# 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	Code	Course Title	Hot	ırs per	week	Credits	Marks
51.NO.	course	No.	Course Tide	L	Т	P	- creatts	Marks
1	Pro. C. C.	IDPC202	Evolution of Interior Design -II		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**

Γ	Subject Code	Course offered	Duration	Periods/Week	Full Marks		
		in				100	
	IDPC202	4 <sup>th</sup> Semester	17weeks	2 lectures	Int.Assess.40	Examination 60	
1							

#### **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
А	1	Modern Era: Europe,America	6		5	Islamic Style	3
	2	Pre-HistoricandRiver Civilizations	rine 6	С	6	British Raj -	3
	3	BuddhistStyle	6				
В	4	HinduandJain Sty	yle 6				
	Contact Periods 30			al Assessn	nent 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
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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 Indianstyles	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 RockSheltersofBhimbetka

Module 3 Buddhist Style 6 periods

- 3.1 Characteristicfeatures: Viharas Chaityas Stupas
- 3.2 Study of the Sanchi Stupa (3<sup>rd</sup>cen.BC)
- 3.3 Rock cut caves of Ajanta and Ellora

#### Module 4 Hindu & Jain Style

8 periods

5 periods

- 4.1 The Evolution of the temple
- 4.2 EarlyChalukyanStyle:LadhkanTemple,Aihole-Rock-cuttemplesatBadami
- $4.3\ Or is san Style: Lingaraj Templeat Bhuvanes war Sun\ Templeat Konarak$
- 4.4 Khajuraho Style
- 4.5 Later Chalukyan or Hoysala Style
- 4.6 Dravidian Style: Pallava Style-Chola Style-Vijaynagar Style-Pandya Style o rMadura Style
- 4.7 Jain Style: Chaumukh Temple of Adinath

# GROUPC Influence of Islamic and British Style on Indian Style 10 periods

# Module 5 Islamic Style

- 5.1 Characteristicfeatures
- 5.2 Qutub Minar, Delhi-Char Minar, Hyderabad, GolGumbaz, Bijapur
- 5.3 Babur and Humayun-Akbar the Great-Jehangir-Shah Jahan

#### Module 6 The British Raj 5 periods

- 6.1 Characteristicfeatures
- 6.2 The Emergence of the Indo Saracenic
- 6.3 StyleofNewDelhi

#### SUGGESTED READINGS

- Indian Architecture Vol.1 (Buddhist&Hindu) /PercyBrown /D.B.Taraporevala Sons &Co.Pvt. Ltd.
- Indian Architecture Vol.2 (IslamicPeriod)/Percy Brown/D.B.Taraporevala Sons & Co.Pvt.Ltd.
- Islamic Architecture in India/Satish Grover/Galgotia PublishingCompany,NewDelhi
- Buddhist and Hindu Architecture in India/SatishGrover/CBS
- A History of Architecture/SirBanisterFletcher/ Butterworth Heinemann(Hb), CBS(Pb)
- The Great Ages of World Architecture/G.H.Hiraskar/DhanpatRaiCo.Pvt.Ltd.,Delhi

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# **MATERIALS & CONSTRUCTION-II**

Subject Code	e Course offered in	Duration	Periods/	Full Marks		
			Week	100		
IDPC204	4 <sup>th</sup> Semester	17 weeks	2 lectures	Int. Assess. 40	Examination 60	

#### **OBJECTIVE**

The course aims to provide knowledge of basic structural components of an RCC framed structure, their properties and construction techniques, which enables students to prepare scaled drawings of the sectional details as a whole or part of the building depicting various necessary layers of materials, mix and dimensions.

#### **MODULAR DIVISION**

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Group	Module	Topic	Periods	Group	Module	Topic	Periods

	1	Ferrous & Non-Ferrous Metals	4		5	Stairs		3
	2	Plastics & Glass	5		6	Upper l	loors	5
A	3	Joinery & Building Hardware	4	В	7	Form W	/ork	2
	4	Foundation & Plinth	5		8	Partitio Walls, F 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,castiron, 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, Polyeurethanes, 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,manganesedioxide,pigments,cullet-Classificationofglassbasedoncomposition:Sodalimeglass–Potashlimeglass–Potashlead glass – Boro-silicate glass (Properties & Uses)- Classification of glass according to commercial forms: Sheet glass – Plate glass – Obscured glass – Wired glass – Structural glass – Laminate 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

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# **SERVICES-II**

Subject Code	Course offered	Duration	Periods/Week	FullMarks100		
	in					
IDPC206	4 <sup>th</sup> 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
А	1	Ventilation	12	В	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's assessment: 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 & Luminares-Types of Luminares-Incandescent & Fluorescent-(definitions, properties & suitability of uses) - Quality of light from sources-such as: Incandescent, Fluorescent, Vapours, Halides, Halogen, Gasfilled -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

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# **INTERIOR LANDSCAPE**

Subject Code	Course offered	Duration	Periods/Week	Full Marks 100		
IDPC208	4 <sup>th</sup> Semester	17weeks	2 lectures	Int.Assess.40	Examination 60	

#### **OBJECTIVE**

The subject aims at acquainting students to the basics of interior landscaping with the knowledge of plants, their selection, arrangement and maintenance required for creating a harmonious and aesthetically pleasing interior space. It also aspires in instilling the knowledge of interior landscape design from historical ages to contemporary trend.

#### **MODULARDIVISION**

Group	Module	Topic	Periods	Group	Module	Topic	Periods	
	1	History of Interior Landscape	4		5	Purpose& Benefits of Interior Plantscape	2	
	2	Elements of Landscape Design	2		6	Organizing space with plants	4	
A	3	Types of Landscaping	3 B	7	Special types	6		
	4	Indoor Plants	3		8	Environment for house plants	6	
Contact Periods 30		Periods 30	Internal Assessment 4			Total Periods34	Total Periods34	

#### **EVALUATION SCHEME**

1. Examination (60marks)

2.InternalAssessment(40marks)

a. MidSemester:20marks

b. Teacher's assessment: 10 marks

c. Attendance: 10 marks

#### **DETAIL COURSE CONTENT**

GROUP A 12 periods

#### Module 1 History of Interior Landscape

4 periods

The Chinese, The Egyptian and Babylonian, The Greeks -Origin of the true pot gardening, The Romans, Dark Ages, The Crusades, Renaissance Development, Eighteenth Century, America, Japanese Gardens, Mughal Gardens and Recent Developments.

#### Module 2 Elements of Landscape Design 2 periods

Colour, Form, Line of Sight, Scale or Balance, Texture

# Module 3 Types of Landscaping 3 periods

Hardscapes-Rocks, Paths, Railing, Steps, Sculptures, Accessories, Furniture, Lighting and Plumbing Fixtures, Softscapes-Trees, Shrubs, Climbers, Grass, Water & Soil

#### Module 4 Indoor Plants 3 periods

Introduction to Different types of common Indoor Plants, Their Foliage Pattern-Spread, Shape, Texture, Colour, Flower, Height

2 periods

GROUP B 18 periods

#### Module 5 Purpose & Benefits of Interior Plant scape

Emotional and symbolic, Sensual, Architectural, Engineering, Aesthetic

Module 6 Organizing space with plants 4 periods

Grouping of plants, Contrasting

 $shapes, Brightenings mallare as to large areas, Climbing and trailing plants, Decorative baskets\ Residential\ Spaces-$ 

Outdoor Courty ards, Indoor Courty ards, Verandahs or Balconies, Roofs, Terraces, Incidental Spaces, Entry ways and the support of the supp

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, Reflective Mylar, Containers, Temperature, Humidity and Maintenance

#### SUGGESTED READINGS

- Planting Design/Brain Hackett/
- Landscape Architecture/John Ormsbee Simonds McGrraw-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	Duration	Periods/Week	FullMarks100	
	in				
IDPC210	4 <sup>th</sup> 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

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# **GRAPHICS (4Hr.Exam)**

Subject Code	Course offered in	Duration	Periods/Week	FullMarks100	
IDPC212	4 <sup>th</sup> 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

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# **GRAPHICS-II (Lab)**

Subject Code	Course offered	Duration	Periods/Week	Full Marks100	
	in				
IDPC214	4 <sup>th</sup> 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.

#### **MODULARDIVISION**

Group	Module	Topic*	Contact Periods#	No.of Sheets
А	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
	3	Drawing shadows of any two furniture on the floor taking point light source	10	1
В	4	Drawing shadows of furniture on the floor in one-point perspective projection of residential interior space	15	2
С	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 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	<ul> <li>a. Continuous internal assessment of 50marks is to be carried out by the teachers through out the semester</li> <li>b. Attendance of 10 marks</li> </ul>
	c. <b>External assessment of 40 marks</b> shall be held at the end of the Semester on the entire syllabus i.e. assignment

#### **SUGGESTEDREADINGS**

- 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

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# CAD LAB-II (Lab)

Subject Code	Course offered in	Duration	Periods/Week	FullMa	rks100
IDPC216	4 <sup>th</sup> 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.

# **MODULARDIVISION**

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

#### **SUGGESTED READINGS**

- Inside AutoCAD/H.Rice,DanielRacker/NewRidersPublishing
- Mastering AutoCAD and AutoCADLT/George OmuraBrianC.Benton/Wiley
- Advanced Techniques in AutoCAD/RobertThomas/Wiley,John&SonsIncorporated

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# INTERIOR WORKING DRAWING-I

Subject Code	Course offered in	Duration	Periods/Week	FullMarks10	00
IDPC218	4 <sup>th</sup> Semester	17weeks	4Practical	Int.Assess.60	Ext.Assess.40

#### **OBJECTIVE**

The subject intends to equip the students with knowledge and skills of using construction techniques for preparing working drawing and details of designed drawing. It further intends to equip student with thorough knowledge specifically about the finishes of floor, walls & ceiling and details of joinery designed furniture in residential interior spaces.

#### **MODULARDIVISION**

Module	Topic*	Contact Periods <sup>#</sup>	No. of sheets
1	Floor Plans	15	2
2	Elevations & Sections	20	4
3	Structural and finishing details	10	2
4	Detailing and Scheduling	10	2
5	Furniture and Fixture	10	2

<sup>\*</sup>Assignments are 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

# **EVALUATION SCHEME**

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

#### **DETAIL COURSE CONTENT**

Module 1 Floor Plans 12 periods

All floor plans showing flooring design /pattern with furniture foot print along with colour schedule/scheme in 1:25 scale

Module 2 Elevations & Sections 20 periods

All elevations and sections showing finishes of walls, flooring, ceiling, furniture and partitions /Non-structural installations constructed & assembled on site with colour schedule in appropriate scale.

# Module 3 Structural and finishing details

10 periods

Structural and finishing details of Lintels, Arches, Jambs, Frames & Casings, Steps, Stairs, Ladders, Railings etc.

10 periods

Module 4 Detailing and Scheduling

Detailing and scheduling of Doors and Windows

18 periods

Module 5 Furniture and Fixture

Details of Furniture and fixture showing joinery and hardware

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# **INTERIOR DESIGN & DRAWING-II**

Subject Code	Course offered	Duration	Periods/Week	Full	Marks		
	in			1	100		
IDPC220	3 <sup>rd</sup> Semester	17 weeks	4 Practical	Int.Assess.60	Ext.Assess.40		

#### **OBJECTIVE**

This course aims at acquiring the skill of the students in analyzing the activities in interior spaces of commercial, business or institutional building, developing understanding of building rules and secondary services. It intends to impart awareness among the students regarding relevant aspects of materials and constructions. The subject also aims towards the students' achievement of individual interpretations.

#### **MODULARDIVISION**

Module	Торіс	Contact Periods	*No. of Sheets
1	Study	10	1
2	Requirement Framing	3	1
3	Plan Layout	15	1
4	Interior Finish Plan	15	2
5	Interior elevations, Section and Details	15	2
6	Reflected ceiling Plan	10	1

Note:\*Assignments are to be done on A2/A1 Size Sheet. No of Sheets maybe more as

#### necessary EVALUATION SCHEME

Name of the course	Marks Allotted
Interior design & drawing-l	<ul> <li>a. Continuous internal assessment of 50 marks is to be carried out by the teachers throughout the semester.</li> <li>b. Attendance:10 marks</li> </ul>
	c. <b>External assessment of 40 marks</b> shall be held at the end of the Semester on the entire syllabus.

#### **DETAIL COURSE CONTENT**

Module 1 Study 10 periods

Case studies, observations, analysis;

# 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, Julius Panero and Martin Zelink/Mcgraw-Hill (Tx)
- Time Saver Standards for Building Types /Joseph De Chiara, and John Hancock Callender/Mcgraw-HillSubsequentEdition
- Interior Decoration / SatishChandraAgarwal / DhanpatRaiandSons

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# **MARKET STUDY - II**

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

#### **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	Торіс	<b>Contact Periods</b>
1	Individual analytical reports on case studies & site-visits	10
2	Compilation of data on market surveys	12

3	Art Appreciation	12

#### **EVALUATION SCHEME**

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

#### **DETAILED COURSE CONTENT**

# Module 1 Individual analytical reports on case studies & site-visits

10 periods

Case Studies and Site- Visits are to be done in Commercial Interiors for studying-

- (i) Space planning, Floor, walls and ceiling finishes, Doors and windows treatments, Sunshades -awnings, furniture, fixture and interior landscape
- (ii) Vertical and Horizontal Exits-Stair design, Hand rails, Baluster design, detailing and finish, escalators, lift and Entry to the space
- (iii) Mechanical ventilation & air conditioning, Illumination style and system, Acoustics, Safety & security systems,
- (iv) Sanitary and plumbing services, toilet fixtures & accessories

#### Module 2 Compilation of data on market surveys

12 periods

Market surveys are to be conducted for types, availability, sizes, colour, rates, etc. of:

- a.Building construction materials like sheets, boards and other commercial products of plastic, metals and glass ,materials for false ceiling and partition walls
- b. Sanitary & Plumbing items, General
- & decorative hardware fittings & fixtures of doors, windows and cabinets
- c. Electrical fittings and luminaries
- d. Appliances & Gadgets used for security in commercial spaces

# Module 3 Art appreciation

12 periods

A visit to any notable place / art gallery/ any Architect's work and presentation of a report on it along with seminar

#### **ASSIGNMENT**

Description	Detail				
To be carried out in neatly hand-written or typed (Preferably	A2 size portfolio is to be submitted for				
computer typing) well composed write-ups along with	Module 1, Module 2 and Module 3				
drawings in a single booklet form.	2. A seminar presentation on Module 3				

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# LOW COST BUILDING TECHNOLOGY

Subject Code	Course offered	Duration	Periods/Week	F	ullMarks100		
	in						
IDPC224	4 <sup>th</sup> Semester	17weeks	2 lectures	Int. Assess. 40	Examination 60		

#### **OBJECTIVE**

This course aims at imparting knowledge to the students on various building materials, construction and execution techniques for their acquaintance with the vast field of low cost buildings. It also aspires that the students will be able to implement this cost effective technology.

#### **MODULARDIVISION**

Group	Module	Topic		Contact Periods	Group	Module	Topic	Contact Periods
А	1	Low Cost Housing Technology		6	В	3	Roofing /Flooring Systems	6
	2	Walling System per	iods	6		4	Doors and windows	6
						5	Low Cost Infrastructure Services	4
Contact Periods 30				Internal Assess	sment 4		Total Periods 3	34

#### **EVALUATIONSCHEME**

1. Examination (60marks)

2. Internal Assessment(40marks)

\* Mid Semester: 20 marks
\* Teacher'sassessment:10marks

\* Attendance: 10 marks

#### **DETAIL COURSE CONTENT**

GROUPA 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 Systemperiods 6 periods 6

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

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

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# **GREEN BUILDING AND ENERGY CONSERVATION**

Subject Code	Course offered	Duration	Periods/Week		Full
	in				Marks100
IDPC226	4 <sup>th</sup> 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	Mod	lule	Topic	Contact Periods
А	1	Introduction to Gree Buildings	en	8	В	4		Indoor Environmental Quality	6
	2	Site selection and planning		8				-	
	3	Building materials		8					
	Contact Periods 30			Internal Assess	sment 4			Total Periods 3	4

#### **EVALUATIONSCHEME**

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

\*MidSemester:20 marks

\*Teacher'sassessment:10marks

\*Attendance: 10 marks

4 periods

#### **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.

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#### MINOR PROJECT-FURNITURE DESIGN

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

#### **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	d. Continuous internal assessment of 50 marks is to be carried out by the teachers throughout the semester e. Attendance of 10 marks		
	f. <b>External assessment of 40 marks</b> shall be held at the end of the Semester on the entire syllabus i.e. assignment		

#### **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 COURESES IN INTERIOR DECORATION (PART – II SEMSTER – 4<sup>TH</sup>) (W.E.F. 2020-21)

WEST BENGAL STATE COUNCIL OF TECHNICAL AND
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(AStatutoryBodyunderWestBengalActXXIof1995)
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