final product of high artistic quality that convincingly shows a conceptually clear and well-motivated design solution.

EVALUATIONSCHEME

Name of the course	Marks Allotted
Minor Project – Furniture Design	<p>d. Continuous internal assessment of 50 marks is to be carried out by the teachers throughout the semester</p> <p>e. Attendance of 10 marks</p> <p>f. External assessment of 40 marks shall be held at the end of the Semester on the entire syllabus i.e. assignment</p>

SUGGESTED READINGS

- Working Drawings Of Colonial Furniture | Frederick J. Bryant
- The Interior Design Reference & Specification Book updated & revised: Everything Interior Designers Need to Know Every Day | Chris Grimley & Mimi Love
- Atlas of Furniture Design | Mateo Kries, Jochen Eisenbrand, Henrike Büscher, Janna Lipsky

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**CURRICULUM AND SYLLABI OF
FULL-TIME DIPLOMA COURSES IN
INTERIOR DECORATION
(PART – II SEMESTER – 4TH)
(W.E.F. 2020-21)**

WEST BENGAL STATE COUNCIL OF TECHNICAL AND
VOCATIONAL EDUCATION AND SKILL DEVELOPMENT
(A Statutory Body under West Bengal Act XXI of 1995)
“Kolkata Karigori Bhavan”, 2nd Floor, 110 S.N. Banerjee Road, Kolkata –700013

PREPARED BY:

SURANJANA MAITI (CONVENER), BEHALA GOVT. POLYTECHNIC, KOLKATA

DR. KRISHNA GHOSH (MEMBER), WOMEN'S POLYTECHNIC, KOLKATA

CHINMOY DEY (MEMBER), DR. MEGHNAD SAHA INSTITUTE OF TECHNOLOGY, HALDIA

ANKITA MANDAL (MEMBER), WOMEN'S POLYTECHNIC, CHANDANNAGAR

DR. SOUMEN MITRA (EXPERT), ASSOCIATE PROFESSOR, IIEST, SHIBPUR

ARCHITECT DULAL MUKHERJEE (ADVISOR), DULAL MUKHERJEE & ASSOCIATES, KOLKATA