


Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: APPRECIATION OF ARCHITECTURE		
	Scheme (L:T:P) : 4:0:0	Total Contact Hours: 52	Course Code: 15AR51T
	Type of Course: Lectures & Self-Study	Credit : 04	Core/ Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

COURSE OBJECTIVE:

The course aims at enabling the students to

Appraise the ideas, materials and philosophy of master architects both Indian and international fame.

Course Outcomes:

On successful completion of the course, the students shall be able to :

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Evaluate Arts and Crafts and Art Nouveau movement	<i>R/U</i>	5,6,7,8,9,10	05
CO2	Outline the use of Industrialized construction materials used in early modern architecture with examples.	<i>U/Ap/Ay</i>	1,5,6,7,8,9,10	09
CO3	Summarize the philosophies of modern architects during 20 th century architecture in Europe	<i>R/U/Ap/Ay</i>	5,6,7,8,9,10	08
CO4	Sketch and explain the works of modern masters during 20 th century in America	<i>R/U/Ap/Ay</i>	5,6,7,8,9,10	10
CO5	Evaluate thoughts and Philosophies of Indian architects during 20 th Century.	<i>R/U/Ap/Ay</i>	5,6,7,8,9,10	20
			Total sessions	52

Legend- R; Remember, U: Understand, Ap: Application, Ay: Analysis, C:Creation E:evaluate Related to Student activity beyond classroom hours.

COURSE-PO ATTAINMENT MATRIX

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
	1	-	-	-	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.
 If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3
 If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2
 If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1
 If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

COURSE CONTENT

Unit No	Unit Name	Hours	Questions to be set for (5marks) PART - A	Questions to be set for (20marks) PART - B	Marks weightage (%)
1	ARTS AND CRAFTS MOVEMENT & ART NOUVEAU ARCHITECTURE	05	02	-	6.90
2	EARLY MODERN ARCHITECTURE	09	02	02	20.60
3	MODERN ARCHITECTURE IN EUROPE	08	-	02	13.70
4	MODERN ARCHITECTURE IN AMERICA	10	02	02	20.60
5	MODERN INDIAN ARCHITECTURE	20	03	04	37.90
	Total	52	9(45 marks)	10(100 marks)	100

DETAILS OF CONTENTS

UNIT I: ARTS AND CRAFTS MOVEMENT AND

ARTS NOUVEAU MOVEMENT

05Hrs

Arts and Crafts Movement –Theories of William Morris and Art Nouveau – Antoni Gaudi – Casa Mila apartments. Mackintosh – Glasgow School of Art

UNIT II: EARLY MODERN ARCHITECTURE

09Hrs

- New industrialized materials and building techniques – steel, reinforced concrete, sheet glass etc.
Early Modern architecture in Europe
- Sir Joseph Paxton – The Crystal Palace, London.
- Gustav Eiffel – Eiffel Tower, Paris.
- Early French Villas of Le Corbusier Villa Savoye , Poissy
- Rietveld -Schroder House, Utrecht.
- Bauhaus – Walter Gropius. Bauhaus Buildings, Dessau.
Early modern architecture in America.
- Louis Sullivan – Wainwright Building, St. Louise, Missouri.

UNIT III: MODERN ARCHITECTURE IN EUROPE

08Hrs

- Le Corbusier – Five Principles of Architecture, Notre Dame – du – Haut, Ronchamp.
- Zaha Hadid –London aquatic centre, London, Vitra Fire Station , Weil am Rhein, Germany

UNIT IV: MODERN ARCHITECTURE IN AMERICA

10Hrs

20th century architects in America

- Frank Lloyd Wright – Organic Architecture. Prairie houses,
Falling water, Bear Run, Pennsylvania. Johnson Wax Factory, Racine, Wisconsin.
- Mies Van der Rohe. Fransworth House, Plano Illinois, Seagram Building, New York..
- Louis Kahn – Jonas Salk Institute, La Jolla, California.

UNIT V: MODERN ARCHITECTURE IN INDIA

20Hrs

20TH CENTURY ARCHITECTURE IN INDIA.

- Le Corbusier. Assembly Building ,Chandigarh, Mill Owner's Association, Ahmedabad .
- Charles Correa - Gandhi Smarak Sangrahalay, Ahmedabad. Kanchanjunga Apartment, Mumbai.
- Louis Kahn –Indian Institute of Management , Ahmedabad.
- Balakrishna V Doshi - Sangath - Ahmadabad and IIM - Bangalore.
- Achyut Kanvinde - NDDDB Office Building – Delhi and Nehru Science Centre – Bombay.
- Raj Rewal - Asiad Village - Delhi.
- Laurie Baker- Low cost technique, Centre for Development Studies, Trivandrum. 'The Hamlet' Baker's home in Trivandrum.

REFERENCES

1. History of World Architecture by Sir Banister Fletcher, 20th edition.
2. Charles Correa by Harsan Udia.
3. B.V.Doshi by William Curtis.
4. After the master- Modern Architecture in India by Peter Sullivan.
5. Laurie Baker by Goutam Bhatia.

LIST OF LEARNING WEBSITES:

1. <http://greatbuildings.com/>
2. https://en.wikipedia.org/wiki/Modern_architecture/
3. www.surfersam.com/articles/famous-architects-and-their-work.html/
4. http://all-art.org/history_of_sculpture_and_architecture/
5. <https://www.theguardian.com/artanddesign/2016/mar/31/zaha-hadid-10-best-buildings-in-pictures/>

SUGGESTED LIST OF STUDENT ACTIVITY

1. Each student should do any one of the following type of activity or similar activity related to the course
2. Each student should conduct different activity.

1	Prepare a detailed report along with sketches on Frank Lloyd Wright's works.
2	Prepare a detailed report along with sketches on Mies Van Der Rohe's works.
3	Prepare a detailed report along with sketches on B.V.Doshi's works.
4	Prepare a detailed report along with sketches on Le Corbusier's works.
5	Prepare a detailed report along with sketches on Laurie Baker's works.
6	Prepare a detailed report along with sketches on Early modern architecture in Europe.
7	Prepare a detailed report along with sketches on Louis Sullivan's works.

Reports should be made available along with bluebooks to IA verification officer

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfil team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Conversions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1 , Developing 2 , Satisfactory 3 , Good 4 , Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conversions	5				
Total	14				
Average=(Total /4)	3.5=4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students					

Note: Dimension should be chosen related to activity and evaluated by the Course coordinator.

Course Delivery:

- The course will be delivered through lectures and Power point presentations/ Video
- Teachers can encourage the students to take case study and make the report of the same.

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Three tests (Average of three tests to be computed)	20	Blue books	1,2,3,4,5
				Activity	05	Report	1,2,3,4,5
				Total	25		
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1 & 2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Questions for CIE and SEE will be designed to evaluate the various educational components (Bloom's taxonomy) such as:

Sl. No	Bloom's Category	% in Weightage
1	Remembering and Understanding	5
2	Applying the knowledge acquired from the course	55
3	Analysis	35
4	Evaluation	05
5	Creating new Knowledge	-

FORMAT OF IA TEST QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks		
Ex: I test/6 th week of sem 10-11 Am	V SEM	APPRECIATION OF ARCHITECTURE	20		
	Year:	15AR51T			
Name of Course coordinator :			Units: 1 AND 2__		
CO's: _1 AND 2__					
Q. No	Question	MARKS	CL	CO	PO
1	Sketch and explain Casa Mila apartments. OR Sketch and explain Mackintosh's Glasgow School of Art	05	R/U	01	5,6,7,8,9,10
2	Write a note on arts and crafts movement	05	R	01	5,6,7,8,9,10
3	Summarize the influence of industrialized materials like steel, reinforced concrete, sheet glass on Modern architecture with examples. OR Discuss the contribution of Walter Gropius to modern architecture.	05	U	02	1,5,6,7,8,9,10
4	Explain Eiffel Tower with neat sketch.	05	R	02	1,5,6,7,8,9,10

Note: Internal choice may be given in each CO at the same cognitive level (CL).

MODEL QUESTION PAPER
APPRECIATION OF ARCHITECTURE

V sem Architecture

Max Marks: **100**

Time: **3 Hours**

Note: Answer any SIX from Part A and any SEVEN from Part B

PART-A

6x5=30 marks

1. How arts and crafts movement helped in the development of Modern architecture?
2. Draw a neat sketch of 'Casa Mila Apartment'.
3. Sketch the elevation of Schroder House, Utrecht
4. Discuss the contribution of Walter Gropius to modern architecture.
5. Write a note on prairie houses.
6. Describe Fransworth House, Plano Illinois.
7. Sketch elevation of Kanchanjunga Apartments, Mumbai.
8. Summarize Centre for Development Studies, Trivandrum.
9. Draw a neat sketch of Sangath Ahmedabad.

PART-B

7x10=70 marks

10. Summarize the influence of industrialized materials and building techniques like steel, reinforced concrete, sheet glass on Modern architecture with examples.
11. Describe Eiffel Tower with neat sketch.
12. Explain the principles of organic architecture developed by Frank Lloyd Wright taking Falling water as an example.
13. Explain 'Skin and Bone' concept of Mies Van Dare Rohe taking Seagram Building as an example.
14. Explain Le Corbusier's theory on architecture taking Assembly Building, Chandigarh as an example.
15. Sketch and explain of Indian Institute of Management, Bengaluru.
16. Discuss the cost effective construction technique adopted by Laurie Baker with neat sketch.
17. Sketch and explain Mill owner's association, Ahmedabad.
18. Interpret architecture of Achyut Kanvinde taking Nehru science centre as an example.
19. Explain architecture of Zaha Hadid taking London aquatic centre as an example.

MODEL QUESTION BANK

5th Semester

Course title: APPRECIATION OF ARCHITECTURE

CO1: Evaluate Arts and Crafts and Art Nouveau movement.

Level-2: Understand

1. Describe Glasgow School of Art.

Level-3: Apply

1. Sketch the elevation of 'Casa Mila Apartment'.
2. Explain Casa Mila Apartment.
3. Sketch and explain Mackintosh's Glasgow School of Art.

Level-4: Analyze

1. Explain Theories of William Morris.
2. Explain the contribution of Antoni Gaudi taking 'Casa Mila Apartment' as an example.

Level 5: Evaluate

1. Evaluate how arts and crafts movement helped in the development of Modern architecture.

CO2: Outline the use of Industrialized construction materials used in early modern architecture with examples.

Level-2: Understand

1. Describe Sir Joseph Paxton's The Crystal Palace, London.

Level-3: Apply

1. Sketch the elevation of 'of Schroder House, Utrecht'.
2. Interpret the contribution of Walter Gropius to modern architecture.
3. Sketch and explain Gustav Eiffel – Eiffel Tower, Paris.
4. Sketch Villa Savoye.

Level -4: Analyzing

1. Analyze the development of architecture taking Rietveld's Schroder House, Utrecht as an example

Level 5. Evaluate

1. Evaluate contribution of Walter Gropius to modern architecture taking Bauhaus Buildings, Dessau as an example.
2. Justify Louis Sullivan's concept 'Form follows function' taking Wainwright Building as an example.
3. Summarize principles of Le Corbusier taking Villa Savoye, Poissy as an example.

CO3: Summarize the philosophies of modern architects during 20th century architecture in Europe.

Level-2: Understand

1. Explain five principles of architecture by LeCorbusier.
2. Explain London aquatic centre.
3. Summarize philosophies of Zaha Hadid.

Level-3: Apply

1. Sketch the elevation of Notre Dame – du – Haut, Ronchamp.
2. Sketch Vitra Fire Station , Weil am Rhein, Germany.

CO4: Sketch and explain the works of modern masters during 20th century in America

Level-2: Understand

1. Explain Falling water, Bear Run, Pennsylvania.
2. Write a note on Johnson Wax Factory, Racine, Wisconsin.
3. Explain Jonas Salk Institute, La Jolla, California.

Level-3: Apply

1. Sketch Falling water, Bear Run, Pennsylvania.
2. Sketch Johnson Wax Factory, Racine, Wisconsin
3. Sketch Jonas Salk Institute, La Jolla, California.

Level 5 :Evaluate

1. Interpret Organic Architecture by Frank Lloyd Wright taking Falling Water as an Example.
2. Justify 'less is more' concept of Mies Van Der Rohe taking Fransworth House, Plano Illinois as an example.
3. Explain 'Skin and Bone' concept of Mies Van Der Rohe taking Seagram Building as an example.

CO5: Evaluate thoughts and Philosophies of Indian architects during 20th Century.

Level-2: Understand

1. Explain in brief Gandhi Smarak Sangrahalay Ahmedabad.
2. Explain briefly 'The Hamlet' Baker's home in Trivandrum.
3. Explain in Brief Indian Institute of Management, Ahmedabad.
4. Describe B.V.Doshi's concept taking I.I.M Bengaluru as an example.
5. Explain the architectural features of Asiad Village - Delhi.

Level-3: Apply

1. Sketch Nehru Science Centre, Mumbai.
2. Sketch Centre for Development Studies, Trivandrum.

3. Sketch 'The Hamlet' Baker's home in Trivandrum.
4. Sketch Indian Institute of Management , Ahmedabad.
5. Write architectural features NDDDB Office Building – Delhi.


Level 4:

1. Identify the Low cost materials and Low cost techniques used in 'The Hamlet' Baker's home in Trivandrum.

Level 5 : Evaluate

1. Summarize Low cost techniques by Architect Laurie Baker.

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: ESTIMATING & COSTING-II		
	Scheme (L:T:P) : 4:0:0	Total Contact Hours: 52	Course Code: 15AR52T
	Type of Course: Lectures & Self-Study	Credit :04	Core/ Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

Pre requisites: Estimating and costing – I, Building construction and drawing - I & II

Course Objectives:

1. To determine the probable cost estimate for a building including interiors.
2. To compute quantity of wood for specified joineries.
3. To analyze from first principle, the rates of various interior items of a building.

At the end of the course, the students shall be able to –

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Prepare cost estimate of a building given its detail drawings & specification of the items	U/Ay	1,2,5,7,8	13
CO2	Analyse the rate per unit quantity for interior items	U/Ap/Ay	1,2,3	10
CO3	Determine the estimated cost with detail specification for interior items of a residential building whose detail drawings are furnished	U/Ap/Ay	1,2,3,9,10	13
CO4	Calculate quantity of wood for doors and windows whose component details are given	R/U/Ay	1,2,3	06
CO5	Prepare cost estimate for repair and renovation works of residential buildings	R/U/Ay	1,2,3,8	10
Total sessions				52

Course-PO Attainment matrix

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
Estimating and costing I	3	3	2	-	2	-	-	2	1	1

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit No	Unit Name	Hours	Questions to be set for (10marks) PART - A	Questions to be set for (10marks) PART - B	Marks weightage (%)
1	Estimation and costing of pitched roof Buildings	13	05	-	33.33
2	Analysis of rates (Interior items)	10	-	03	20.00
3	Estimation and costing of Interiors	13	-	03	20.00
4	Estimation of wood quantity	06	-	01	6.67
5	Estimation of Repair and renovation works	10	--	03	20.00
	Total	52	5(10)	10(10)	100

DETAILS OF CONTENTS

UNIT 1: Estimation and costing of pitched roof Buildings 13Hrs

Prepare the detailed estimate of quantities and abstract estimate of cost along with specifications of different items of works for the following types of buildings.

- a) Residential building with pitched roof (using RCC and AC /GI sheets with steel roof trusses)
- b) Mangalore tiled lean to roof Residential building having rafters and battens as roof supports

UNIT 2: Analysis of rates (Interior items) 10 Hrs

Analysis of rate for the following interior furniture and furnishings

- i) Wooden single seater Sofa using teak wood with cushions for seat and back rest
- ii) Double cot with mattress using ply wood and decorative laminates
- iii) Wardrobe using 19mm block board pre laminated both sides
- iv) Aluminum Partitions using glass and pre laminated particle board
- v) False Ceiling using Gypsum Board with GI Sections
- vi) Wall Paneling using teak wood frame work with ply wood and veneer
- vii) Curio unit using ply wood and decorative laminates

UNIT 3: Estimation and costing of Interiors 13Hrs

Prepare the cost estimate for interior furniture and furnishings for the following residential building units.

- i) Living - Single and three seater sofa with teapoy made of teak wood, Curio unit using ply wood and decorative laminates, door and window curtains with pelmet box
- ii) Bed room: Double cot with mattress using ply wood and decorative laminates, Dressing unit made of plywood and decorative laminate and Wardrobe using 19mm block board pre laminated both sides
- iii) Dining: Teak wood Dining table with glass top, teak wood chairs with cushion seat and back rest, crockery cabinet made of pre laminated block board and glass.
- iii) Kitchen: Low level and high level storage cabinets, cooking range and exhaust Chimney

Note: The process of estimating is to be carried out keeping in view the following points

- a) Detail analysis of rates ***should not be done*** for each item of work
- b) For every item, detail specification along with supporting sketches with dimensions need to be furnished.
- c) Use local prevailing rates for finished items.

UNIT 4 :Estimation of wood quantity**6Hrs**

Estimating the quantity of wood for following types of doors and windows

- 1) Doors - Fully paneled, single leaf and double leaf
- 2) Windows - Fully glazed shutters with mullion

UNIT 5 :Estimation of Repair and renovation works**10Hrs**

Cost estimation of Repair and renovation works for the following items of a residential building

- 1) Chipping and removing of existing interior and exterior wall plastering and plastering the same with 1:6 cement mortar
- 2) Scraping and removing of interior and exterior wall paint and providing the same with specified type of paint
- 3) Chipping and removing of existing flooring and providing the same with specified type of flooring
- 4) Removing existing damaged Doors, windows and ventilators and replacing them by specified type of new one
- 5) Dismantling of existing WPC and replacing the same with specified type WPC

REFERENCE TEXT BOOKS

- | | |
|--|-----------------------------------|
| 1. Estimating and Costing in Civil Engineering | - B.N. Datta |
| 2. Estimating and Costing in Civil Engineering | - M. Chakraborti |
| 3. Estimating and Costing in Civil Engineering | - S.C. Rangwala |
| 4. Estimating and Costing in Civil Engineering | - Mahajan |
| 5. Estimating and Costing in Civil Engineering | - P.L. Bhasin |
| 6. Estimating and Costing in Civil Engineering | - V.N. Vazirani and S.P. Chandola |

Web links

https://c.vmcndn.com/sites/www.aspenational.org/resource/resmgr/Technical_Papers/2015_May_TP.pdf

<http://www.productmanualguide.com/newpdf/construction-estimating-book-pdf.pdf>

Suggested student activities:

- 1) To conduct market survey and to collect information on interior building materials along with rates
- 2) To conduct market survey of finished interior furniture and furnishings

3) To prepare estimate for an existing pitched roof building and submit the same

Execution Note:

1. Maximum of 4 students in each batch for student activity
2. Any two activities (either from the list given or any similar activities) shall be assigned among different batches; may be assigned by the teacher based on interest of the students.
3. Project activities shall be carried out throughout the semester and present the project report at the end of the semester; concerned teacher is expected to observe and record the progress of students activities
4. Submit qualitative hand-written report not exceeding 6 pages; one report per batch
5. Each of the activity can be carried out off-class well in advance; however, demonstration/presentation should be done during laboratory sessions
6. Assessment shall be based on quality of work as prescribed by the following **rubrics** table

Model of rubrics for assessing student activity (for every student)

Dimension	Scale					Marks (Example)
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary	
1. Research and gathering information	Does not collect information relate to topic	Collects very limited information, some relate to topic	Collects basic information, most refer to the topic	Collects more information, most refer to the topic	Collects a great deals of information, all refer to the topic	3
2. Full-fills team roles and duties	Does not perform any duties assigned to the team role	Performs very little duties	Performs nearly all duties	Performs almost all duties	Performs all duties of assigned team roles	2
3. Shares work equality	Always relies on others to do the work	Rarely does the assigned work, often needs reminding	Usually does the assigned work, rarely needs reminding	Always does the assigned work, rarely needs reminding.	Always does the assigned work, without needing reminding	5
4. Listen to other team mates	Is always talking, never allows anyone to else to speak	Usually does most of the talking, rarely allows others to speak	Listens, but sometimes talk too much,	Listens and talks a little more than needed.	Listens and talks a fare amount	3
Total marks						ceil(13/4)= 4

Course Assessment and Evaluation:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment method	CIE	IA	Students	Three tests (Average of three tests)	20	Blue books	1,2,3,4,5,
				Assignment/activity	05	Assignment books/ Report	1,2,3,4,5
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1, 2,3,, Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,&5 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

FORMAT OF I A TEST QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks		
Ex: I test/6 th week of sem	V SEM	ESTIMATING AND COSTING-II	20		
	Year:	Course code:15AR52T			
Name of Course coordinator : CO's:_____			Units:___		
Q. no	Question	MARKS	CL	CO	PO
	Prepare the detailed estimate of quantities and abstract estimate of cost along with specifications for the following items of works for pitched roof Residential building.				
1	AC sheet roofing with steel truss	05	Ap	1	1,2,5,7,8
2	GI sheet roofing with steel truss OR DPC over plinth using CC 1:2:4	05	Ap	1	1,2,5,7,8
3	RCC roof slab using CC 1:2:4 OR BBM in superstructure in CM 1:6	05	Ap	1	1,2,5,7,8
4	Mangalore tiled lean to roof Residential building having rafters and battens as roof supports	05	Ap	1	1,2,5,7,8

Note: Internal choice may be given in each CO at the same cognitive level (CL).

Questions for CIE and SEE will be designed to evaluate the various educational components such as

Sl no	Bloom's Category	% weightage
1	Remembering and Understanding	20
2	Applying the knowledge acquired from the course	40
3	Analysis	30
4	Evaluation and Creating new knowledge :	10

MODEL QUESTION PAPER

V SEMESTER DIPLOMA EXAMINATION

Estimation and costing-II

Time – 3Hrs

Max Marks -100

INSTRUCTIONS: Answer all parts

PART A

1. Prepare the detailed estimate of quantities and abstract estimate of cost along with specifications for the following items of works for Residential building whose plan and sectional details are given in fig no-1of the accompanying sketch. **3X10=30**

- a) AC sheet roofing with steel truss
- b) BBM in superstructure in CM 1:6

OR

12 mm thick interior wall plastering using 1:6 cement mortar

- c) Red oxide Flooring over a base concrete of 1:4:8

OR

Dadoing of walls for a height of 2.1m in bath and w/c using glazed ceramic tiles

PART B

2) Analyze from first principle the rate for any two of the following items **2X10 =20**

- a) Wooden single seater Sofa using teak wood with cushions for seat and back rest
- b) Wardrobe using 19mm block board pre laminated both sides

OR

Aluminum Partition using glass and pre laminated particle board

3) Prepare the cost estimate for interior furniture and furnishings for any two of the following residential units. **2x10=20**

- i) Living: Single and three seater sofa with teapoy made of teak wood, Curio unit using ply wood and decorative laminates, door and window curtains with pelmet box
- ii) Bed room: Double cot with mattress using ply wood and decorative laminates, Dressing unit with stool made of plywood and decorative laminate and Wardrobe using 19mm block board pre laminated both sides
- iii) Dining: Teak wood Dining table with glass top, teak wood chairs with cushion seat and back rest, crockery cabinet made of pre laminated block board and glass and floor carpet

4) Estimate the quantity of wood for a fully paneled door, single leaf with the following component details **1x10=10**

Size of the door	-	1100mmx2100 mm
Frame	-	100mmx750mm
Style	-	100mmx40mm
Top rail	-	200mmx40mm
Bottom rail	-	250mmx40mm
Lock rail	-	150mmx40mm
Panel	-	25mm thick
Rebate	-	12mm

5) Prepare Cost estimation of Repair and renovation works for the following items of a residential building whose plan and sectional details are given in fig no 2 of the accompanying sketch **2x10=20**

a) Chipping and removing of existing interior wall plastering and plastering the same with 1:6 cement mortar

b) Removing existing damaged Steel Doors, windows and ventilators and replacing them by wooden doors, windows and ventilators

OR

Dismantling of existing WPC and replacing the same with Integral type WPC

Model question bank

10 Marks Questions

CO1 - Prepare cost estimate of a building given its detail drawings & specification of the items

Cognitive level – Applying

Prepare the detailed estimate of quantities and abstract estimate of cost along with specifications for the following items of works for pitched roof Residential building.

- 1) AC sheet roofing with steel truss
- 2) GI sheet roofing with steel truss
- 3) RCC roof slab using CC 1:2:4
- 4) Mangalore tiled lean to roof Residential building having rafters and battens as roof supports
- 5) Foundation concrete in CC1:4:8
- 6) Size stone masonry in footing and Basement in CM 1:6
- 7) DPC over plinth using CC 1:2:4
- 8) BBM in superstructure in CM 1:6
- 9) Cement concrete flooring in CC 1:4:8
- 10) 12 mm thick interior wall plastering using 1:6 cement mortar
- 11) 20 mm thick exterior wall plastering using 1:6 cement mortar
- 12) Fixing of fully paneled door, half paneled and half glazed window, fully glazed ventilator
- 13) Interior and exterior wall painting with specified type of paint
Dadoing of walls using glazed ceramic tiles in kitchen

CO2 - Analyse the rate per unit quantity for interior items

Cognitive level – Analyzing

Analyze from first principle the rate for the following items

- 1) Wooden single seater Sofa using teak wood with cushions for seat and back rest
- 2) Double cot with mattress using ply wood and decorative laminates
- 3) Wardrobe using 19mm block board pre laminated both sides
- 4) Aluminum Partitions using glass and prelaminated particle board
- 5) False Ceiling using Gypsum Board with GI Sections
- 6) Wall Paneling using teak wood frame work with ply wood and veneer
- 7) Curio unit using ply wood and decorative laminates

CO3 - Determine the estimated cost with detail specification for interior items of a residential building whose detail drawings are furnished

Cognitive level – Applying

Prepare the cost estimate for interior furniture and furnishings for the following residential units.

- i) Living: Single and three seater sofa with teapoy made of teak wood, Curio unit using ply wood and decorative laminates, door and window curtains with pelmet box
- ii) Bed room: Double cot with mattress using ply wood and decorative laminates, Dressing unit with stool made of plywood and decorative laminate and Wardrobe using 19mm block board pre laminated both sides
- iii) Dining: Teak wood Dining table with glass top, teak wood chairs with cushion seat and back rest, crockery cabinet made of pre laminated block board and glass and floor carpet
- iv) Kitchen: Low level and high level storage cabinets, cooking range and exhaust Chimney

CO4 - Calculate quantity of wood for doors and windows whose component details are given

Cognitive level – Applying

Estimating the quantity of wood for following types doors and windows

- 1) Doors - Fully panelled , single leaf and double leaf
- 2) Window - Fully glazed shutters with mullion

CO5 - Estimation of Repair and renovation works


Cognitive level – Applying

Determine the Estimated Cost of Repair and renovation works for the following items of a residential building whose plan and sectional details are given in fig

- 1) Chipping and removing of existing interior and exterior wall plastering and plastering the same with 1:6 cement mortar
- 2) Scraping and removing of interior and exterior wall paint and providing the same with specified type of paint
- 3) Chipping and removing of existing flooring and providing the same with specified type of flooring
- 4) Removing existing damaged Doors, windows and ventilators and replacing them by specified type of new one

5) Dismantling of existing WPC and replacing the same with specified type WPC

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: TOWN PLANNING		
	Credits (L:T:P) : 4:0:0	Total Contact Hours: 52	Course Code: 15AR53T
	Type of Course: Lectures, Self Study	Credit : 04	Core/ Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

Prerequisites: Basic knowledge of History of Architecture, Architectural drawing

Course Objectives:

- Explain the objects, necessity, and principles of town planning .
- Apply and appreciate the professional responsibilities in building bye –laws and National building code.
- Develop basic skills in designing simple landscape for residential building.

At the end of the course the students should be able to:

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Understand the concept of Town planning, its objects and principles.	R/U	1,2,5,7	06
CO2	Understand the various aspects of Zoning and building bye-laws. Learn to interpret keeping in view environment in a sustainable way.	R/U/Ay/Ap	1,2,4,5,6,7	12
CO3	Identify different types of residential and public buildings.	R/U/Ay/Ap/	1,2,4,5,6,7,9	10
CO4	Assess the effects of Industries and slums on town planning and find solutions to overcome its problems.	R/U/Ay/Ap	1,2,4,5,6,7	09
CO5	Focus on the various recreational requirements of town and neighbourhood unit.	R/U/Ay/Ap	1,2,3,4,5,6,7	09
CO6	Understand the objects and classifications of urban roads.	R/U/Ay/	1,2,3,4,5, 6,7	06
Total				52

**Legend- R; Remember U: Understand Ay: Analysis Ap: Application
C:Creation E: Evaluation**

§ Mapping Course Outcomes with Program Outcomes

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and Practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Lifelong learning
Town Planning	3	3	2	2	3	3	3	1	2	1

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Unit No	Unit Name	Hours	Questions to be set for (5marks) PART - A	Questions to be set for (10marks) PART - B	Marks weightage (%)
1	History of Town planning	06	01	02	17.25
2	Zoning and Building Bye-laws	12	02	02	20.69
3	Housing and Public buildings	10	02	02	20.69
4	Industries and slums	09	02	02	20.69
5	Recreation and Neighbourhood unit	09	01	01	10.34
6	Urban roads	06	01	01	10.34
	Total Hours	52	9(45)	10(100)	100

Detailed Course Contents

UNIT	CONTENTS	HOURS
1	History of Town planning: Introduction, objects, necessity and principles of Town planning, origin and growth of towns, brief study on types of town planning, Modern town planning in India, Planning theory by Patrick Geddes and lecorbusier.	06
2	Zoning and Building Bye-laws: Zoning : Definition, necessity, principles, advantages, aspects. Building Bye-laws : Objects, importance, functions of local authority, setbacks, Light plane and brief study of floor space index.	12
3	Housing and Public buildings: Housing : Requirements, classification of residential buildings, design of residential areas in cities, Housing in villages. Public buildings : Classification, location and design principles.	10
4	Industries and slums: Industries : Classification, their effects on town planning, regulation of their location and disposal of waste. Slums : Causes, effects of slum and slum clearance methods.	09
5	Recreation and Neighbourhood unit: Recreation: Parks, playgrounds and boulevards Neighbourhood unit: definition and principles	09
6	Urban roads: objects, requirements, classification, types of street systems, through and bypass roads, outer and inner ring roads, expressways, freeways.	06
	TOTAL	52

TEXT BOOKS/WEB LINKS

- Town Planning by Rangwala.
- Fundamentals of Town Planning by G.K Hiraskar.
- Town Planning by Abir Bandyopadhyay.
- www.moud.gov.in/
- www.uddkar.gov.in
- <https://www.karnatakahousing.com/>
- www.hudco.org
- www.ksdb.kar.nic.in
- <http://www.uddkar.gov.in>
- <http://www.urbantransport.kar.gov.in/>

COURSE DELIVERY: The course will be delivered through lectures and quizzes.

SUGGESTED STUDENT ACTIVITY:

1. Collect the town planning map of the nearby layout and study the land distribution as per zoning regulations.
2. Collect the data of the existing industrial layout.
3. Collect the data regarding various housing schemes and their importance and utility.
4. Visit the nearby slum clearance board, study the various schemes and prepare a report.
5. Prepare a detailed chart of various building bye laws and zoning regulations.
6. Study the various administrative approval processes for buildings and prepare a report.
7. List out the functions of Karnataka Slum Clearance board.
8. Prepare a report on the Smart City Concept.
9. Study the different modern slum improvement techniques and prepare a report.

NOTE:

1. Students should select any one of the above or other topics relevant to the subject approved by the concerned faculty, individually or in a group of 3 to 5. Students should mandatorily submit a written report and make a presentation on the topic. The task should not be repeated among students. Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:

Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.

Reports should be made available along with bluebooks to IA verification officer

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfil team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Convensions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1, Developing 2, Satisfactory 3, Good 4, Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conventions	5				
Total	14				
Average=(Total /4)	3.5=4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students					

Note: Dimension should be chosen related to activity and evaluated by the Course coordinator.

Course Assessment and Evaluation Scheme:

What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment method	CIE	IA	Three Test	20	Blue Books	CO1 to CO6
		Class room assignments	Assignments (suggested student activity)	05	Maintaining Log Book of activity	CO1 to CO6
		Seminars				
		Case Studies				
	Mini Project	Students				
SEE	End Exam	End of the course	100	Answer scripts at BTE	CO1 to CO6	
Indirect Assessment	Student Feedback on course		Middle of the course		Feedback forms	CO1, CO2, CO3 Delivery of course
	End of Course Survey		End of the course		Questionnaires	CO1 to CO6 Effectiveness of Delivery & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

MODEL QUESTION PAPER FOR CIE (TESTS)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks	
Ex: I test/6 th week of sem 10-11 Am	V SEM Year: 2017	Town Planning Course code:15AR53T	20	
Name of Course coordinator :				
CO's :CO1, CO2		Units: 1 & 2		
Note: Answer all questions				
Question	M	CL	CO	PO
1	5	R	COI	1,2,5,7
What are the necessities of Town planning? OR Define Town planning. List its objects.				
2	5	R	COI	1,2,5,7
List the principles of Town planning. Explain any one.				
3	5	R	COII	1,2,4,5,6,7
Define zoning. Explain its objects.				
4	5	R	COII	1,2,4,5,6,7
What is meant by Bye-law? List its objects.				

Note: Internal choice may be given in each CO at the same cognitive level (CL).

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

Sl. No	Bloom's taxonomy	% in Weightage
1	Remembering and Understanding	50%
2	Applying the knowledge acquired from the course	25%
3	Analysis	15%
4	Synthesis (Creating new knowledge)	10%
5	Evaluation	0%

V Semester Diploma Examination
ARCHITECTURE BOARD
TOWN PLANNING

Time: 3Hours

Max. Marks: 100

Instructions: (1) Answer any **six** Questions from **PART-A**.
(2) Answer any **seven** Questions from **PART-B**.

Part – A

Answer any six questions of the following.

6X5=30

1. Define Town planning. List its objects.
2. Define zoning. Explain its objects.
3. What is meant by Bye-law? List its objects.
- 4 List the requirements of good housing.
- 5 How are public buildings classified?
6. What are the advantages of concentration of Industries?
7. What are the causes of slums?
8. How are the parks classified according to character?
9. Mention the requirements of a good city road.

Part – B

Answer any seven questions of the following.

7X10=70

- 10.Explain briefly the salient features of satellite town with neat sketch.
- 11.What are the advantages and disadvantages of Ribbon development ?
- 12.Define density zoning. Discuss its advantages and disadvantages.
- 13.Explain the functions of Local authority in regulating bye-laws.
- 14.What are the advantages and disadvantages of skyscrapers?
- 15.Explain briefly the principles of design of public buildings.
- 16.State the classification of industry and explain their effects on town planning.
- 17.What are the causes and effects of slums?
- 18.Explain briefly the active type of recreation.
- 19.How are the urban roads classified? Differentiate between freeways and expressways.

Model Question Bank

CO-I : Understand the concept of Town planning, its objects and principles.

Remembering

1. Define Town planning. List its objects.
2. List the principles of Town planning. Explain any one.
3. What are the necessities of Town planning?

Understanding

1. Write a brief note on concentric spread concept of development.
2. What are the disadvantages of Ribbon development?

Analyse

1. Explain briefly the objects of Town planning.
2. Discuss the growth of towns according to origin.
3. What are the advantages and disadvantages of Ribbon development?
4. Explain briefly the salient features of satellite town with neat sketch.
5. Explain briefly modern town planning in India.
6. Explain town planning theory by Patrick geddes.
7. Explain briefly planning concepts of Le-corbusier.

CO-II : Understand the various aspects of Zoning and building bye-laws. Learn to interpret keeping in view environment in a sustainable way.

Remembering

1. Define zoning. List its objects.
2. List the principles of zoning.
3. What are the advantages of zoning?
4. What is meant by Bye-law? List its objects.

Understanding

1. Explain the objects of zoning.
2. Explain any two principles of zoning.
3. Write a note on Floor space index.

Analyse

1. Explain briefly the principles of zoning.
2. Discuss the advantages and disadvantages of density zoning.
3. Discuss the advantages and disadvantages of use zoning.
4. Elaborate the importance of building bye-laws.
5. How building bye-laws can be implemented effectively by imposing rules?
6. Explain the functions of Local authority in regulating bye-laws.
7. Explain briefly Light plane with a neat sketch.

CO-III : Identify different types of residential and public buildings.

Remembering

1. List the requirements of good housing.
2. Write a brief note on typical rural house.
3. What are the advantages of sky scrapers?
4. What are the disadvantages of sky scrapers?
5. How are public buildings classified?

Understanding

1. What are the principles of design of public buildings?
2. What is town centre ? What are its different forms?

Analyse

1. Differentiate between
 - a) Detached and semi detached houses
 - b) Apartments and sky scrapers
2. What are the factors to be considered while selecting the building site?
3. How are the residential buildings classified?
4. Explain briefly the principles of design of public buildings.

CO-IV : Assess the effects of Industries and slums on town planning and find solutions to overcome its problems.

Remembering

1. What are the advantages of concentration of Industries?
2. What are the disadvantages of concentration of Industries?
3. What are the causes and effects of slums?

Understanding

1. How are industries classified according to the nature of dependence on circumstances?
2. State the classification of industry and explain their effects on town planning.
3. Explain the methods of slum clearance.

CO-V : Focus on the various recreational requirements of town and neighbourhood unit.

Remembering

1. Write a brief note on boulevards.
2. Define neighbourhood. Discuss the principles of neighbourhood

Understanding

1. How are the parks classified according to character?
2. How are the parks classified according to size?

CO-VI : Understand the objects and classifications of urban roads.

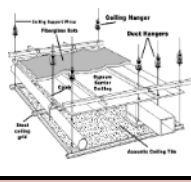
Remembering

1. Mention the requirements of a good city road.
2. How are the urban roads classified?
3. Define a freeway and mention its essential features.
4. Define an expressway and mention its essential features.

Analyse

1. Differentiate between ring road and expressways.
2. Differentiate between freeways and expressways.

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: BUILDING CONSTRUCTION & DRAWING - III		
	Scheme (L:T:P) : 2:0:4	Total Contact Hours: 78	Course Code: 15AR54D
	Type of Course: Lectures, Self-Study & Drawing	Credit : 04	Core/ Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

Pre-requisites: Architectural graphics, Materials of construction, Building construction and drawing

Course Objectives:

The course aims at enabling the students to

- Study the various building components and their functions.
- Prepare detailed construction drawings of various building components.
- Apply the knowledge of appropriate application of various materials in building construction.

On successful completion of the course, the students will be able to:

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Classify different types of plastering & pointing & their suitability.	U/A/Ay	1,4,5,6,8,10	09
CO2	Illustrate different causes and prevention of dampness and prepare necessary drawings.	U/A/Ay	1,4,5,6,8,10	06
CO3	Understand and Apply the various types of partition walls and prepare necessary drawings.	R/A/C	1,6,8,10	15
CO4	Understand the various types of shoring, shuttering and scaffolding and prepare necessary drawings.	R/U/A	1,4,5,6,8	15
CO5	Recognise different types of false ceiling and wall panelling and prepare necessary drawings.	U/A/C	1,5,8,10	21
CO6	Understand about retaining and curtain wall, shell & pre fabricated concrete structures and prepare necessary drawings.	U/A/C	1,4,6,10	12
Total sessions				78

R = Remember U = Understand A = Apply Ay = Analysis
C = Creation

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
	3	-	-	3	3	3	2	3	1	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit No	Unit Name	Hours	Questions to be set for (5marks) PART - A	Questions to be set for (20marks) PART - B	Marks weightage (%)
1	PLASTERING AND POINTING	09	02	-	6.890
2	DAMP PROOFING & WATER PROOFING	06	01	01	17.20
3	PARTITION WALLS	15	02	01	20.68
4	TEMPORARY SUPPORTING STRUCTURES	15	03	-	9.375
5	SUSPENDED CEILING & WALL PANELLING	21	02	02	31.250
6	MISCELLANEOUS STRUCTURES	12	02	01	18.750
	Total	78	12(60marks)	05(100marks)	100

DETAILS OF CONTENTS

UNIT I : PLASTERING AND POINTING

09 Hrs

Necessity of Plastering , Types and methods of plastering., Special materials used in plastering , Defects in plaster works ,Types and methods of pointing., Types of finishes.

UNIT II:DAMP PROOFING AND WATER PROOFING

06 Hrs

Definition, sources or causes for dampness, Effects of dampness, Materials used for damp proofing, Techniques & Methods of damp prevention, Water proofing methods for basement, concrete flat roof & sloped roof.

UNIT III: PARTITION WALLS**15 Hrs**

Definition, advantages and requirements of partition wall, types of partition wall (brick, concrete block, glass, timber and aluminium).

UNIT IV: TEMPORARY SUPPORTING STRUCTURES**15 Hrs**

- a) Formwork :- Definition, Requirements & material used for formwork, Formwork for wall & column footings, RCC columns, beams , slab & stairs.
- b) Scaffolding: - Definition, Parts of scaffolding, types of scaffolding, Materials used for scaffolding.
- c) Shoring :- Definition & types of shoring.

UNIT V: SUSPENDED CEILINGS AND WALL PANELLING**21 Hrs**

- a) Suspended ceiling :- Definition, Advantages, Materials used for false ceiling, construction method for exposed grid & concealed grid(seamless) false ceiling.
- b) Wall panelling :- Definition, Advantages, Materials used for wall panelling, Construction method for wall panelling

UNIT VI: MISCELLANEOUS STRUCTURES**12 Hrs**

Definition, purpose & advantages of

- a) Retaining wall
- b) Pre fabricated concrete structures
- c) Curtain wall and Structural glazing
- d) Shell structures
- e) Canopy and Pergola

**TEXT BOOKS**

1. Building construction by S.C.Rangwala
2. Building construction by Sushil kumar
3. Building construction by S.S. Bhavikatti
4. Building construction and drawing by W.B.Mckay
5. Building construction and drawing by M.G shah and kale
6. Building construction by S.P.Arora and S.P.Bindra

WEB LINKS

1. <https://evrosoriou.files.wordpress.com/.../construction-handbook-chudle/>
2. <https://www.youtube.com/watch?v=9ROrmRYOwf4/>

1. PREPARATION OF DRAWINGS COVERING ABOVE CONTENTS

1. **Plate 1-** Prepare sketches of damp proofing & water proofing at different parts of a building like foundation, floor, lintel, roof etc.,
2. **Plate 2-** Prepare plan, elevation and section of partition using Industrial timber.
3. **Plate 3-** Prepare plan, elevation and section of aluminium partition.
4. **Plate 4-** Prepare plan, elevation and section of partly glazed partition.
5. **Plate 5-** Prepare sketches of shoring (Raking, flying and dead shore).
6. **Plate 6-** Prepare reflected ceiling plan and cross section of exposed grid false ceiling using GI sections and acoustical tiles.
7. **Plate 7-** Prepare reflected ceiling plan and cross section of concealed (seamless) grid false ceiling using GI sections and gypsum board.
8. **Plate 8-** Prepare plan, section and elevation of a wall panelling using Industrial timber.
9. **Plate 9-** Prepare plan, section and elevation of an exterior wall using Structural glazing.
10. **Plate 10-** Prepare plan, section, and elevation of a canopy with pergola.

Note: Minimum one plate on each topic to be considered for CIE. Site visits to be arranged by course co-ordinator.

SUGGESTED LIST OF STUDENT ACTIVITIES

1. Each student should do any one of the following type activity or any other similar activity related to the course and before conduction, get it approved from concerned Teacher and HOD.
2. Each student should conduct different activity and no repeating should occur.

1	Visit to a ongoing construction site and make a note on methods of damp proofing and water proofing
2	Visit to a ongoing construction site and submit a detailed hand written report along with photographs on any one of following topic: a)False ceiling b) Wall paneling c) Curtain wall
3	Prepare a hand written report on Shell and Pre fabricated concrete structures .

Course Delivery:

- The course will be delivered through lectures and Power point presentations/ Videos.
- Teachers can prepare or download ppt on different topic's of Architectural engineering application, can prepare alternative slides.

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Three IA tests (Average of three tests will be computed)	10	Blue books	1,2,3,4,5,6
				Graded exercises	15	Sheets	2,3,4,5,6
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1 ,2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5,6 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 10 marks. Average marks of three tests shall be rounded off to the next higher digit. Average marks of Graded exercises shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (10 marks).
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

FORMAT OF I A TEST QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks		
Ex: I test/6 th week of sem 10-11 Am	V SEM	<u>BUILDING CONSTRUCTION & DRAWING-III</u> <u>15AR54D</u>	10		
	Year: 2017				
Name of Course coordinator : CO's: CO1 & CO2			Units:1 & 2		
Question no	Question	MARKS	CL	CO	PO
1	Discuss the purpose of plastering.	05	R	1	1,4,5,6,8,10
2	What are the causes for dampness? Or What are the effects of dampness ?	05	R	2	1,6,8,10

Note: Internal choice may be given in each CO at the same cognitive level (CL).

Questions for CIE and SEE will be designed to evaluate the various educational components (Bloom's taxonomy) such as:

Sl. No	Bloom's Category	% Weightage
1	Remembering & Understanding	10
2	Applying the knowledge acquired from the course	20
3	Analysis	30
4	Evaluation	10
5	Creating new knowledge	30

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

4. Blue books (10 marks)
5. Graded exercise (Portfolio) 15 marks
6. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

MODEL QUESTION PAPER
V Semester Diploma Examination
ARCHITECTURE BOARD
BUILDING CONSTRUCTION AND DRAWING-III

Time: 4Hours

(Max. Marks: 100)

Instructions: (1) Answer any **eight** Questions from **PART-A**.
(2) Answer any **three** Questions from **PART-B**.

PART-A

8X5=40

1. Discuss the purpose of plastering.
2. Distinguish between plastering and pointing.
3. Explain briefly the method of water proofing of flat roof with neat sketch.
4. What are the requirements of good partition wall?
5. Explain brick partition wall with neat sketch.
6. Discuss the advantages of steel form work over wooden formwork.
7. Define scaffolding. List different types of scaffolding.
8. What is shoring ? Explain briefly any two types of shoring.
9. What is suspended ceiling? Discuss its advantages.
10. Explain construction method of wooden wall panelling with a neat sketch.
11. Discuss the purpose and advantages of Pre fabricated structures.
12. Write a note on Retaining wall.

PART-B

3X20=60

13. Draw partly glazed partition wall measuring 5.0M wide and 3.0M ht. for an Architect office to a suitable scale. Assume necessary data. Draw the following.
 - a) Plan
 - b) Elevation
 - c) Section
 - d) Any one enlarged fixing detail
14. Design false ceiling for a showroom of size 10.0Mx5.0M using GI sections and gypsum board to a suitable scale. Draw the following.
 - a) Reflected ceiling plan
 - b) Section
 - c) One enlarged fixing detail
15. Draw wall paneling using Industrial timber for a wall of size of 4.0M wide and 3.0M ht. to a suitable scale. Assume necessary data. Draw the following.
 - a) Sectional plan
 - b) Elevation

- c) Longitudinal Section
 - d) One enlarged detail
16. a) Draw sectional elevation of Damp proofing a wall at roof level to a suitable scale.
b) Draw sectional elevation of waterproofing the basement to a suitable scale
17. Design structural glazing of a size 20.0MX20.0M for a commercial building to a suitable scale. Assume necessary data.
Draw the following.
- a) Plan
 - b) Elevation
 - c) Section
 - d) Any one fixing enlarged detail.

Model Question Bank

5 Marks Questions

CO-I : Classify different types of plastering & pointing & their suitability.
Remembering
<ol style="list-style-type: none"> 1. Define plastering. Discuss the purpose of plastering. 2. List the different methods of plastering. Explain any two. 3. What are the requirements of materials for plastering? 4. Define pointing. List the different methods of pointing.
Understanding
<ol style="list-style-type: none"> 1. Explain briefly the different types of plaster finishes. 2. Explain the various defects in plaster.
Analyse
<ol style="list-style-type: none"> 1. Distinguish between plastering and pointing. 2. Distinguish between two coat and three coat plastering.

CO-II : Illustrate different causes and prevention of Dampness. Prepare necessary drawings.
Remembering
<ol style="list-style-type: none"> 1. Define dampness. Discuss different causes for dampness. 2. List the different sources of dampness. Explain any two. 3. What are the effects of dampness? 4. List the different types of materials used for damp proofing. Explain any two.
Understanding
<ol style="list-style-type: none"> 1. Explain briefly the method of damp proofing in foundation with neat sketch. 2. Explain briefly the method of water proofing of flat roof with neat sketch.
Analyse
<ol style="list-style-type: none"> 1. Distinguish between damp proofing and water proofing.

COIII : Understand and Apply the various types of partition walls and prepare necessary drawings.
Remembering
<ol style="list-style-type: none"> 1. List the advantages of Partition wall advantages. 2. Define partition wall. List the different types of partition walls. 3. What are the requirements of good partition wall?
Understanding
<ol style="list-style-type: none"> 1. Sketch and explain brick partition wall. 2. Explain wood partition wall with neat sketch. 3. Sketch and explain glass partition wall 4. Explain aluminium partition wall with neat sketch.

CO IV : Understand the various types of shoring, shuttering and scaffolding and prepare necessary drawings.

Remembering

1. Discuss the advantages of steel form work.
2. Discuss the advantages of wooden form work.
3. Define form work. List the different types of form work.
4. Sketch formwork for column and label the parts.
5. Sketch formwork for footing and label the parts.
6. Define scaffolding. List different types of scaffolding.
7. List the advantages of steel scaffolding.
8. List the advantages of wooden scaffolding.
9. Define the following.
10. a) Ledgers b)Putlogs c)Bridle d)Transoms e)Toe board

Understanding

1. Explain briefly the formwork for footing/beam/column with neat sketch.
2. Explain briefly any two types of shoring.
3. Write a short note on flying shore with neat sketch.
4. Write a short note on raking shore with neat sketch.
5. Write a short note on dead shore with neat sketch.
6. Compare flying shore with raking shore.

CO V : Recognise different types of false ceiling and wall paneling and prepare necessary drawings.

Remembering

1. What is suspended ceiling? Discuss its advantages.
2. Write a note on Retaining wall.
3. Write a note on Shell structure.

Understanding


1. Explain the construction method of exposed grid false ceiling with neat sketch.
2. Explain the construction method of concealed grid false ceiling with neat sketch.

CO VI : Understand about retaining and curtain wall, shell & pre fabricated concrete structures and prepare necessary drawings.

Remembering

1. What is wall panelling? Discuss its advantages.
2. What are the purpose and advantages of Pre fabricated structures.
3. Write a note on Pre fabricated structure.
4. Write a note on Curtain wall.

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: ARCHITECTURAL DRAWING-III		
	Scheme (L:T:P) :0:2:4	Total Contact Hours: 78	Course Code: 15AR55P
	Type of Course: Tutorial and Drawing	Credit : 03	Core/ Elective: Core
CIE- 25 Marks		SEE- 50 Marks	

Pre-requisites: Architectural drawing , visual art and drawing and presentation technique

COURSE OBJECTIVE:

The course aims at enabling the students to

1. To emphasize the importance in designing built forms and open spaces that meet the aspirations of the community.
2. To enable the presentation of concepts through 2D and 3D presentation including sketches .

COURSE OUTCOMES:

On Successful completion of the course, the students shall be able to

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Conduct case studies of existing buildings and prepare a report.	R/U/A	2,3,4,5,7,8,9,10	12
CO2	Create schemes on the basis of bubble diagram showing interlinking of different spaces and prepare presentation drawings.	R/U/A	2,3,4,5,6,7,8,9,10	24
CO3	Develop working drawings and prepare constructional details.	R/U/A	2,3,4,5,6,7,10	33
CO4	Prepare sanction drawings based on bye laws.	R/U/A	2,3,4,5,7,10	09
Total sessions				78

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
Architectural Drawing III		3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit No	Unit Name	Hour
1	Introduction and case study	12
2	Presentation drawings.	24
3	Working drawings.	33
4	Sanction Drawings	09
	TOTAL	78

DETAILS OF CONTENTS

UNIT I: INTRODUCTION AND CASE STUDY

12Hrs

Introduction to given building as per space standards using anthropometric data,/ NBC(national building code) and prepare a case study report with supporting proportionate sketches/ photos. Introduction, scope and importance of working drawings, sanction drawings.

UNIT II: PRESENTATION DRAWINGS

24 Hrs

Develop alternative schemes on the basis of concept developed with the help of bubble diagram showing interlinking of different spaces. Design anyone given topic like Hotel / Show Room with office /Health care Centre/ Club House/Public Library/ Bank /Post office/ shopping Malls or **any similar buildings** .

(Minimum Ground + two floor with Built up area limiting to 450 to 500 SqM.).

Prepare presentation drawings for site plan, floor plans showing all openings with furniture layout, Elevations and sections for the same. Develop scale down model or 3D using CAD/ related software.

UNIT III: WORKING DRAWINGS

33Hrs.

Prepare working drawings : Centre line , Excavation , Floor plans, Sections, Elevations, Construction detailing like parapet, portico , balcony etc., Terrace plan showing rain water slope. Prepare Service drawings : Electrical, water supply and Sanitary layout including rain water harvesting , symbols as per NBC Standards.

UNIT IV: SANCTION DRAWING

09Hrs

Prepare sanction/ approval drawings for the above project as per the local Bye laws.

Note:

1. Above drawings should be covered through CAD drafting.
2. Students should submit all drawings in A3 size sheet in the form of portfolio along with case study covering the above topics for considering internal assessment marks.

Course Assessment and Evaluation:

Method	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
DIRECT ASSESSMENT	CIE (Continuous Internal Evaluation)	Drawing sheets	Students	***Average of marks of all graded exercises	25	Drawing sheets	1,2,3,4
	SEE (Semester End Examination)	End Exam		End of the course	50	Drawing sheets	1,2,3,4
				TOTAL		25	
INDIRECT ASSESSMENT	Student Feedback on course		Students	Middle of the course		Feedback forms	1,2,3 Delivery of course
	End of Course Survey			End of the course		questionnaire	1,2,3,4 Effectiveness of Demonstrations& Assessment Methods

***Average marks of Graded exercises shall be rounded off to the next higher digit.

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

Sl. No	Bloom's Category	%Weightage
1	Remembering & Understanding	10
2	Applying the knowledge acquired from the course	50
3	Analysis	10
4	Evaluation	10
5	Creating new knowledge	20

TEXT BOOKS

1. Building Drawing – Shah M G, Tata McGraw – Hill, 1992.
2. Building Planning & Drawing – Kumaraswamy N., Kameswara Rao A., Charotar Publishing
3. Time savers standards for architectural design data by John Hancock
4. Neufert's standards
5. Form, Space & Order by Francis DK Ching.

WEB LINKS

https://en.wikipedia.org/wiki/Architectural_drawing/


<http://www.authorstream.com/Presentation/ymahgoub-2010316-working-drawings-part/>

For SEE develop the following drawings. (Any building covering the above topic with built up area not exceeding 200-250 sq mts).

SCHEME OF EVALUATION FOR SEE

SL NO	DESCRIPTION	MARKS
1	Development of plan	05
2	Detailed working plan	15
3	Section and Elevation	10
4	Sessional works	15
5	Viva	05
	TOTAL	50

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: COMMUNICATION SKILLS LAB		
	Scheme (L:T:P) : 0:2:4	Total Contact Hours: 78	Course Code:15AR56P
	Type of Course: Assignment, Group task and practice	Credit : 03	Core/ Elective: Core(practice)
CIE- 25 Marks		SEE- 50 Marks	

Prerequisites: Enthusiasm to Explore New things by taking individual tasks and acquires skills from participating in group activities.

Course Objectives:

Professional development of Diploma architectural students is to be done by exposing them to various simulative situations in planning & construction industries. This is achieved by involving students in activities such as inviting experts from various industries for sharing their experiences, arranging ongoing construction site visits, seminars etc.

COURSE OUT COME

On successful completion of the course, the students shall be able to:

Course Outcome		CL	Linked activity	Linked PO	Teaching Hrs
CO1	Search the information related to topic, and acquire knowledge of contemporary issues related to advancements in Architecture	Analysis	1	2-10	15
CO2	Collect data of building materials & comparing technical specifications	Application/ analysis	2	2-10	18
CO3	Exposure to various construction materials & practice and societal needs by listening to experts talks and interact with them	Innovative /Analysis	3	2-10	15
CO4	Discuss & disseminate about advancements in related profession including societal, environmental related issues.	Application	4	2-10	15
CO5	Develop individual confidence and acquire life skills to handle various assignments	Analysis /Creation	5	2-10	15
		Total			78

COURSE-PO ATTAINMENT MATRIX



Course	Programme Outcomes									
	1	2	3	4	5	6	7	8	9	10
PROFESSIONAL PRACTICES	0	3	3	3	3	3	3	3	3	3
<p>Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed. Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO. If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3 If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2 If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1 If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.</p>										

1. Information Search, Data collection and presentation 15HRS

Information search can be done through internet, journals, websites, magazines; books etc.

Following are the suggested topics.

1. Master architects(abroad)
2. Indian architects
3. Contemporary works/designs
4. Heritage structures
5. Current affairs.
6. Infrastructures
7. Landscaping
8. Skyscrapers
9. Green buildings
10. Building automation
11. Vertical transportation
12. Acoustics.
13. Low cost houses
14. Cost effective technology
15. Fire fighting

Method for conducting Graded activities

1. The student should individually select the topic, and search the information related to topic.
2. The report is strictly hand written/typed document to have knowledge of precise writing and report making based on data collection
3. Carry out class room presentation.

2. Collecting market data and analysing for meaningful inferences:

18 Hrs.

Collecting data can be done through market survey, websites, magazines, etc.

Following are the suggested materials/products

1. Bricks
2. Cement
3. Cladding materials
4. Roof coverings
5. Water supply fittings.
6. Sanitary fittings



7. Electrical fittings
8. Hardwares
9. Plywood
10. Veneers
11. Laminates
12. False ceiling materials
13. Flooring tiles
14. Wall papers
15. M sand....etc

1. Collect data for any one building materials/ fittings / fixtures of two different producers/manufacturers used in construction which includes technical details, specifications, and cost and customer satisfaction.
2. Use appropriate tools and collect data from authentic sources. Depending on the source decide the number of units for collecting the data.
- 3 Analyse the data with a view to compare the building materials/ fittings/ /fixtures
4. Interpret the analysis for meaningful conclusions.
5. Record the whole process for any other person to verify.

Method for conducting Graded activities

- ❖ The student should individually select the product, and collect the information related to materials/products.
- ❖ Given a product/equipments/service, one must collect adequate information from an authentic source for each, like the company website/local dealer or the printed brochure and record the specifications
- ❖ The maintenance of quality of the product/service needs to be studied from personnel working at different levels in the company (3 -5 in number) for each product/service. A set of questions needs to be prepared for collecting data. The same questionnaire has to be used for collecting data from the personnel mentioned above
- ❖ One must compare the two products for all the parameters based on the specifications. Also, a market survey has to be done preparing a printed questionnaire of around 5 questions and collecting responses from different customers. Then, analyse the data, compare them and interpret the analysis for meaningful conclusions.
- ❖ Prepare a detailed report hand written/typed document based on data collection
- ❖ Carry out class room presentation.

Note: This being a comprehensive task may require few weeks to finish. The data collected and the analysis carried out need to be documented.



3. Guest Lecturers: To be organized from any two of the following areas 15 HRS

Experts / Professionals from different field/industries are invited to deliver lectures at least TWO sessions in a semester. The topics may be selected by the teacher /industry expert to develop required skills.

Note: The ISTE student chapter/IIAchapter/ Institute of engineers (Institute chapter)/ student clubs of polytechnic may be used as platform to conduct this activity.

1. Pollution control.
2. Non destructive testing.
3. Fire Fighting / Safety Precautions and First aids.
4. Computer aided presentations.
5. Career opportunities,
6. Yoga Meditation,
7. Aids awareness and health awareness.
8. Use of special fittings/fixtures.
9. Nonferrous Metals and alloys for engineering applications
10. Computer aided drafting.
11. TQM
12. Composite Materials.
13. Alternate building materials
14. Ceramics
15. Sustainable buildings
16. Interview Techniques.

Method for conducting Guest lectures

1. The teacher/ISTE student chapter convener should fix up the date for guest lecture
2. The students of class allowed to participate in the session
3. Watch the talk and make the brief hand written report on the guest lecture delivered by each student as a part of Term work.
4. Make Audio/visual record of the guest lecture by using any smart devices
5. Opportunity should be provided for students for live Interaction with experts and record it on any one smart device.

4. Group Discussion: (One topic)

15HRS

The students shall discuss in group of six students .Some of the suggested topics are

1. Social networks-boom or curse
2. Do we really need smart cities?
3. E – Books or Printed books – what's your choice?
4. Globalization and its impact on Indian Culture.
5. Analytically evaluate the solutions to traffic problems
6. Global warming is caused more by developed countries
7. Rain forests help in maintaining the earth's ecosystem
8. Reservation for women would help the society
9. How to deal with terrorism
10. Water resources should be nationalized
11. Daughters are more caring than sons
12. NGOs - Do they serve people's interests?
13. Managers are born, not trained



14. Managerial skills learnt in the classroom
15. Women are good managers
16. Nuclear power is a safe source of energy
17. Electronic media vs. print media
18. Corruption is the price we pay for democracy
19. Multinational corporations: Are they devils in disguise?
20. Advertising is a waste of resources.
21. Privatization will lead to less corruption.
22. China market - a threat to Indian market
23. Smaller businesses and start-ups have more scope
24. Developing countries need trade, not aid.
25. Business and Ethics do not go together
26. Depreciation of Indian Rupee has only negative impact on the economy
27. Freedom of press should exist
28. Media is a mixed blessing/How ethical is media?
29. Food Bill - Is it really something India needs?
30. Will India really be the superpower of 21st century?
31. Quality is a myth in India.
32. Indian villages - our strength or our weakness?
33. Mobile phones - requirement of the day.
34. Education is a progressive way of discovering your ignorance.
35. Beauty contests degrade womanhood
36. If you are not a part of the solution, you are part of the problem
37. Examinations - has it killed education?
38. The medium of teaching in schools should be English
39. E-Learning is good for the education system and society

Methodology for conducting Group discussion/Seminar

1. The teacher will allot a topic for a group of five/ six students
2. The teacher should give an introductory talk on Ways and rules to carry out group discussion
3. The students should ask to show interest with others and work effectively with them to meet common objective. The teacher should provide tips to accept feedback in a constructive and considerate way and how to handle frustrations in group, while discussion.
4. The placement officer and any other senior faculty of the institute/ HOD of other department should be invited and they should act as observing members, apart from teacher
5. The teacher should fix up the time duration for initiating and moderate the activity.
6. **Documentation to be produced for validation**
 - Hand written document on minutes of discussion, description of the topic discussed
 - Record the few minutes of discussion by smart device

5. Individual Assignments and Life skills

15HRS

The students will perform ANY ONE of the following activities individually (other similar activities may be considered) in both the sections

A. Individual assignments



1. Making site visit and collecting information pertaining to process of construction with photographs.
2. Study of brick masonry bonds/lintels and arches
3. Survey of construction materials – specifications, properties, costs, manufacturers names etc.
4. Study on preparation of concrete at site including tools and devices used.
5. For a given job write a sequence of operations performed by a suitable system. Draw a flow diagram above operations
6. Survey of types of construction equipments used and their advantages, limitations and cost.

B. Life skills

1. Conduct aptitude, general knowledge test, IQ test, Solve Puzzles.
2. Set the goal for personal development.
3. Develop good habits to overcome stress.

Methodology for conducting activity

1. The teacher will assign a topic for individual student; give sufficient time to complete the task. Ask the student to submit a report
2. The teacher should conduct any one specified life skill activity with local NGO/ placement cell/ISTE student chapter/NCC/ NSS unit of the institute. The student should present his/her experiences in a class and make report.
- 3 The subject teacher(s) have liberty to select nearby organization/industry of local vicinity with prior approval of principal of the institute
- 4 Prepare a word processing report of the visit including details observations made, Details of visit should be mentioned with date , place

Course Delivery:

The course will be delivered through discussions and activities

Course Assessment and Evaluation Scheme:

	What	To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes



Direct Assessment meth	CIE	IA	Students	Each activities @5 marks each	25	Report	1,2,3,4,5
				End of the course	50	Answer scripts at BTE	1,2,3,4,5
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1,2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3, Effectiveness of Delivery of instructions & Assessment Methods

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Student activities report for 25 marks
2. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

For end examination:

1. **Note for examiners :** The records of the activities should be preserved in the department for minimum three years and the examiner should verify these records to prevent duplication of the activity

Scheme of Valuation for End Examination

Serial no	Description	Marks
1	Report on Information Search and Data collection	10
2	Report on market survey and Data collection	10
3	Document on Guest Lecturer by experts	10
4	Recording of Group discussions made by any smart devices	10
5	Report on Individual assignment/ Life skill activity recorded	10
	TOTAL	50



• MODEL OF RUBRICS /CRITERIA FOR ASSESSING STUDENT ACTIVITY

RUBRICS FOR ACTIVITY(5 Marks)						
Dimension	Unsatisfactory	Developing	Satisfactory	Good	Exemplary	Student Score
	1	2	3	4	5	
Collection of data	Does not collect any information relating to the topic	Collects very limited information; some relate to the topic	Collect much information; but very limited relate to the topic	Collects some basic information; most refer to the topic	Collects a great deal of information; all refer to the topic	Ex: 4
Fulfil team's roles & duties	Does not perform any duties assigned to the team role	Performs very little duties but unreliable.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team roles	5
Shares work equally	Always relies on others to do the work	Rarely does the assigned work; often needs reminding	Usually does the assigned work; rarely needs reminding	Normally does the assigned work	Always does the assigned work without having to be reminded.	3
Listen to other Team mates	Is always talking; never allows anyone else to speak	Usually does most of the talking; rarely allows others to speak	Talks good; but never show interest in listening others	Listens, but sometimes talk too much	Listens and speaks a fair amount	2
Average / Total marks=(4+5+3+2)/4=14/4=3.5=4						

Note: This is only an example. Appropriate rubrics/criteria may be devised by the concerned faculty (Course Coordinator) for assessing the given activity



MODEL QUESTION PAPER

- Semester Diploma Examination

Course Title: **COMMUNICATION SKILLS LAB**

Time: **3 Hours**]


[Max Marks: **50**

1. Write brief note on information searched and data collected activity 10marks
2. Give brief explanation about knowledge acquired by you during the guest lecture 10 marks
3. Write the conclusion of the topic given for the group discussion 10 marks
4. Write brief note on individual assignment performed and information gathered and data collected activity 10marks
5. Write the sequence of processing followed in the industry/work shop You have visited 10 marks

Note: The marks should be awarded on the basis of Reports/Documents submitted by the student



Government of Karnataka
Department of Technical Education
Bengaluru

	Course Title: - Computer Aided Presentation Techniques		
	Scheme (L:T:P) : 0:2:4	Total Contact Hours: 78	Course Code: 15AR57P
	Type of Course: Tutorial and practice	Credit : 03	Core/ Elective: Core (practice)

Prerequisites

Basic knowledge of computers, CAD, aptitude for designing, drawing and rendering and materials.

Course Objectives

- 1 To introduce students to use computer aided presentation techniques for visual analysis and investigation of shape, form, materials, light and shadow.
- 2 Apply knowledge of 3D software and rendering solutions.
- 3 Investigate into alternate possible solutions.
- 4 Prepare 3d presentations.

At the end of the course, the students shall be able to:

Course Outcome	
CO1	Study, apply and practice 3d software to analyze and investigate shape, form.
CO2	Express and communicate design solutions by exploring and practice of intensive study of software and presentation through progressive scaling of a particular design project (different viewpoints, 3D modeling and rendering).
CO3	Produce variations by manipulations of light, shadow, colour, texture, materials etc.
CO4	Apply graphic design techniques for preparation of portfolio.

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
	3	3	3	3	1	3	2	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.
 If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3
 If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2
 If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1
 If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit I. Basic tools and interface.

3 Hrs.

- 1 Selecting a template in Sketchup. Exploring the SketchUp interface: Title bar, Menu bar, Getting Started toolbar. Drawing area. Status bar. Window resize handle.
2. Learning how to use SketchUp tools. Viewing the SketchUp Quick Reference Card.

Unit II. produce models.

18 Hrs.

1. Creating your first 3D model in SketchUp. Saving and reopening a model. Backing up a SketchUp file or restoring an Auto-save file.
2. Drawing Lines, Shapes, and 3D Objects. Introducing Drawing Basics and Concepts. Drawing Basic Shapes. Selecting Geometry. Pushing and Pulling Shapes into 3D. Drawing Arcs. Drawing Freehand Shapes. Dividing, Splitting, and Exploding Lines and Faces. Moving Entities Around. Stretching Geometry. Copying What You've Already Drawn. Erasing and Undoing. Flipping, Mirroring, Rotating and Arrays. Scaling Your Model or Parts of Your Model. Extruding with Follow Me. Softening, Smoothing, and Hiding Geometry. Offsetting a Line from Existing Geometry. Measuring Angles and Distances to Model Precisely. Modeling Complex 3D Shapes with the Solid Tools. Adding Text, Labels, and Dimensions to a Model. Adjusting the Drawing Axes. Customizing Your Model's Background. Letting the Fog Roll into Your Model. Modeling Specific Shapes, Objects, and Building Features in 3D.
3. Viewing a Model. Choosing a Style. Applying Colors, Photos, Materials, and Textures. Adding Premade Components and Dynamic Components. Organizing a Model. Developing

Components and Dynamic Components. Classifying Objects. Modeling Terrain and Other Rounded Shapes. Using SketchUp Data with Other Modeling Programs or Tools.

Graded exercises:

Basic Shapes, Freehand Shapes, 3D Shapes with the Solid Tools.

Unit III. furniture and buildings.

36 Hrs

Graded exercises:

1. Basic furniture –

a) Rectangular table.

b) Three seater sofa

c) Dining table with chairs.

d) Cabinet with doors and drawers.

2. Building modelling

a) Exterior view of a residence, restaurant/any public building based on previous academic activities.

b) Living room interior view showing all furniture.

c) Kitchen interior view showing slab, cabinets etc.

d) Bed room interior view showing cot, wardrobe and dressing unit .

e) Toilet interior views.

3. Importing and exporting models – 3d Warehouse and CAD.

Unit IV rendering models

18 Hrs

1. Introduction to Brighter 3D.

2. Settings. Effects studio.

3. Materials editor. Transparent materials to glass.

4. Practice of rendering by experimenting and exploring.

5. Render, print and produce a portfolio of any two projects from unit III 2.

LIST OF LEARNING WEBSITES:

<http://designerhacks.com/sketchup-tutorials/>

<http://www.sketchuptutorials.net/2011/10/21/sketchup-basics-tutorial-part-2-creating-your-first-building/>

<http://designstudentsavvy.com/sketchup-floor-plan-tutorial/>

<http://www.sketchupartists.org/tutorials/sketchup-and-thea-render/>

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Graded Exercises	25	Portfolio.	1,2,3,4
	SEE	End Exam		End of the course	50	Drawing Sheets at BTE	1,2,3,4
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1, 2, 3, Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4.Effectiveness of Delivery of instructions & Assessment Methods

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

Sl. No	Bloom's Category	% Weightage
1	Understanding	40
2	Applying the knowledge acquired from the course	45
3	Analysis	10
4	Evaluation and Creating new knowledge	05

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Student portfolio 25 marks

2. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

Scheme of Evaluation for End Exam

Sl. No.	Scheme	Max. Marks
1	Concept	05
2	Development	05
4	Presentation drawings	20
5	Internal Work (Portfolio)	15
5	Viva voce	05
Total		50

MODEL QUESTION PAPER

Third Semester Diploma in Interior Decoration

Course Title: **Computer Aided Presentation Techniques**

Course Code: **15ID55P**

Time: **4 Hours**


Max. Marks: **50**

1. Prepare 3d model for a single bed room residence as per the given sketch and submit the following.

Presentation drawings:

1. 3d model -3 perspective views 30
2. Internal work (Portfolio). 15
3. Viva-voce. 5

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: PROJECT WORK-I		
	Scheme (L:T:P) : 0:1:2	Total Contact Hours: 39	Course Code: 15AR58P
	Type of Course: Lectures, Self-Study & Drawing	Credit : -	Core/ Elective: Core
CIE- 25 Marks		SEE - NO SEE	

Pre-requisite: All courses of Architecture Programme & Inter disciplinary courses.

Course objectives

1. To develop the student's knowledge and skills over the programme of studies in architecture .
2. To identify what types of knowledge architects draw on and develop in working to initiate projects.

Course Outcome

Upon successful completion of this course, students shall be able to

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Identify the project , prepare initial synopsis for the selected thesis project and analyze the thesis topic	R/U/Ap/ Ay/C/E	1 to 10	03
CO2	Perform Case study with sketches and Photographs	R/U/Ap/ Ay/E/C	1 to 10	15
CO3	Carry out Space requirements	R/U/C/E	1 to10	12
CO4	Select site and produce site analysis.	R/U/C/E	1 to10	09
Total sessions				39

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
PROJECT WORK-I	3	3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

Note: The students shall be guided by an individual guide or a panel of guides at various stages.

During the course of the project , the student s have to perform the following tasks.

1. **Project topic selection** : Initial synopsis for the selected thesis project, conceptual study on the thesis topic shall be submitted in the form of a report with appropriate reference, bibliography etc.
2. **Case studies**: Case study to be carried on any two buildings of same type related to the selected topic. Case study should be conducted considering the scope, requirements and area in the guidelines along with Photographs and architectural drawings of the same .
3. **Literature review**: Detailed study to be done related to history of the selected topic, current design trends and philosophies etc.
4. **Space requirements**: Data collection, area analysis, space requirements and anthropometric data.
5. **Site selection** : Site to be selected (either Live or Hypothetical) and analysis to be carried out along with location plan and photographs.

Note: Each student has to maintain Log Book reflecting their progress of work in chronological order .

Some of the Design Topics are suggested below. The students may choose any one of the following project or any other project they desire.

- Residences / Apartments / Villas / Bungalow / Row house / Farmhouse
- Housing Scheme for a small Industrial colony
- Shopping Malls / Office buildings / Architect's office
- Kindergarten / primary school / Secondary school / Residential school

- School of Architecture / college building / Law school / Small Institutional building
- Bank / Post office / Public Library
- Primary Health centre / Nursing home / Hospital
- Community / Convention Hall / Small Auditorium
- Restaurant , Hotel / Resort / Motel / Canteen / Club house / Hostel
- Museum / Art gallery / Exhibition pavilion
- Institute for Differently abled / Old age home
- Bus terminal / Automobile showroom
- Gymkhan / Health club

Note :

1. Students should submit all drawings of case study in the form of portfolio covering the above topics.
2. Students should prepare 2 copies of report . One report to the college and one has to be carried to 6th Sem SEE.

Course Assessment and Evaluation Scheme for 5th semester

	What		To whom	When/Where (Frequency in the course)		Max Marks	Evidence collected	Course outcomes
Direct Assessment meth	CIE	IA	Students	SYNOPSIS	05M	25	SHEETS & REPORT	CO1, CO2, CO3,CO4
				CASE STUDY SHEETS	10M			
				REPORT	10M			
	SEE	End Exam		End of the course	NO SEE			
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms		
	End of Course Survey			End of the course		Questionnaires		CO1 to CO4 Effectiveness of Delivery of instructions & Assessment Methods

*CIE – Continuous Internal Evaluation

*SEE – Semester End Examination

**GUIDELINES AND FORMAT FOR PREPARING PROJECT REPORT
FOR V SEMESTER
DIPLOMA IN ARCHITECTURE**

1. ARRANGEMENT OF CONTENTS:

The sequence in which the project report material should be arranged as follows:

1. Cover Page
2. Title Page
3. Bonafide Certificate
4. Table of Contents
5. Chapters
6. References

2. PREPARATION FORMAT:

Cover Page & Title Page – A specimen copy of the Cover page & Title page of the project report.

Bonafide Certificate – The certificate shall carry the PROJECT COORDINATOR signature and shall be followed by the name, academic designation (not any other responsibilities of administrative nature) department and full address of the institution where the coordinator has guided the student. The term '**PROGRAMME COORDINATOR**' must be typed in capital letters between the coordinator's name and academic designation.

Cover page

(A typical Specimen of Cover Page)

TITLE OF PROJECT

<1.5 line spacing>

Submitted by
NAME OF THE CANDIDATE

<Italic>

*in partial fulfilment for the award of the diploma
of*

<1.5 line spacing><Italic>

DIPLOMA IN ARCHITECTURE PROGRAMME

IN
DEPARTMENT OF ARCHITECTURE

LOGO

NAME OF THE COLLEGE

DEPARTMENT OF TECHNICAL EDUCATION

BENGALURU-560001

<1.5 line spacing>

Year of submission: (MONTH & YEAR)

Title page

A Project Report
on

<TITLE OF THE PROJECT WORK>

Submitted for partial fulfilment of the requirements for the award of the
of

DIPLOMA IN ARCHITECTURE

IN

DIPLOMA IN ARCHITECTURE PROGRAMME

BY

BATCH

<Mr. / Ms. Name of the Student (Roll No.)>

Under the guidance of

<Name of the Staff>

Department of ARCHITECTURE

<<NAME OF INSTITUTE>>

<<ADDRESS OF INSTITUTE>>

Certificate

(A typical specimen of Bonafide Certificate)

**DEPARTMENT OF TECHNICAL EDUCATION
BENGALURU-560001**

BONAFIDE CERTIFICATE

Certified that this project report “.....TITLE OF THE PROJECT.....”
is the bonafide work of “.....NAME OF THE CANDIDATE
who carried out the project work under my supervision.

<<Signature of the Head of the Department>>

<<Signature of the Project coordinator>>

SIGNATURE

SIGNATURE

<<Name>>

<<Name>>

PROGRAM CO ORDINATOR

PROJECT CO ORDINATOR

<<Academic Designation>>

<<Department>>

Department of Architecture

<<Full address of the Dept & College >>

<<Full address of the Dept & College >>

Examiners 1.....<<Signature, Name, Designation& Address>>.....

Examiners 2.....<<Signature, Name, Designation& Address>>.....

TABLE OF CONTENTS

PAGE NOS.

CHAPTER I	
INTRODUCTION	
CHAPTER II	
CASE STUDY WITH SKETCHES/PHOTOS	
CHAPTER III	
SPACE REQUIREMENTS	
CHAPTER IV	
SITE ANALYSIS	

REFERENCES & APPENDIX
(REPORT SHALL NOT EXCEED 35-40 PAGES)

ROADMAP FOR PROJECT GUIDES

1. The project work is proposed to be carried out during the V and VI semesters so that learners prepare during the V semester, do some field work based on the preparation during the mid semester vacation and report the analysis and inferences during the VI semester.
2. The learners would reach a level of maturity by the time they reach V semester and so a meaningful project lasting for a year can be executed by them.
3. To execute the project with involvement needs constant guidance and monitoring of the progress of the learners by the guide.
4. This does not mean teacher has to advice learners.
5. Be confident about the ability of the learner and “intellectually provoke” them with challenging questions. These questions should prompt the learners to search information and update themselves (to be carried out during the first two weeks).
6. Do not feed information to learners. Instead crate a ‘cognitive dissonance’ (a challenging question or situation that the learner is not able to find an immediate answer but feels the need to search for information to find a solution).
7. Defer judgement on learners and give them identified sources if required like a journal article, book or a web site.
8. Even if the learners report their inability to solve do NOT give or prescribe a solution.
9. Be patient and give time for the learner to construct his knowledge.
10. Give corrective feedback to the learner by challenging his solutions so that his logic is questioned and it develops further.
11. This leads to the first activity viz., literature survey and conceiving a project.
12. During this phase meet the project team in a group and create a healthy competition among the learners to search different sources and synthesise their findings in the group.
13. Aim for bringing out a workable innovative project conceived within the first eight weeks as given in the schedule attached.
14. During these two phases and the third phase the teacher should assess the strengths and weakness of the members of the group and allocate differential work to team members on the remaining tasks to be carried out during the next thirty weeks.
15. This is to ensure active participation of all the members of the team.
16. By the end of the twelfth week finalise the project and a schedule of further activities for each member indicating the time frame in which his activities are to be executed may be made ready. A soft copy of this schedule may be collected from each learner by the guide to follow up.
17. This schedule prepared by each learner need to be documented for checking further progress of the project.
18. The next few phases of the project may require active guidance of the guide especially regarding the sources of collecting data.


19. Data like drawings, designs, technical specifications, source code, protocols and original records need be collected from one authentic source as there will not be any variation. The teacher may guide the learners to authentic source.
20. All the above activities need to be completed before three to four weeks before the end of V semester.
21. The learners may be instructed to collect data objectively with identified Project during the next 4 to six weeks which includes the mid semester holidays. This would enable the learners to visit the field and collect data without the constraint of reporting to institution and attending classes on a regular basis.
22. Interpretation of the analysed tables and graphs to arrive at meaningful inference. The guide at this stage may defer his ideas on interpretation allowing the learners to do this. I
23. A report of the whole process of doing the project may be written, word processed and submitted in duplicate.
24. Innovations and innovative practices may be encouraged among the learners to be pursued as a project. Developing prototypes, (in simulation or real) trying out feasibility of new ideas, changing existing systems by adding modules, combining, assembling new modules and developing new systems may be given priority.
25. External guide may be involved in conceiving, executing and evaluating projects. This gives credibility to the institute and acceptance of learners for absorption into the company.

GUIDELINES TO LEARNERS TO CARRY OUT A TWO SEMESTER PROJECT

1. Carry out the project work through the V and VI semesters. Case study must be done during the V semester and based on this, field work should be done during the mid semester vacation and reporting of analysis and design should be done in the VI semester.
2. You have the ability and the level of maturity needed to conceive an innovative and meaningful project accomplishing which gives you recognition by the industry and empowers you with the power of knowledge.
3. Understand your strength and weakness and make an effort to find the strength and weakness of other peers in the team.
4. Complement each other's strength rather than compete with peers within the team. This will enable you to complete a comprehensive and innovative project relevant to the industrial needs rather than doing a routine copy of what others have done.
5. Seek guidance from the teacher and update him/her about the progress.

6. Be confident about your ability and that of other members of your group. Take extra efforts to collect information, share with your peers and synthesise your knowledge.
7. Question everything including the ideas of your teacher. Accept the ideas and instructions which are internally consistent (logical).
8. Involve actively in group activities and contribute towards the tasks.
9. Do not depend too much on the teacher as a source of information, search on your own and build your knowledge structure. Search for authentic sources like journal articles, books and authentic sites rather than blogs and tweets.
10. Though brief, record your thoughts and activities including searches immediately.
11. Prepare a schedule for your work on a spread sheet and encourage your peers to do the same.
12. Show your schedule and that of others to the teacher and get his feedback.
13. Keep reviewing the schedule every fortnight and take corrective steps if needed. For doing this keep the general guideline schedule given in the curriculum as a backdrop.
14. Collect data dispassionately or objectively (without applying your personal prejudice). Complete this task before the VI semester begins.
15. While entering data into the spread sheet ask your peer member to verify. This will ensure accuracy of data entry.
16. The results of your case study analysis need to be documented. You may also add photographs and video clips to increase the validity.
17. The project task such as designs, drawings etc needs to be completed within 10 weeks after commencement of VI semester.
18. Interpret the data (after analysis) and arrive at meaningful inferences on your own in discussion with your peers. Get it ratified by your teacher. Suggestions from the teacher may be discussed among your peers and incorporated if they are internally consistent.
19. The project report may be word processed (videos, photographs attached in soft copy) and submitted in duplicate one week before the end of VI semester.
20. Involve passionately in the team work, make constructive contributions and come out with an industry friendly project which will equip you in your professional development.

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: PROFESSIONAL PRACTICE		
	Scheme (L:T:P) :4:0:0	Total Contact Hours: 52	Course Code: 15AR61T
	Type of Course: Lectures, Self-Study .	Credit : 04	Core/ Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

Pre-requisites : Professional ethics, Estimation & costing.

Course Objectives:

The course aims at enabling the students to

- Illustrate the architects profession, duties & responsibilities of the profession.
- Understand the liabilities & architects professional code of conduct.
- Analyze the concept of Tenders & Contract.

On successful completion of the course, the students will be able to:

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Focus on code of conduct, social responsibility essential for Architectural practice.	R/U/A	1,2,4,5,6,7,8 10	08
CO2	Understand duties & liabilities towards client, contractor, society and professional bodies.	U/A	1,2,6,7,8,10	10
CO3	Illustrate the methods & process of arbitration	R/U	1,4,5,6,7,8	04
CO4	Employ appropriate practices to award a tender.	U/Ay/A	1,5,7,8,10	10
CO5	Demonstrate general principles of contract	U/Ay/A	1,4,6,7,10	12
CO6	Apply valuation theory to justify site value	U/Ay/A	1,4,7,9,10	08
Total sessions				52

R = Remember U = Understand A = Apply Ay = Analysis
C = Creation

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
PROFESSIONAL PRACTICE	3	2	-	3	3	3	3	3	1	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit No	Unit Name	Hours	Questions to be set for (5marks) PART - A	Questions to be set for (10marks) PART - B	Marks weightage (%)
1	ARCHITECT AND PROFESSION	08	01	02	17.25
2	DUTIES AND LIABILITIES IN PROFESSION	10	02	02	20.69
3	ARBITRATION	04	01	01	10.34
4	TENDERS	10	02	02	20.69
5	CONTRACT	12	02	02	20.69
6	VALUATION	08	01	01	10.34
7	Total	52	9(45marks)	10(100marks)	100

DETAILS OF CONTENTS

UNIT I : ARCHITECT AND PROFESSION.

08 Hrs

Architect and practice - profession of architecture, Types of Architects organisations - Proprietorship, Partnership, limited company, Freelancing, advantages and disadvantages of each, Architects office and management.

Architectural Competition-Purpose, Guidelines, Registration procedure, Classification of competition, Procedure, Declaration of award and advantage of competition.

UNIT II : DUTIES AND LIABILITIES IN PROFESSION **10 Hrs**

Code of professional conduct, conditions of engagement. Base of fees, scale of charges and schedule of payments, Quantum merit.

Duties and liabilities of an architect towards contract, statutory bodies, as per architects act 1972, Defects (Patent defects and Latent defects)

UNIT III: ARBITRATION **04 Hrs**

Definition, terms, Kinds of Arbitration, Appointment of arbitrator, Qualification, power, duties and advantages. Arbitration clause and reference, Arbitration proceedings and cost of arbitration, Award, Umpire in arbitration.

UNIT IV: TENDERS **10Hrs**

Definition and types of tenders, Invitation to tenders. Tender notice,(E-tender), Tender document, Opening of tenders and its acceptance. Earnest money, security deposit, Retention amount, Work order letter and tender acceptance letter. Execution of works according to their nature – piece work, daily labour.

UNIT 5: CONTRACT **12 Hrs**

Definition and types of contract, The articles of agreement and the appendix, Contract document. Duties and liabilities of contractor and engineer in charge. Defect liability period, liquidated and unliquidated damages, Designers duties and liabilities under contract. Types of certificates and payments for different scrutiny works, like checking bills, complaints and actual measurement.

UNIT 5 :VALUATION **08 Hrs**

Definition, Purpose of Valuation, Value classification, Technical terms--Depreciation, sinking fund, Obsolescence, annuity, capitalized value, Mortgage and lease, Methods of depreciation (straight line method, sinking fund method, reducing balance method), Methods of valuation (rental method, valuation based on profit, based on cost, and depreciation method).

**TEXT BOOKS**

1. Professional Practice : Roshan. H.Namavathi.
2. Professional Practice : Dr.K.G.Krishnamurthy, S.V.Ravindra.

WEB LINKS

- www.slideshare.net/.../
- coa.gov.in

SUGGESTED LIST OF STUDENT ACTIVITIES

1. Each student should do any one of the following type activity or any other similar activity related to the course and before conduction, get it approved from concerned Teacher and HOD.
2. Each student should conduct different activity and no repeating should occur.

1	Visit an Architect's office and prepare a report on the structure of office.
2	Collect a Tender filling document from any Government office/Architects firm
3	Prepare a hand written report on Contract document
4	Visit a valuer and collect the format of an old building valuation.

NOTE:

1. Students should select any one of the above or other topics relevant to the subject approved by the concerned faculty, individually or in a group of 3 to 5. Students should mandatorily submit a written report and make a presentation on the topic. The task should not be repeated among students. Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:

Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.

Reports should be made available along with bluebooks to IA verification officer

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1 , Developing 2 , Satisfactory 3 , Good 4 , Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conversions	5				
Total	14				
Average=(Total /4)	3.5=4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students					

Note: Dimension should be chosen related to activity and evaluated by the

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfil team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Conventions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Course Delivery:

- The course will be delivered through lectures and Power point presentations/ Videos.
- Teachers can prepare or download ppt on different topic's of Architectural engineering application, can prepare alternative slides.

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Three IA tests (Average of three tests will be computed)	20	Blue books	1,2,3,4,5,6
				Assignments	05	Assignments books	1,2,3,4,5,6
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1,2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5,6 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

FORMAT OF I A TEST QUESTION PAPER (CIE)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks		
Ex: I test/6 th week of sem	VI SEM	PROFESSIONAL PRACTICE CODE : 15AR61T	20		
	Year:2017				
Name of Course coordinator : CO'S : CO1 & CO2			Units: 1 & 2		
Q. no	Question	MARKS	CL	CO	PO
1	What are the advantages of partnership?	05	R/U/A	1	1,4,5,6,7,8,10
2	Define Architectural Profession. List the types of architectural organizations.	05	R/U/A	1	1,4,5,6,7,8,10
3	Discuss code of professional code of conduct towards client.	05	U/A	2	1,6,7,8,10
4	Write a note on Quantum Merit.	05	U/A	2	1,6,7,8,10

Note: Internal choice may be given in each CO at the same cognitive level (CL).

Questions for CIE and SEE will be designed to evaluate the various educational components (Bloom's taxonomy) such as:

Sl. No	Bloom's Category	%Weightage
1	Remembering & Understanding	10
2	Applying the knowledge acquired from the course	20
3	Analysis	30
4	Evaluation	10
5	Creating new knowledge	30

MODEL QUESTION PAPER
VI Semester Diploma Examination
ARCHITECTURE BOARD
PROFESSIONAL PRACTICE

Time: 3Hours)

(Max. Marks: 100)

Instructions: (1) Answer any **six** Questions from **PART-A**.
(2) Answer any **seven** Questions from **PART-B**.

PART-A

6X5=30

1. Enumerate the advantages of Limited company.
2. Discuss code of professional code of conduct towards client.
3. Write a note on Quantum Merit.
4. What are the duties of an Arbitrator?
5. Define Tender. List the different types of Tender.
6. What is work order and tender acceptance letter ?
7. Write a short note on Security deposit.
8. Define Contract. List the different types of contract.
9. Define valuation. List the purpose of valuation.

PART-B

7X10=70

10. Explain the duties and responsibilities of an Architect.
11. Differentiate between proprietorship and partnership.
12. Explain briefly about Architects office and management.
13. What are the duties and liabilities of an Architect towards contract?
14. What are the duties and advantages of Arbitration?
15. Explain Tender document and procedure for invitation of Tenders.
16. Explain any four types of Tenders .
17. Explain any four different types of contract and their suitability.
18. Explain briefly scale of charges and schedule of payments.
19. Explain briefly the methods of Depreciation.

MODEL QUESTION BANK

CO1 - ARCHITECT AND PROFESSION
Remembering
<ol style="list-style-type: none">1. Define Architectural Profession. List the types of architectural organizations.2. What the advantages of proprietorship firm?3. Define Architectural competition and its purpose.4. List the guidelines for conduction of Architectural competition.5. List the advantages of Architectural competition.
Understanding
<ol style="list-style-type: none">1. Explain the duties and responsibilities of an Architect.2. Explain briefly about Architects office and management.3. List the factors to be considered for the efficient management of office.
Analysis
<ol style="list-style-type: none">1. Differentiate between proprietorship and partnership.2. What are the advantages and disadvantages of Limited company?

CO2 - DUTIES AND LIABILITIES IN PROFESSION
Remembering
<ol style="list-style-type: none">1. Discuss code of professional code of conduct towards client.2. Write a note on Quantum Merit.
Understanding
<ol style="list-style-type: none">1. What is an Award? Discuss the factors to be considered to declare award.2. What are the duties and liabilities of an Architect towards contract?3. Discuss the conditions of engagement.
Analysis
<ol style="list-style-type: none">1. What are the factors leading to the mismanagement of office?

CO3 - ARBITRATION
Remembering
<ol style="list-style-type: none">1. Define Arbitration. List the types of Arbitration.2. What are the duties of an Arbitrator?3. Write a note on umpire in Arbitration.

CO4 - TENDERS
Remembering
<ol style="list-style-type: none">1. Define Tender. List the different types of Tender.2. What is work order and tender acceptance letter ?3. Define Retention amount.4. Write a short note on Security deposit.5. Define Earnest money deposit.

Understanding

1. Explain Tender document and procedure for invitation of Tenders.
2. Explain any four types of Tenders .

CO5 - CONTRACT**Remembering**

1. Define Contract. List the different types of contract.
2. Define Defect liability period, Liquidated and unliquidated damages.

Understanding

1. Explain the importance of contract document.


CO6 - VALUATION**Remembering**

1. Define valuation. List the purpose of valuation.
2. What is Depreciation and Sinking fund?

Understanding

1. What are the methods of valuation? Explain briefly any one of them.
2. Explain briefly the methods of Valuation.

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: PROJECT MANAGEMENT		
	Credits (L:T:P) 4:0:0	Total Contact Hours: 52	Course Code: 15AR62T
	Type of Course: Lecture, Case study,	Credit : 4	Core/Elective: Core
CIE- 25 Marks		SEE- 100 Marks	

Pre-requisite: Knowledge of Building Construction and Estimation and Costing

Course Objectives:

Diploma Graduates are prepared to serve as project leaders and team members who add value through innovation, customer focus, prudence, and professional responsibility, consistent with the objectives of the projects in which they are involved and the organizations they support.

- **Practical applications of project management to formulate strategies allowing organizations to achieve strategic goals**
- **A perspective of leadership effectiveness in organizations**
- **Team-building skills required to support successful performance**
- **Skills to manage creative teams and project processes effectively and efficiently**

Course outcomes

Upon completion of the Project Management, students shall be able to

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Conduct project planning activities that accurately forecast project costs, timelines, and quality. Implement processes for successful resource, communication and risk.	R/U	2,4,5,8,10	10
CO2	Apply scheduling technique for construction project for effective utilisation of resources. Demonstrate effective project execution and control techniques that result in successful projects	R/U/A/An	2,3,4,8,10	10
CO3	Demonstrate effective organizational leadership and change skills for managing projects, project teams, and stakeholders	U/A	2,4,5,7,9,10	10
CO4	Employ appropriate practices to organize and manage inspection and quality assurance of a construction project	R/U/A	2,3,4,5,7,8,9,10	10
CO5	Identifying and minimising threats to workers and	R/U/A	1,2,4,5,8,10	07

	those affected by the work throughout the project, programme and portfolio life cycle.			
CO6	Develop insight to discover and create entrepreneurial opportunities and the expertise to successfully launch, manage, and grow their own venture.	R/U/A	2,3, 5,7,9,10	05
		Total sessions		52



Mapping Course Outcomes with Program Outcomes

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and Practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
PROJECT MANAGEMENT	1	3	2	3	3	1	2	3	2	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

SL. NO	CONTENTS	HOURS
1	INTRODUCTION TO PROJECT MANAGEMENT: Project Management, Professional Construction Management-Significance, objectives & functions of construction management, Types of construction, Resources for construction, Stages in construction. Construction team, Perception of- Client, Consultants and Contractor, Project Feasibility-Turnkey operation, BOOT, PPP etc.	10
2	PLANNING & SCHEDULING Planning -Objectives, principles, Work breakdown structure, Stages of planning for construction projects. Pre-tender stage, Contract stage Scheduling - Necessity of scheduling, scheduling by bar charts, Preparation of construction schedule for labour, material, machine & finance.	10
3	ORGANISING CONSTRUCTION PROJECT Objectives, principles of organisation, communication, Leadership and human relations, Types of organisations- Line organisation, Line&staff organisation, functional organisation-merits &demerits, Role of project manager. Job layout	10
4	INSPECTION AND QUALITY CONTROL; Need for inspection &quality control Objectives, Principles of inspection, Enforcement of specifications, Stages of inspection &quality control ,Technical services &inspection team, Testing of structures, Statistical analysis.	10
5	SAFETY IN CONSTRUCTION - Importance of safety. Safety procedures and check list (excavation, scaffolding, form work.) Safety meetings, Safety measures for storage, Safety in fabrication &erection, safety measures for demolition, Fire safety	07
6	ENTERPRENEURSHIP- Definition and Concept of Entrepreneurship - Roles-Expectations of Entrepreneurship. Motivational needs, Characteristics and Requirements of an entrepreneur. Advantages and disadvantages of Entrepreneurship	05
	TOTAL	52`

COURSE DELIVERY: The course will be delivered through lectures and Power point presentations/ Video, demonstrations etc.



SUGGESTED ACTIVITIES

The topic should be related to the course in order to enhance knowledge, practical skill & and lifelong learning, communication, modern tool usage.

1. Visit any nearby construction site & interact with the construction team regarding type of structure & its organisation structure.
2. Visit any contractor and interact about the present tendering process (e-tendering) and awarding of contract.
3. Collection of tender notices published in newspapers for various items of projects (at least 5) write salient features of them.
4. Prepare a planning schedule for the nearby on going construction activity with the help of available open source project management software.
5. Visit any nearby ARCHITECT /PWD/KHB office or any construction company, collect the documents (BOQ, M B, Tender, SR,) related to the project and prepare report on it.
6. Collect quality management standards pertaining to ISO 9001, ISO 14001 & OHSAS 18001 & prepare a report.
7. Collect the details required for getting a consultant license from corporation and prepare a report on it.
8. Make a case study on valuation of a existing building.
9. Collect safety procedures (Do's and Dont's) of each and every construction activities.
10. Collect or Prepare the various stages of inspection and quality control for construction activities

NOTE:

1. Guest lectures to be arranged by inviting Architects from industry.
2. Students should select any topics relevant to the subject approved by the concerned faculty, individually or in a group of 3 to 5.
3. Students should mandatorily submit a written report and make a presentation on the topic. The task should not be repeated among students.
4. Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:
Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.
5. Reports should be made available along with bluebooks to IA verification officer

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1 , Developing 2 , Satisfactory 3 , Good 4 , Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conversions	5				
Total	14				
Average=(Total /4)	3.5=4				

Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students

Note: Dimension should be chosen related to activity and evaluated by the course faculty.

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfill team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Conversions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes	
	Direct Assessment meth	CIE	IA	Students	Thrice test (Average of three tests)	Test 1	20	Blue books
					Test 2	CO3		
					Test 3	CO4, CO5, CO6		
			Student Activities	05	Written Report	CO7		
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5,6	
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1,2 & 3 Delivery of course	
	End of Course Survey			End of the course		Questionnaires	1,2,3, 4,5, 6, 7 Effectiveness of Delivery of instructions & Assessment Methods	

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Weightage of Marks and blue print of marks for SEE

Unit	Major Topics	Hours Allotted	Questions to be set for SEE				Marks Weightage	Weightage (%)	A*	B*
			Cognitive Levels							
			R	U	Ap	Ay				
1	Introduction to project management	10	33%	67%	0%	0%	30	18	3	1
			10	20	0	0				
2	Planning & scheduling	10	10%	30%	30%	30%	30	25	1	3 [#]
			00	10	10	10				
3	Organising Construction project	10	15%	60%	25%	0%	30	27	2	3
			05	15	10	0				
4	Inspection & quality control	10	10%	40%	40%	10%	30	17	1	2
			05	10	10	05				
5	Safety in construction	07	20%	40%	40%	0%	15	10	1	1
			02	03	10	0				
6	Entrepreneurship	05	10%	30%	60%	0%	10	3	1	0
			0	5	5	0				
Total		52	25%	40%	27%	8%	145	100	9	10
			37	58	40	10				

Legend- R; Remember U: Understand Ap: Application Ay: Analysis C: Creation E: Evaluation

A*-SEE questions to be set for (05 marks) in Part – A

B*- SEE questions to be set for (10marks) in Part – B

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

Sl. No	Bloom's taxonomy	% in Weightage
1	Remembering and Understanding	60
2	Applying the knowledge acquired from the course	30
3	Analysis	10
4	Synthesis (Creating new knowledge)	0
5	Evaluation	0

MODEL QUESTION PAPER FOR CIE

Test/Date and Time	Semester/year	Course/Course Code	Max Marks			
Ex: I test/ 6 th week of sem	VI SEM	PROJECT MANAGEMENT	20			
	Year:	Course code: 15AR62T				
Name of Course coordinator :		Course Outcomes : 1 & 2				
Note: Answer all questions						
Questions		M	CL	CO	PO	
1	List objectives of construction management or Describe the various resources required for construction.	05	R	1	2,4,5	
2	What are the necessity of scheduling in construction project?	05	U	2	2,3,4	
3	Explain the role of each constituent of the construction team. or Write a short note on Project feasibility.	05	U	1	2,4,5,6	
4	Explain major activities involved in different stages of planning a construction project.	05	A	2	2,3,4	

Note: Internal choice may be given in each CO at the same cognitive level (CL).



TEXT BOOKS & REFERENCES

1. Construction planning and Management – **Prof.B.M. Dhir&P.S Gahlot**, New Age International(p)Ltd, Publishers.
2. Sanga Reddy. S, “Construction Management”,Kumaran Publications, Coimbatore
3. Chitkara, “Construction Project Management”, Mc Graw Hill Publications,
4. Construction management by NITTTR, Chennai
5. Entrepreneurial development – Dr.S.S.Khanka by S.Chand publishers

WEB LINKS:

<https://www.projectmanagement.com>

<https://www.mindtools.com>

www.investopedia.com/terms/p/project-management

Model Question Paper

Diploma in Architecture

6TH semester

Course title: **PROJECT MANAGEMENT**

Time: 3Hrs.

Max. marks :100

Part –A

Answer any six questions of the following, each question carries 5 marks

1. What is construction management? What is its significance?
2. State the main objectives of project management
3. Explain major functions of project management.
4. Prepare a Material schedule for any project.
5. List the limitations of bar charts.
6. State the merits and demerits functional organisation
7. Explain the important points to be checked during inspection of masonry.
8. List items of works prone to severe accidents.
9. Write note on Entrepreneurial motivation.

Part –B

Answer any seven questions from the following.

Each question carries 10 marks.

10. Describe the various resources required for construction.
11. What is Construction Scheduling? Explain Bar chart with example.
12. Briefly explain the Stages of a construction project.
13. Explain the role of each constituent of the construction team.
14. Differentiate between a) Briefing stage & tendering stage
b) construction stage & commissioning stage
15. Explain the main principles for developing an organisation for effective and efficient working .
16. Write the precautions and Preventive measures for accident in construction industry.
17. Explain the various stages of inspection and quality control for RCC work and Excavation in Foundation.
18. Describe the duties and roles of a project manager.
19. State important qualities of entrepreneur.

MODEL QUESTION BANK

Unit-1 INTRODUCTION TO PROJECT MANAGEMENT

Cognitive level –Remember

1. What are the objectives of construction management?
2. List items of works prone to severe accidents.
3. Write the organization chart for medium construction firm.
4. What is Construction organisation? Write the relationship between Owners, Consultants & Contractor.
5. Write a short note on the resources of a construction project.
6. Write a short note on Project feasibility.

Cognitive level -Understand

1. Define organization? Explain the different types of organization
2. Briefly explain the Stages of a construction project.
3. List the principles of organization.
4. Explain the need of organization in construction.
5. Explain Line organization.
6. Compare line organization with staff organization.
7. Explain the various stages in construction of a project from concept to realization.
8. Describe the duties of project manager.
9. Write a short note on construction team.
10. Explain the main principles for developing an organisation for effective and efficient working.
11. Differentiate between a) Briefing stage & tendering stage
b) construction stage & commissioning stage
12. Explain BOOT and PPP projects.

Unit-2 PLANNING & SCHEDULING

Cognitive level –Remember

1. What is Construction planning? What are its Objectives?
2. What is Construction planning? What are its Advantages?
3. What is Construction Scheduling? Explain Bar chart with example.
4. Mention advantages of construction scheduling?
5. What is Pre-tender planning & Post-tender planning?
6. What are the advantages of Scheduling?
7. List the types of schedules used in construction industry.
8. List the duties of contractor.
9. List the duties of Architect/Engineer.

Cognitive level –Understanding

1. Brief the Stages of a construction project.
2. Prepare a Labour schedule for any construction project.
3. What is construction planning? List the objectives of construction planning
4. What is construction schedule? Mention the details required for preparing schedule.
5. Explain i) Material Schedule ii) Labour schedule iii) Equipment schedule iv) expenditure scheduling

Unit-3- ORGANISING CONSTRUCTION PROJECT.

Cognitive level –Remember

1. Define an organisation.
2. Explain the principles of organisation.
3. List the types of schedules used in construction industry.
4. Explain the main principles for developing an organisation for effective and efficient working .
5. State merits and demerits of line organisation.
6. Define job layout.

Cognitive level –Understanding

1. List the purpose of job layout
2. State the factors affecting job layout.
3. What is Job layout? Write the Job layout for construction of a building.

Unit-4- INSPECTION & QUALITY CONTROL

Cognitive level –Remember

1. Identify the objectives of inspection .
2. What are the effects of accidents in construction industry
3. What are the causes of Accidents in a construction Project?
4. List the important safety factors to be considered in construction industry.

Cognitive level –Understanding

1. Explain the causes & effects of accidents and mention the preventive steps to be taken to avoid the accidents
2. Write a short note on accidents in construction industry.
3. Write the precautions and Preventive measures for accident in construction industry.
4. Write the safety measures and check list for the following activities,
 - a. Excavation
 - b. Scaffolding
 - c. Form work

Cognitive level –Application

1. Describe the safety measures to be undertaken in i)Excavation ii) Demolition
2. Write a short note occupational health hazards in construction industry.
3. Brief the safety measures for storage of materials in a construction site.
4. Explain the various stages of inspection and quality control for Excavation.
5. Explain briefly the stages of inspection & Quality control for RCC work.
6. Explain briefly need for inspection of works.
7. Explain how quality of construction is maintained.
8. Explain in brief the various stages of inspection to control the quality of work.
9. Explain briefly the general principles of inspection in construction work.

Unit-5- SAFETY IN CONSTRUCTION

Cognitive level –Remember

1. Define Accident?
2. What are the effects of accidents in construction industry
3. What are the causes of Accidents in a construction Project?
4. List the important safety factors to be considered in construction industry

Cognitive level –Understanding

1. Explain the causes & effects of accidents and mention the preventive steps to be taken to avoid the accidents
2. Write a short note on accidents in construction industry.
3. Write the precautions and Preventive measures for accident in construction industry.
4. Write the safety measures and check list for the following activities,
 - a. Excavation
 - b. Scaffolding
 - c. Form work

Unit-6- ENTREPRENEURSHIP

Cognitive level –Remember

1. Define Entrepreneur & Entrepreneurship.
2. List the advantages & disadvantages of an Entrepreneur.
3. State any six important qualities of entrepreneur.
4. What do you understand by the Entrepreneurial competency

Cognitive level –Understanding


1. Write note on Entrepreneurial motivation.
2. List the contents of a project report.
3. Write note on Entrepreneurial motivation.
4. Define Entrepreneurial culture.
5. What is the significance of promoting women Entrepreneurship in India?

Cognitive level –Application

1. Explain the concept of Entrepreneurship.
2. Explain the characteristics of an Entrepreneur.
3. Explain Entrepreneurship and discuss its functions.
4. What is entrepreneurship Development .Explain Entrepreneur v/s Manager?
5. How important is the role of Government in promoting Entrepreneurship.



Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: GREEN BUILDING		
	Scheme (L:T:P) : 4:0:0	Total Contact Hours 52	Course Code: 15AR63A
	Type of Course: Lectures, Self-Study.	Credit : 04	Core/ Elective: Elective
CIE- 25 Marks		SEE- 100 Marks	

Pre-requisites: Environmental Science

Course Objectives:

The course is aimed at enabling the students to:

1. To develop awareness and familiarity with green design and its integration with architectural Design.
2. To understand the influence of climate on architecture.
3. To understand locally available materials.

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Explain the objectives of green building.	<i>R/U/A</i>	1,2,3,7,10	06
CO2	Analyse site and water efficiency.	<i>R/U/A</i>	1,2,3,7,10	08
CO3	Analyse energy efficiency	<i>R/U/A</i>	1,2,3,6,10	12
CO4	Review construction techniques and identify suitable materials	<i>U/A</i>	1,2,3,5,6,7,10	12
CO5	Evaluate indoor air quality.	<i>U/A</i>	1,2,3,5,7,10	05
CO6	Discuss green building rating system.	<i>R/U/A</i>	1,2,3,5,6,7,10	09
Total sessions				52

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
GREEN BUILDING	3	3	3	-	1	3	2	-	-	1

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

COURSE CONTENT

Unit No	Unit Name	Hour	Questions to be set for (5marks) PART - A	Questions to be set for (10marks) PART - B	Weightage (%)
1	Introduction to green building	06	01	01	10.34
2	Sites and water efficiency.	08	02	02	20.69
3	Energy Efficiency	12	02	02	20.69
4	Material and Construction techniques	12	01	02	17.25
5	Indoor environmental quality	05	01	01	10.34
6	Green building rating system.	09	02	02	20.69
	Total	52	9(45marks)	10(100marks)	

Details of content

UNIT 1: INTRODUCTION TO GREEN BUILDING

06 Hrs

Introduction to Green Buildings:

Definition of Green building, aim and purpose .Environmental impact of buildings. Brief history of green building .List Main five strategies to achieve green efficiency.

UNIT2 : SITE AND WATER EFFICIENCY

08 Hrs

Site Specific Design : Site Development Guidelines- purpose of tree and vegetative cover, green roofs, installing cool—mainly reflective—roofs, cool pavements.

Water Efficiency: Recycling and reuse of grey water guidelines and.Rain water harvesting purpose and methods.

UNIT3 : ENERGY EFFICIENCY

12 Hrs

Guidelines for energy efficiency of built environment with respect to HVAC. Renewable energy generation -Solar panels , Solar water heating and passive design principles.

UNIT4: MATERIAL AND CONSTRUCTION TECHNIQUES

12 Hrs

Material Efficiency:

Green buiding materials- properties and uses of CSEB(Compressed Stabilised Earth Blocks), AAC *Blocks* (*Autoclaved* Aerated Concrete blocks) ,Fly ash, Bamboo,certified wood.

Recyclable materials –properties and uses of recycled metal,. demolition waste – use of salvaged materials from flooring, columns, beams, timber, glass, etc

Alternative construction techniques for green efficiency like filler slabs, rat trap bond, ferro-cement components. Post construction Maintenance strategies.

UNIT 5 : INDOOR ENVIRONMENTAL QUALITY

05 Hrs

Indoor Environmental Quality: Design and constructional guide lines for maintaining indoor air quality.

Introduction to building rating systems: points system, weightage, agencies and institutions- TERI GRIHA rating, IGBC, in the contexts of Indian sub continent.

Analysis and study of green buildings in India-First green building in India- CII - Sohrabji Godrej Green Business Centre, Hyderabad, ITC Green centre Gurgoan, Nisha's play **school , Goa.**



TEXT BOOKS

- 1) Indian Green Building Council
- 2) Energy Efficient Buildings-TERI India Publications.
- 3) TEDDY (TERI's year books), TERI, New Delhi.
- 4) Sustainable Building Design Manual Vol 1 & 2, TERI, New Delhi.

LIST OF LEARNING WEBSITES:

1. www.glazette.com/green-rating-for-integrated-habitat-assessment-griha-144.htm
2. www.slideshare.net/deeksha2794/nishas-play-school-goa.
3. www.slideshare.net/.../leed-india-case-study-cii-sohrabji-godrej-itc-green-center.
4. www.igbc.in.
5. www.ijbttjournal.org/volume-2/issue-2/number-1/IJBTT-V2I2N1P3.pdf
6. <http://www.buildinggreen.com> **Environmental Building News**, monthly green building newsletter
7. <http://www.ecco-structure.com> **Eco-Structure, AIA**,
8. <http://www.greenbuildermag.com> **GreenBuilder**,
9. <http://greensource.construction.com> **Green Source**, McGraw Hill Construction and BuildingGreen,
10. <http://www.HPBmagazine.com> **High Performance Buildings, ASHRAE publication**,

Course Delivery:

- The course will be delivered through lectures and Power point presentations/ Video
- Teachers can encourage the students to take case study and make the report of the same

SUGGESTED LIST OF STUDENT ACTIVITIES

1. Each student should do any one of the following type activity or any other similar activity related to the course and before conduction, get it approved from concerned Teacher and HOD.
2. Each student should conduct different activity and no repeating should occur.

1	Visit an Architect's office and prepare a report on the methods implemented in construction industry.
2	Collect information on the strategies used in green building technology and prepare a hand written report.
3	Conduct a market survey and collect green building material and prepare a report.

NOTE:

1. Students should select any one of the above or other topics relevant to the subject approved by the concerned faculty, individually or in a group of 3 to 5. Students should mandatorily submit a written report and make a presentation on the topic. The task should not be repeated among students. Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:

Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.

Reports should be made available along with bluebooks to IA verification officer

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1 , Developing 2 , Satisfactory 3 , Good 4 , Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conversions	5				
Total	14				
Average=(Total /4)	3.5=4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students					

Note: Dimension should be chosen related to activity and evaluated by the

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfil team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Convensions	Frequent Error	More Error	Some Error	Occasional Error	No Error

MODEL QP FOR CIE (TESTS)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks		
Ex: I test/6 th week of sem	VI SEM	GREEN BUILDING	20		
	Year:	Course code:15AR63A			
Name of Course coordinator : Units:1,2 Co: 1,2 Note: Answer all questions					
Question no	Question	MARKS	CL	CO	PO
1	Define green building	05	R	1	1,2,6
2	Narrate the purpose of a sustainable site for a green building or write a note on reflective roofs	05	U	1	1,2,6
			U	1	1,2,6
3	List modes of achieving water efficiency in green building	05	U	2	1,2,6
4	Discuss on ' roof design is also a key element in green building concept"	05	U	2	1,2,6
	or Explain briefly the passive design				

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment method	CIE	IA	Students	Three tests (Average of three tests)	20	Blue books	1,2,3,4,5,6
				Assignment/student activity	05	Assignment books/charts/report	1,2,3,4,5,6
	SEE	End Exam		End of the course	100	Answer scripts at BTE	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1, 2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5and6 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Questions for CIE and SEE will be designed to evaluate the various educational components such as

Sl no	Bloom's Category	% weightage
1	Remembering and Understanding	30
2	Applying the knowledge acquired from the course	50
3	Analysis	10
	Evaluation and Creating new knowledge :	10

Note: Following documents to be verified by CIE verifier at the end of semester

- 1) Blue books (20marks)
- 2) Assignment. (5 marks)
- 3) Student feedback on course regarding effectiveness of instructions and assessment methods

MODEL QUESTION PAPER

VI SEMESTER DIPLOMA EXAMINATION

Green Building

Time – 3Hrs

Max Marks -100

Instructions: Answer any six from part A and any seven from Part B

PART A

6X5 =30marks

1. Define green building.
- 2) State the purpose of Green building.
- 3)List various factors related to building which cause negative impact on environment
4. Explain any one strategy to be considered for green building design
5. list various factors to be considered under site survey to facilitate green building design
6. Explain any two water conservation principles to be followed for water efficiency as
7. Per LEED recommendations
8. Enumerate characteristics of green building materials
9. List factors affecting Indoor air quality. Explain any one briefly
10. Summarise the principles of passive solar design

PART B

7X10=70Marks

11. Explain in detail the goals and process of green building
12. Discuss in detail on how water efficiency is achieved
13. Explain the principles of a trombe wall as a means of passive solar design
14. list various alternative technology options for roof and wall construction in achieving
15. thermal efficiency in buildings.
16. Explain the factors considered for rating of green building as per the requisites of
17. Indian green building council
18. Explain any two construction techniques for green efficiency.
19. Enumerate the post construction maintenance strategies
20. State the constructional guidelines for maintain indoor air quality.
21. Explain TERI GRIHA rating for Indian sub-continent
22. .Analyse ITC Green centre Gurgaon,Nisha's play school , Goa

MODEL QUESTION BANK

CO 1: Explain the objectives of green building

Level 1: Remember

- 1) Define green building

Level 2 : understand

- 1) List various factors related to building which cause negative impact on environment.
- 2) Define green building , state purpose and objective of green building.

CO 2: Analyse site and water efficiency.

Level 2 : understand

- 1) state the purpose of trees and vegetative cover in site .
- 2) write a note on green roofs
- 3) write a note on reflective roofs
- 4) write a note on green pavements.
- 5) Explain the site development guide lines for the site efficiency.
- 6) Explain the methods of rain water harvesting

Level 3 : Application

- 1) Mention the methods of rain water harvesting.
- 2) Explain methods of recycling of grey and black water

CO 3: Analyse energy efficiency.

Level 1: Remember

- 1) Define thermal efficiency as regard to green building
- 2) What is zero energy building
- 3) Define renewable energy

4) Level 2 : understand

- 1) Explain the principles on which passive solar design is preferred in green building
- 2) write a note on rain water harvesting.
- 3) Enumerate the passive design principles for energy efficiency.

CO 4: Review construction techniques and identify suitable materials

Level 2 : understand

- 1) List alternate technologies options for achieving thermal efficiency.
- 2) State the properties and uses of any four green materials.
- 3) Explain recycling of materials.

CO 5: Evaluate indoor air quality.

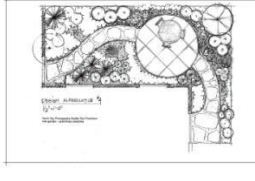
Level 2 : understand

- 1) explain the factors affecting the indoor air quality

CO 6: Discuss green building rating system.

Level 3: Application

- 1) Explain the IGBC green rating for Indian sub-continent.
- 2) Analyse Sohrabji Godrej Green Business Centre, Hyderabad.

	Course Title: LANDSCAPE ARCHITECTURE		
	Scheme (L:T:P) : 4:0:0	Total Contact Hours: 52	Course Code: 15AR63B
	Type of Course: Lectures, Self-Study	Credit : 04	Core/ Elective: Elective
CIE- 25 Marks		SEE- 100 Marks	

Pre-requisites: Basic design, environmental science.

Course Objectives:

The course is aimed at enabling the students:

- 1) To gain general knowledge of the elements that influence the practice of Landscape Architecture .
- 2) To develop thinking about contemporary issues related to landscape architecture.
- 3) To achieve clarity in the expression of ideas: orally, in writing, and through graphic representation.
- 4) Give some insight into the design approach used by landscape architects.

On successful completion of the course, the students will be able to :

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Acquaint the students with the basic principles & elements of landscape architecture.	U/A/C	1,2,6,7,8,9,10	8
CO2	Differentiate the basic elements of landscape with natural & manmade. Importance of different landscape design.	R/U/A	1,2,3,6,7,8,10	10
CO3	Identify & summarise the history , contemporary & modern of landscape architecture	U/A/C	1,2,3,6,10	9
CO4	Demonstrate their concept & views of famous landscape architects.	U/A	1,2,3,5,6,7,10	5
CO5	Develop landscape layout for Residence	U/A/C	1,2,3,7,8,9,10	10
CO6	Develop landscape layout for Public Building.	U/A/C	1,2,3,7,8,9,10	10
Total sessions				52

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
Landscape Architecture	3	3	3	-	1	2	3	-	-	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

COURSE CONTENT

Unit No	Unit Name	Hour	Questions to be set for (5marks) PART - A	Questions to be set for (10marks) PART - B	Questions to be set for (20marks) PART - C	Weight age (%)
1	Introduction to Landscape Architecture.	8	02	1	--	13.8
2	Elements and types of landscape.	10	03	2	--	24.1
3	Landscape architecture:- Historical, Modern and Contemporary	9	03	2	--	17.24
4	Noted Landscape architects	5	01	1	--	17.24
5	Landscape design for a Residence.	10	-	-	1	13.8
6	Landscape design for a Public building.	10	-	-	1	13.8
	Total	52	9(45marks)	6(60marks)	2(40marks)	100

Details of content

UNIT 1: INTRODUCTION	8hr
Introduction , definition of landscape, landscape design ,landscape architecture, objects and necessity in built environment. Principles and elements of landscape design and their application in architectural and interior design. Hard scapes and soft scapes.	
UNIT 2: : ELEMENTS AND TYPES OF LANDSCAPE	10hr
Landscape Elements -vegetation, land forms, water bodies, garden furniture, lamp shades, fences, ground cover, sculptures, pathways, stone lanterns, stone, gravels, fountains and their application in design. Natural and manmade landscape. Features & Importance of Vertical garden, Roof garden, Interior gardens. Introduction to Site analysis and site planning.	
UNIT 3 : HISTORY OF LANDSCAPE ARCHITECTURE	9hr
1.Brief history of landscape architecture, study of Versailles Garden by Andre Le Notre. Brief	
2.Study of Mughal Gardens ex: Shalimar garden in Kashmir, Japanese zen ex: Daisen-in Kyoto	
3.Study and analysis, comparison of contemporary and modern landscape architecture. Application of Contemporary concepts and landscape design for courtyards, gardens, parks, streetscapes in relation to architectural design. Ex: world trade centre memorial by Peter Walker, Michael Arad.(contemporary landscape architecture.) Ex: Bridle road residence, cape town South Africa.(Modern landscape architecture.)	
UNIT4: LANDSCAPE ARCHITECTS	5hr
Noted landscape architects and their concepts and definitions. Garden of cosmic speculation, Scotland. By Charles Jencks,.,Sanskritika kala Kendra,New Delhi, by Mohammad Shaheer.	
UNIT5 : RESIDENTIAL BUILDING	10 hr
Prepare detailed landscape Design for a residence (site not exceeding 500 sq mts with ground coverage 40%) ,apply principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation. Prepare plan, sectional elevation and a sketch view, with schedule of landscape elements for the same.	
UNIT6 : PUBLIC BUILDING	10hr
Prepare detailed landscape Design for a public building (site not exceeding 2000 sq mts with ground coverage 40%)) ,apply the principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation. Prepare plan, sectional elevation and a sketch view, with schedule of landscape elements for the same.	



TEXT BOOKS

REFERENCES:

1. Felice, Frankel, Modern Landscape Architecture, Alberta Publishers, Alberta, 1994
2. Steven Moorhead, Landscape Architecture, Rockport Publication, New York, 1997
3. Blane alan ,Landscape construction and detailing B T Batsford Ltd,London1996.
4. ColiseBrenda, Land and landscape.
5. Lynch, Kevin, site planning.
6. Indian society of landscape architecture.

LIST OF LEARNING WEBSITES:

<http://www.mvvainc.com/project.php?id=43>

<https://www.dezeen.com/2011/08/22/dezeen-screen-911-memorial-by-michael-arad-and-peter-walker/>

https://en.wikipedia.org/wiki/National_September_11_Memorial_%26_Museum#Design

<http://www.decoist.com/2010-12-13/south-african-residence-in-cape-town-has-a-surprising-garden/>

<http://www.thecoolist.com/bridle-road-residence-cape-town/>

<http://www.atlasobscura.com/places/garden-of-cosmic-speculation>

http://www.gardenvisit.com/gardens/jardins_de_liminaire

[https://en.wikipedia.org/wiki/High_Line_\(New_York_City\)](https://en.wikipedia.org/wiki/High_Line_(New_York_City))

<http://www.isola.org.in/isola-honours-awards-2012/>

<http://ecoursesonline.iasri.res.in/mod/page/view.php?id=121818>

<http://myplantconnection.com/green-wall-benefits.php>

Course Delivery:

- The course will be delivered through lectures and Power point presentations/ Video

SUGGESTED STUDENT ACTIVITY:

NOTE:

- 1) To visit an existing Residential/Public building and study about landscape designs and prepare landscape layout, sectional elevation of site ,views, photographs,list landscape elements.

Execution Note:

1. Maximum of 5 students in each batch for student activity
2. Submit qualitative hand-written report not exceeding 6 pages; one report per student
3. Assessment shall be based on quality of work as prescribed by the following **rubrics** table

Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:

Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.

Rubric Model- Example only:

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfill team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Conversions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment method	CIE	IA	Students	Three tests (Average of three tests)	20	Blue books	1,2,3,4,5,6
	SEE	End Exam		Case study	05	Case study report	1,2,3,4,5,6
				End of the course	100	Answer scripts at BTE	1,2,3,4,5,6
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1, 2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5and6 Effectiveness of Delivery of instructions & Assessment Methods

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: The following documents to be verified by CIE verifier at the end of semester

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Questions for CIE and SEE will be designed to evaluate the various educational components such as

Sl no	Bloom's Category	% weightage
1	Remembering and Understanding	30
2	Applying the knowledge acquired from the course	50
3	Analysis	10
	Evaluation and Creating new knowledge :	10

Note: Following documents to be verified by CIE verifier at the end of semester

- 1) Blue books (20marks)
- 2) Case study report (5 marks)

MODEL QP FOR CIE (TESTS)

Test/Date and Time	Semester/year	Course/Course Code	Max Marks			
Ex: I test/6 th week of sem	V SEM	LANDSCAPE ARCHITECTURE	20			
	Year:	Course code:15AR63B				
Name of Course coordinator : Units:1,2 Co: 1,2 Note: Answer all questions						
Q. no	Question		M	CL	CO	PO
1	Define landscape & its necessity.		5	R	1	1,2
2	Write a brief note on Mughal Gardens.		5	A	1	1,2
3	List application of Landscape elements in Architectural design.		5	A	2	1,2
4	Write note on Modern landscape architecture.		5	U	2	1,2

MODEL QUESTION PAPER

IVth SEMESTER DIPOMA EXAMINATION

Landscape Architecture

Time – 3Hrs

Max Marks -100

Instructions: Answer any six from part A ,

any Four from Part B

ans all question from Part C

PART A

6x5 =30marks

1. Define landscape architecture. Mention objects of landscape architecture.
2. Define Hard scape & soft scape.
3. List natural & manmade landscape elements.
4. Mention any 5 botanical name of tree.
5. Importance of Roor garden.
6. Differentiate contemporary and modern landscape architecture.
7. Write a brief note on Mughal Gardens.
8. Mention landscape elements used in Modern Architecture. Explain any one.
9. Write short note on landscape architect Charles Jencks.

PART B

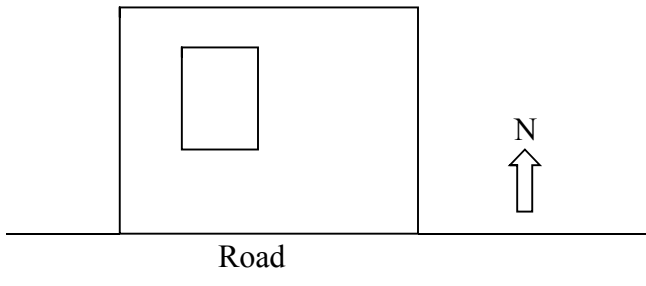
4x10=30Marks

- 10..Describe Principles and elements of landscape Architecture and their application in architectural .
11. Enumerate Importance of Vertical & Interior gardens.
- 12.Explain importance of site planning in landscape architecture.
13. Explain Japanese zen garden taking Daisen-in Kyoto as an example with the help of sketches
- 14.Explain history of landscape architecture.
15. Illustrate Contemporary concepts and design of open spaces like courtyard, parks.

PART C

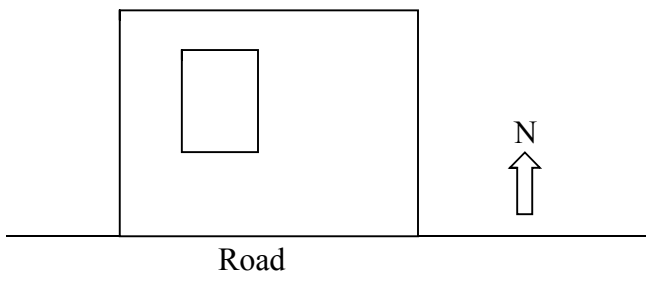
2x20=40Marks

15. Prepare landscape Design for a residence site 30X16 mts ,front set back 7mts,Right setback 15mts,Left setback: 5 mts , Back setback 2mts ,apply principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation.



- i) Landscape layout: 8m
- ii) Sectional elevation of site :5m
- iii) Site sketch view:5m
- iv) Schedule of landscape element:2m

16. Prepare landscape Design for a Post office site 50X30 mts ,front set back 15mts,Right setback 20mts,Left setback: 5 mts , Back setback 2mts ,apply principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation.



- i) Landscape layout: 8m
- ii) Sectional elevation of site :5m
- iii) Site sketch view:5m
- iv) Schedule of landscape element:2m

MODEL QUESTION BANK

CO1: Acquaint the students with the basic principles & elements of landscape architecture.

LEVEL 1: Remember

1. Define landscape & its necessity.
2. Define landscape Architecture & its necessity.
3. What are the objects of Landscape Architecture.
4. Mention the principle of Landscape Design.
5. Enumerate the Elements of Landscape design.
6. List application of Landscape elements in Architectural design.
7. Define Hard & soft scape.

LEVEL 1: Understand

1. Describe principle of landscape design & their applications in landscape architecture.
2. Explain elements of landscape design & their applications in landscape architecture.

CO2: Differentiate the basic elements of landscape with natural & manmade. Importance of different landscape design.

LEVEL 1: Remember

1. Enumerate Landscape Elements.
2. Mention different pathways using materials with sketches.
3. Identify natural & Manmade landscape elements.
4. Mention requirements of vertical garden.
5. What are the precautions to be taken for Roof gardening.
6. Mention site consideration for landscape architecture.
7. Mention features & importance of vertical garden.
8. Mention features & importance of interior garden.
9. Mention features & importance of Roof garden.
10. List point to be considered in site planning in landscape architecture

LEVEL 2: Understand

1. Explain in detail Natural & manmade landscape elements.
2. Sketch stone fountain.
3. Explain importance of site planning in landscape architecture.

CO3: Identify & summarise the history, contemporary & modern of landscape architecture.

LEVEL 1: Remember

1. Write brief note on Japanese garden.
2. List landscape elements used in Japanese garden.
3. Write note on contemporary landscape architecture.
4. Write note on Modern landscape architecture.

5. Write a short note on Mughal gardens .

LEVEL 2: Understand

1. Sketch Shalimar Garden in Kashmir.
2. Explain Versailles Garden by Andre Le Notre.

LEVEL 4: Analyzing

1. Compare contemporary and modern landscape architecture.

CO4: Demonstrate their concept & views of famous landscape architects.

LEVEL 1: Remember

1. Write a note on landscape architect Mohammad Shaheer works on landscape architecture
2. Write a note on landscape architect Charles Jencks works on landscape architecture.

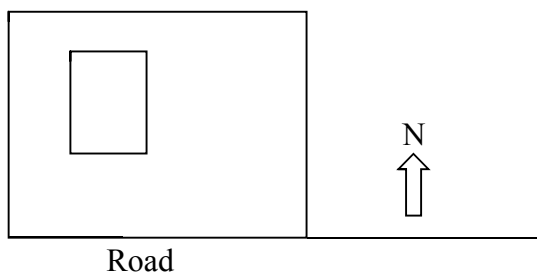
LEVEL 1: Understand

1. Explain the Garden of cosmic speculation, Scotland. By Charles Jencks with the help of sketches.

CO5: Develop landscape layout for Residence

LEVEL 6: Creating

1. Prepare landscape Design for a residence site 30X16 mts ,front set back 7mts,Right setback 15mts,Left setback: 5 mts , Back setback 2mts ,apply principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation.

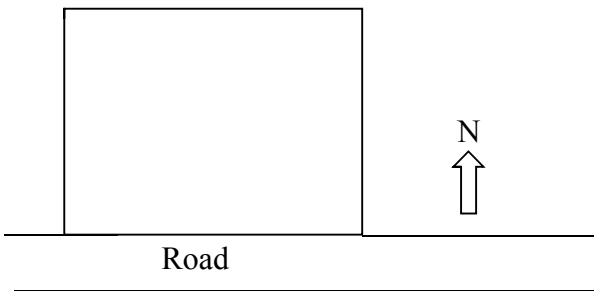


- i) Landscape layout: 8m
- ii) Sectional elevation of site :5m
- iii) Site sketch view:5m
- iv) Schedule of landscape element:2m

CO6: Develop landscape layout for Public Building.


LEVEL 6: Creating

Prepare landscape Design for a Post office site 50X30 mts ,front set back 15mts, Right setback 20mts, Left setback: 5 mts , Back setback 2mts ,apply principles & elements of landscape architecture, showing all landscape elements by using colour codes & graphical representation.



- i) Landscape layout: 8m
- ii) Sectional elevation of site :5m
- iii) Site sketch view:5m
- iv) Schedule of landscape element:2m

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: INTERIOR DETAILING		
	Scheme (L:T:P) : 0:2:4	Total Contact Hours: 78	Course Code: 15AR64P
	Type of Course: Tutorial and Drawing	Credit : 03	Core/ Elective: Core
CIE- 25 Marks		SEE- 50 Marks	

Prerequisites: Basic knowledge of architectural drawing and building materials.

Course Objectives:

1. Introduces students to importance of detailing of interior units.
2. Application of drawings to reveal enlarged detail of units.

COURSE OUTCOME

On successful completion of the course, the students shall be able to :

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Conduct case study report, and prepare interior detailed drawings as a whole .	<i>R//Ay</i>	5,6,7,8,9,10	15
CO2	Prepare detailed interior drawings of a T.V unit/media cabinet.	<i>U/A/Ay</i>	1,5,6,7,8,9,10	15
CO3	Develop detailed drawings of a kitchen.	<i>R/U/A/ Ay</i>	5,6,7,8,9,10	15
CO4	Develop detailed drawings of a wardrobe and toilet.	<i>R/U/A/ Ay</i>	5,6,7,8,9,10	15
CO5	Produce detailed drawings of an office unit.	<i>R/U/A/ Ay</i>	5,6,7,8,9,10	18
		Total		78

*Legend- R; Remember, U: Understand, Ap: Application, Ay: Analysis C:Creation E:evaluate
 - Related to Student activity beyond classroom hours.

COURSE-PO ATTAINMENT MATRIX

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
INTERIOR DESIGN - I		3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

COURSE CONTENT

Unit No	Unit Name	Hour
1	INTERIOR DRAWING	15
2	MEDIA CABINET	15
3	KITCHEN	15
4	WARD ROBE AND TOILET	15
5	OFFICE UNIT	18
	TOTAL	78

UNIT 1 : INTERIOR DRAWING

15Hrs

Introduction to interior detailing as a course, designing process and materials .

Prepare case study report showing interior layout in a single line sketch , material specification and photographs.

Prepare detailed plan and sectional elevations for a Two bed room residence showing all interior units .

Prepare detailed plan and sectional elevations for a small office unit.

UNIT II : MEDIA CABINET

15Hrs

Prepare detailed drawing of media cabinet showing all the necessary dimensions (plans at various levels, sectional elevations) . Show all necessary enlarged and joinery detail .

Develop 3D interior view of the same.

UNITIII: KITCHEN**15 Hrs**

Prepare detailed drawing of a kitchen showing all the necessary dimensions (plans at various levels, sectional elevations) . Show all necessary enlarged and joinery detail . Develop 3D interior view of the same.

UNITIV: WARD ROBE AND TOILET**15Hrs**

Prepare detailed drawing of ward robe and toilet showing all the necessary dimensions (plans at various levels, sectional elevations) . Show all necessary enlarged and joinery detail Develop 3D interior view of the same.

UNITV: OFFICE UNIT**18 Hrs**

Prepare detailed drawing of reception counter, office partitions and M.D's cabin showing all the necessary dimensions (plans at various levels, sectional elevations) for. Show all necessary enlarged and joinery detail. Develop 3D interior view of the same.

Note:

1. Above drawings should be covered through CAD drafting.
2. Interior detailing has to be done for the plan taken from 3rd semester architectural drawing.
3. Students should submit all drawings in the form of portfolio along with case study report covering the above topics for considering internal assessment marks.

**REFERENCE BOOKS**

1. Time Saver Standards for Interior Design and Space Planning by Joseph De Chiara, Julius Panero and Martin Zelnik.
2. Interior Construction & Detailing for Designers & Architects, 6th Edition by [David Kent Ballast](#).
3. Construction and Detailing for Interior Design by Drew Plunkett.
4. Interior Detailing: Concept to Construction by [David Kent Ballast](#).
5. Construction Drawings and Details for Interiors: Basic Skills by W. Otie Kilmer
Rosemary Kilmer

LIST OF LEARNING WEBSITES:

- http://www.architectmagazine.com/technology/detail/innovative-detail-wood-innovation-and-design-centre_o
- <http://www.archdaily.com/tag/detail-magazine>
- <https://www.youtube.com/watch?v=EGM5YuAQqU8>
- https://www.youtube.com/watch?v=kduWp-Ma_qo
- <https://www.youtube.com/watch?v=z1tu-Krsoys>
- <https://www.youtube.com/watch?v=eszyqa4tDrl/>
- <https://www.youtube.com/watch?v=9v-om5CrIQg>

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Graded Exercises	25	Drawing Sheets	1,2,3,4,5
	SEE	End Exam		End of the course	50	Answer scripts at BTE	1,2,3,4,5
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	1, 2,3 Delivery of course
	End of Course Survey			End of the course		Questionnaires	1,2,3,4,5 Effectiveness of Delivery of instructions & Assessment Methods

Note: 1. Average marks of graded exercises shall be rounded off to the next higher digit.
2. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

- | | |
|---|------------------|
| 1. Remembering and understanding: | - 30% weightage |
| 2. Applying the knowledge acquired from the course: | - 55 % weightage |
| 3. Analysis: | - 4% weightage |
| 4. Evaluation: | - 2% weightage |
| 5. Creating new knowledge: | - 9% weightage |

Fifth Semester Diploma in Architecture

Course Title: **INTERIOR DETAIL -I**

Course Code: **15AR64P**


Time: **4 Hours**

Max. Marks: **50**

Scheme of Evaluation for End Exam

Sl. No.	Scheme	Max. Marks
1	Detailed working plan with all dimensions and specification	15
2	Sectional elevations with dimensions and specification	10
3	Enlarged joinery details	5
4	Sessional Work (Portfolio)	15
5	Viva voce	05
Total		50

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: STRUCTURAL DRAWING		
	Scheme (L:T:P) : 0:2:4	Total Contact Hours 78	Course Code: 15AR65P
	Type of Course: Tutorial and Drawing	Credit : 03	Core/ Elective: Core
CIE- 25 Marks		SEE- 50 Marks	

Pre-requisites: Building construction and drawing –I and architectural drawing-I &II

COURSE OBJECTIVE:

The course aims at enabling the students to

1. Understand the concept of RCC and steel structures.
2. Prepare the detailed drawings of both RCC and steel structures

COURSE OUTCOMES

On Successful completion of the course, the students shall be able to

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Explain the behavioural aspects of RCC structures and to prepare detailed drawings of the same for the given design details	<i>R/U/A</i>	1,2	40
CO2	Prepare bar bending schedule for the given design details for a RCC structure and to calculate quantity of reinforcement	<i>R/U/A</i>	1,2,3,10	18
CO3	Explain different types of joints in steel structures and to produce drawings for revealing joinery details	<i>R/U/A</i>	1,2,3,10	10
CO4	Prepare detailed drawings of framed connections in steel structures	<i>R/U/A</i>	1,2,3,10	10
Total sessions				78

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
Structural drawing	3	3	2	-	-	-	-	-	-	

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed

COURSE CONTENT

Unit No	Unit Name	Hour
1	Detailing of RCC structures	50
2	Detailing of steel structures	28
TOTAL		78

DETAILS OF CONTENTS

UNIT 1: Detailing of RCC structures 50 Hrs

- a) Introduction to behavioural concepts of RCC structures. Necessity of reinforcement and proper placement of reinforcement.
- b) To Prepare the detailed drawings and bar bending schedule for the following structures using the given design data and to calculate the quantity of steel reinforcement.
 - i) Singly and doubly reinforced beams.
 - ii) Cantilever beam.
 - iii) One way slab & two way slab (Simply supported with corners not held down).

- iv) Lintel and Chejja.
 - v) Columns (Square, rectangular and circular) with isolated footing only
- c) To prepare the detailed drawings for the following structures using the given design data
- i) Dog legged stair case.
 - ii) RCC pitched roof.
 - iii) RCC Retaining wall without counter forts

UNIT2 : Detailing of steel structures

28 Hrs

To Prepare the detailed drawing for the following structures using the given design data.

- i) Riveted joints-Lap and Butt Joints.
- ii) Beam to column (RSJ) and their connection.
- iii) Beam to Beam connection.
- iv) Roof trusses for different spans including purlins and roof covering materials.
- v) A typical junction between truss and column.
- vi) Slab base.

Note: 1. Above drawings should be covered through manual drafting.

Course Assessment and Evaluation :

Method	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
DIRECT ASSESSMENT	CIE (Continuous Internal Evaluation)	Drawing sheets	Students	Average of marks of all graded exercises	25	Drawing sheets	1,2,3 ,4
	SEE (Semester End Examination)	End Exam		TOTAL	25		
				End of the course	50	Drawing sheets	1,2,3,4
INDIRECT ASSESSMENT	Student Feedback on course		Students	Middle of the course		Feedback forms	1,2,3,4 Delivery of course
	End of Course Survey			End of the course		questionnaire	1,2,3,4 Effectiveness of Demonstrations & Assessment Methods

Note: Average marks of graded exercises shall be rounded off to the next higher digit.

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

1	Remembering and Understanding :	- 10% weightage
2	Applying the knowledge acquired from the course :	-60% weightage
3	Analysis :	- 10% weightage
4	Evaluation :	- 10% weightage
5	Creating new knowledge :	- 10% weightage

TEXT BOOKS

1. Building Drawing – Shah M G, Tata McGraw – Hill, 1992.
2. Structural design and Drawing by N Krishnaraju
Civil engineering Drawing By Chakraborti
3. (SP34)- Hand book on concrete Reinforcement and Detailing
4. Civil Engineering Drawing - Gurucharan singh
5. Reinforcing Detailing of RCC members- T Rangaraju
- 6 Manual of standard practice for detailing reinforced concrete structures(aci 315-65)

web links


www.engineeringcivil.com/presentation-on-reinforcing-detailing-of-r-c-...

www.engineeringcivil.com

SCHEME OF EVALUATION

SL NO	DESCRIPTION	MARKS
1	Given the design details of a RCC structure, to prepare requisite drawings, Bar bending schedule and calculate quantity of reinforcement	20
2	Given the design details of a steel structure, to prepare requisite views	15
3	Sessional works	10
4	Viva voce	05
Total		50

Government of Karnataka
Department of Technical Education
Board of Technical Examinations, Bangalore

	Course Title: PROJECT WORK-II		
	Scheme (L:T:P) : 0:2:4	Total Contact Hours: 78	Course Code: 15AR66P
	Type of Course: Lectures, Self-Study & Drawing	Credit : 3	Core/ Elective: Core
CIE- 25 Marks		SEE- 50 MARKS	

Pre-requisite: All courses of Architecture Programme & Inter disciplinary courses.

Course objectives

1. To develop the student's knowledge and skills over the programme of studies in architecture .
2. To identify what types of knowledge architects draw on and develop in working to initiate projects.
3. Demonstrate an imaginative approach in an area of their interest in form of Drawings, Views, Scale down models , and Report.

Course Outcome :

Upon successful completion of this course, students shall be able to

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Develop basic concept ideas leading to the design	R/U/Ap/ Ay/C/E	1 to 10	09
CO2	Propose Site Plan, Zoning of activity spaces , circulation	R/U/Ap/ Ay/E/C	1 to 10	18
CO3	Create schematic floor plans and develop Elevations and sections of all building units.	R/U/C/E	1 to10	30
CO4	Develop Working and detail drawings, study models etc	R/U/Ap/ Ay/C/E	1 to 10	12
CO5	Produce 3D views of Interior and Exterior.	R/U/Ap/ Ay/C/E	1 to 10	09
Total sessions				78



Programme outcome Attainment Matrix

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments at practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
PROJECT WORK-II	3	3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If >40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If < 5% of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Note: The students shall be guided by an individual guide or by panel of guides at various stages

During the course of the project , the students have to perform the following tasks.

Students are expected to continue the topic from the project – I of the previous semester. Further they have to carry out the tasks mentioned below.

1. Architectural Drawings , Detailed Furniture layout showing openings with Presentation drawings.
2. Working drawings of different floor plans showing centerline/Excavation plan, Doors and window showing the positions , Sections , Elevations and Terrace plan/Roof plan,3D views Service drawings (Electrical, Water supply/Sanitary).
3. Constructional Detail drawings.
4. Structural column layout.
5. Plinth area estimate (Apprx. cost of the project).
6. Scale down model of the project.

TEXT BOOKS

1. Building Drawing – Shah M G, Tata McGraw – Hill, 1992.
2. Building Planning & Drawing – Kumaraswamy N., Kameswara Rao A., Charotar Publishing
3. Time savers standards for architectural design data by John Hancock
4. Neufert's standards
5. Form, Space & Order by Francis DK Ching.

Web links

https://en.wikipedia.org/wiki/Architectural_drawing/

<http://www.authorstream.com/Presentation/ymahgoub-2010316-working-drawings-part/>

Students should undergo review three times in 6th semester. Each review should be evaluated for 25 marks and average of 3 should be taken.

The CIE will be evaluated based on oral presentation and assessment by the internal guide.

Course Assessment and Evaluation Scheme for 6th semester

	What		To whom	When/Where (Frequency in the course)		Max Marks	Evidence collected	Course outcomes
Direct Assessment meth	CIE	IA	Students	Concept	05M	25	Portfolio	CO1, CO2, CO3, CO4, CO5
				Development	10M			
				Presentation	10M			
	SEE	End Exam		End of the course	50	Portfolio, Report	CO1, CO2, CO3, CO4, CO5	
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms		CO1, CO2, CO3 Delivery of course
	End of Course Survey			End of the course		Questionnaires		CO1 to CO5 Effectiveness of Delivery of instructions & Assessment Methods

*CIE – Continuous Internal Evaluation

*SEE – Semester End Examination

NOTE:

1. Above drawings should be covered through CAD drafting.
2. Print out should be taken in A2 size drawing sheet for presentation
3. Students should submit all drawings mentioned above in the form of portfolio for considering CIE marks .
4. Students should carry 5th sem portfolio, report and 6th sem portfolio and report for SEE.
5. Detailed project report in A4 size should be submitted(two copies).

SCHEME OF EVALUATION FOR SEE

Maximum marks: 50

4 Hour /Batch of 20 students

1. Architectural/Presentation drawings Plan, section and elevations	10 marks
2. Working drawings	10 marks
3. Detailing	05 marks
4. 3D View/ 3D max	05 marks
5. Scale down model to suitable scale	05marks
6. Report	10 marks
7. Viva voce	05 marks
Total	<hr/> 50 marks

GUIDELINES AND FORMAT FOR PREPARING PROJECT REPORT FOR VI SEMESTER DIPLOMA IN ARCHITECTURE

1. ARRANGEMENT OF CONTENTS:

The sequence in which the project report material should be arranged as follows:

1. Cover Page
2. Title Page
3. Certificate
4. Acknowledgement
5. Table of Contents
6. Chapters
 - a. Introduction
 - b. Site Analysis
 - c. Literature
 - d. Concept development
 - e. Scale down drawings
7. Bibliography

Note : Report shall not exceed 35-40 pages

2. PREPARATION FORMAT:

Cover Page & Title Page – A specimen copy of the Cover page & Title page of the project report.

Cover page

(A typical Specimen of Cover Page)

TITLE OF PROJECT

<1.5 line spacing>

Submitted by
NAME OF THE CANDIDATE

<Italic>

in partial fulfilment for the award of

<1.5 line spacing><Italic>

DIPLOMA IN ARCHITECTURE PROGRAMME

IN

DEPARTMENT OF ARCHITECTURE

NAME OF THE COLLEGE

DEPARTMENT OF TECHNICAL EDUCATION

BENGALURU-560001

<1.5 line spacing>

Year of submission: (MONTH & YEAR)

Title page

A Project Report
on

<TITLE OF THE PROJECT WORK>

Submitted for partial fulfilment of the requirements for the award of the
of

DIPLOMA IN ARCHITECTURE

IN

DIPLOMA IN ARCHITECTURE PROGRAMME

BY

<Mr. / Ms. Name of the Student (Roll No.)>

Under the guidance of

<Name of the Staff>

Department of ARCHITECTURE
<<NAME OF INSTITUTE>>
<<ADDRESS OF INSTITUTE>>

DEPARTMENT OF TECHNICAL EDUCATION

NAME OF THE INSTITUTION

Address with pin code

Department of

CERTIFICATE

Certified that this project report entitled -----

-----"which is being submitted by Mr./Ms.
-----, Reg. No....., a bonafide student ofin partial
fulfillment for the award of **Diploma in** ----- during the year is record of students
own work carried out under my/our guidance. It is certified that all corrections/suggestions indicated for CIE
have been incorporated in the Report.

The project report has been approved as it satisfies the academic requirements in respect of Project work
prescribed for the said diploma.

It is further understood that by this certificate the undersigned approve the project only for the purpose for
which it is submitted.

Program co ordinator

Name and signature

Project co ordinator(s)

Name and signature

Examiners signature with date

1

2

CANDIDATE'S DECLARATION

I, ----- a student of Diploma in ----- Department bearing
Reg No-----of ----- hereby declare that I own
full responsibility for the information, results and conclusions provided in this project work titled “-----
----- “submitted to **State Board of Technical
Examinations, Government of Karnataka** for the award of Diploma in -----.

To the best of my knowledge, this project work has not been submitted in part or full elsewhere in any other
institution/organization for the award of any certificate/diploma/degree. I have completely taken care in
acknowledging the contribution of others in this academic work. I further declare that in case of any violation
of intellectual property rights and particulars declared, found at any stage, I, as the candidate will be solely
responsible for the same.


Date:

Place:

Signature of candidate

Name: -----

Reg No-----

	Course Title: IN-PLANT TRAINING		
	Hours (L:T:P) 0:0:4	Total Contact Hours: 52	Course Code: 15AR67P
	Type of Course: In-plant training/ Field training	Credit : 02	Core/ Elective: Core
CIE – 25 Marks			

Pre-requisite: Knowledge of planning ,design &construction.

Course objectives

1. To expose students to the working environment of the construction industry and make them familiar with construction activities undertaken in field.
2. To enable them to integrate theory with practice and develop as professionals in the competitive planning and construction field.
3. To give importance to practical aspects of the field and prepare for future challenges.
4. To develop students' ability to think strategically, and to lead, motivate and work with teams.
5. To enhance written and oral communication competencies to technical effectiveness of relevant articles and real time projects.

On successful completion of the course, the students will be able to:

Course Outcome		CL	Linked PO	Visiting Hrs
CO1	Experience the industrial environment, recognize the requirement of the industry and cope up with the industrial	Application/Analysis/Innovative	2 to 10	4 hours per week
CO2	Recognize career paths taking into account their individual abilities and prepare a report about the work	Application/Analysis/Innovative	2 to 10	
CO3	Communicate effectively about the training through technical presentation.	Application/Analysis/Innovative	2 to 10	
CO4	Develop their employability and start-up skills and to enhance the ability to engage in, life-long learning.	Application/Analysis/Innovative	2 to 10	
CO5	Develop individual confidence to handle various engineering assignments and ability to think strategically, and to	Application/Analysis/Innovative	2 to 10	

Programme outcome Attainment Matrix

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and Practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
IN-PLANT TRAINING	0	3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If >40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If < 5% of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Course Guidelines

Architecture diploma students have to undergo in-plant training

1. In-plant training is a course of training in any industry or establishment undergone by the student of final year diploma in Architecture in pursuance of the memorandum of understanding between industry and department of the concerned institute.
2. Industry means any industry or business in which any trade, occupation or subject in the field of planning, designing & construction may be specified as a designated trade. Establishment includes any place where any professional work is carried out.
3. Students have to identify an establishment, firm or organisation (industry) involved in the field of architectural/civil engineering projects. The HOD and concerned faculty will guide and help students in identifying the project. Assistance from Industry Institute Interaction cell may also be taken.

Sixth semester Architecture diploma students have to undergo in-plant training in any one of the following industries/ Agencies/ Departments/projects.

- | | |
|---|-------------------------------------|
| a. Architects office/firms | g. Public works department |
| b. State government undertaking | h. Karnataka Housing board |
| c. Public limited companies | i. Town planning department |
| d. Private limited companies | j. Urban Development authorities |
| e. Karnataka Rural Infrastructure Development Limited | k. Zilla Nirmiti Kendra |
| f. Rural Development and Panchayath raj Department | l. Municipal/City/Town corporations |
| | m. Private Consultants |
| | n. Construction Companies |

1. This activity may be taken up immediately after V Semester examinations and continued in VI semester.
2. The progress of the student is to be assessed by the concerned faculty by conducting three reviews, one each during or after the theory tests. The faculty should visit the field or site at least two times during the in-plant training.
3. The students should submit the in-plant training evaluation form as per Annexure-1 duly signed by the course co ordinator before each review. The evaluation form is shown at the end of this course curriculum.

D. Monitoring of In plant Training

1. At the end of the course each student has to submit a report highlighting the topics to which the student is exposed in the field. The student is required to make a presentation of the skills that he has acquired during the in plant training.

Course Assessment and Evaluation Scheme:

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment	CIE	IA	Students	Review 1	25	Presentation & Report (Annexure1)	CO1 to CO5
				Review 2			
	Review 3						
	SEE			End of the course	-	-	-
Indirect Assessment	Student Feedback on course		Students	Middle of the course		Feedback forms	CO1 to CO5 Delivery of course
	End of Course Survey			End of the course		Questionnaires	CO1 to CO5 Effectiveness of Delivery of instructions & Assessment Methods

Note to IA verifier:

The following documents to be verified by CIE verifier at the end of semester

1. Student activities report for 25 marks.
2. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods.

ANNEXURE 1

FORMAT FOR PREPARATION OF REPORT ON IN-PLANT TRAINING

ORGANISATION OF THE REPORT:

The sequence in which the CONTENTS of the training report should be arranged and bound is as follows:

1. Cover Page
2. Inner Title Page (Same as cover page)
3. Acknowledgement
4. Table of Contents
 - a. Measured drawings
 - b. Photographs
 - c. Literature (Site analysis, estimation)
5. Abbreviations and Nomenclature(If any)
6. References
7. Appendices (If any)

Students should submit Two Copies of the In-plant training report duly signed by the program co ordinator. Students should also submit a CD containing the soft copy of the report in pdf format to the department.

TYPING INSTRUCTIONS:

1. The In-plant training report shall be typed in English- India, Font -Times Roman, Size- 12 point and printed on A4 size paper.
2. The training report shall be typed with 1.5 line spacing with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom. Every page in the report must be numbered. The page numbering, starting from acknowledgements and till the beginning of the introductory chapter, should be printed in small Roman numbers, i.e, i, ii, iii, iv..... The page number of the first page of each chapter should not be printed (but must be accounted for). All page numbers from the second page of each chapter should be printed using Arabic numerals, i.e. 2,3,4,5... All printed page numbers should be located at the bottom centre of the page.

3. In the training report, the title page [Refer sample sheet (inner title pager)] should be given first and printed in black letters.
4. **The table of contents** should list all headings and sub-headings. The title page and certificates will not find a place among the items listed in the Table of Contents. One and a half line spacing should be adopted for typing the matter under this head.
5. **The list of tables** should use exactly the same captions as they appear above the tables in the text. One and a half spacing should be adopted for typing the matter under this head.
6. **The list of figures** should use exactly the same captions as they appear below the figures in the text. One and a half spacing should be adopted for typing the matter under this head.
7. The list of symbols, abbreviation & nomenclature should be typed with one and a half line spacing. Standard symbols, abbreviation etc should be used.
8. Training report should consist of following chapters.
 - Chapter 1- Introduction
 - Chapter 2- Details of area of study in which the student has undergone in-plant training.

(This chapter will be divided into several sections. Each section should be numbered separately. A section may be further divided into several divisions and sub-divisions depending on the content).
 - Chapter 3- PO/Skills attained in the training.
 - Chapter 4- Conclusion by the student.
9. The In-plant training report may consist of about 40 to 50 pages. The training report shall be hard bound with cover page in Maroon color. The name of the students, degree, duration of training period, institute name shall be printed in **Bold Black** letters on the cover page