

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – First Semester

COLOR IN DECOR (351-102)

Time: 3 hrs.

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Write short notes on the following:

- a) Color Sensation.
- b) Tint, Tone and Shade.
- c) Color and its meanings.
- d) Paint.

2x4

PART-A

Q.2 Define Symbolism. By giving examples, write in detail about the color symbolism. **8**

Q.3 Discuss the seven types of contrast. **8**

Q.4 Using colors draw and describe Color Wheel. **8**

PART-B

Q.5 Describe the factors which influence the way color schemes are used in planning an interior design. **8**

Q.6 Suggest colors for the following spaces and give the reason why?

- a) Hospital's.
- b) Restaurants.
- c) Children's room.
- d) Elderly's room.

4x2

Q.7 Discuss color schemes. **8**

End Semester Examination, Dec. 2018
B. Sc. (Interior Design) – First Semester
ELEMENTS AND PRINCIPLES OF OUR ENVIRONMENT (351.104)

Time: 3 hrs.

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Write a note on impact of elements and principles on a design. Justify your answer with suitable examples. **8**

PART-A

Q.2 Discuss in detail how various types of lines can be used in a composition to create illusion. **8**

Q.3 Color and pattern can do wonders in Interior Design. Explain how with suitable examples. **8**

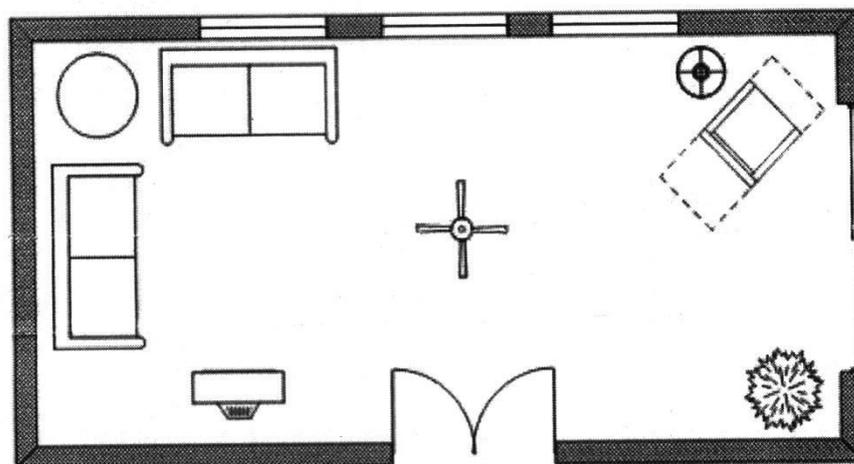
Q.4 How texture and shape can be used together to form a design. **8**

PART-B

Q.5 Proportion and emphasis are the two principles which change the whole impact of design. Justify the statement and give appropriate sketches to support your answer. **8**

Q.6 Discuss in detail Rhythm. Suggest ways to achieve Rhythm in Interior Design. **8**

Q.7 Define the term balance. How will one achieve asymmetrical and symmetrical balance in the given below Layout.



Living Room

8

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) - First Semester HISTORY OF FURNITURE - I (351.105)

Time: 3 hrs

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

Q.1 Define the following terms (**any four**):

- a) Inlay.
- b) Carving.
- c) Fresco.
- d) Intersia.
- e) C-Scroll.
- f) Gliding.

2x4

PART-A

- Q.2 Complexity and ornamentation was the key feature of Roman Furniture. Discuss about other features of Roman Civilization with free hand sketches of motifs and other details. **8**
- Q.3 'Egyptian Civilization is one of the greatest civilizations in terms of furniture making' Justify the statement with suitable furniture illustration. **8**
- Q.4 Discuss in detail Greek furniture and key characteristics with one furniture example. **8**

PART-B

- Q.5 Describe Spanish Renaissance in detail with suitable example. **8**
- Q.6 Describe LOUIS XV furniture style describing its key features, motifs, material etc along with a neat furniture sketch. **8**
- Q.7 Give a brief about Queen Anne Furniture style along with suitable sketches. **8**

End Semester Examination, Dec. 2018

B.Sc. (Interior Design) – First Semester COMMUNICATION-I (351.107)

Time: 3 hrs

Max Marks: 40

No. of pages: 2

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

Q.1 **Find out which part of the sentence has an error:**

- a) i) She reluctantly said
 iii) Was doing it
b) i) Will you lend me
 iii) To tide over
ii) That if nobody else
iv) She will do it
ii) Little money
iv) This crisis?
v) No error
v) No error.

Use the correct form of tenses from the options given below each question:

- c) By the time she _____ that it was Allen who had written that letter, he had flown off.
i) Had realized ii) Realizes iii) Realized iv) Will realize.
d) The burglar _____ for something in this room, and he knew where to look.
i) Were searching ii) Was searching iii) Had searched iv) are searching.
e) My brother told me that he would _____ the canned drinks if he had the money, as they were on sale.
i) Have bought ii) Be buying iii) Had bought iv) Bought.
f) We will be scaling up the rock wall _____ everyone is prepared and ready.
i) Although ii) Unless iii) If iv) Lest.

Find the correct order from the choice given below to form a meaningful paragraph:

- g) P. Its business decisions are made on the timely and accurate flow of information.
Q. It has 13 branches and representative offices across the Asia-Pacific region.
R. For its employees to maintain a competitive edge in a fast-moving field, they must have quick access to JP Morgan's proprietary trade related data.
S. JP Morgan's is one of the largest banking institution in the US and a premiere international trading firm.
i) RSPQ ii) SPQR iii) SQPR iv) RSQP
h) P. The impetus for change in cargo handling, after years of operational inefficiency has come from new private sector facilitators.
Q. Other ports, both major and minor, have spurred into action.
R. And the government agrees this is having a cascading effect on the functioning of other ports.
S. In terms of cargo handling efficiency, some of India's ports have lately undergone a sea change.
i) PRQS ii) SPRQ iii) SRQP v) PSQR

1x8

PART-A

Q.2 Write short notes on:

- a) SQ3R.
b) Communication System.
c) Representation System.
d) SMART Goals.

8

Q.3 Write down barriers to communication. Also write ways to overcome the barriers.

8

Q.4 Differentiate between formal and informal letter with example. **8**

PART-B

Q.5 What are representation systems? How can you use them to make your presentation more effective? **8**

Q.6 Write a letter to the concerned requesting for some books that are not available in library yet are very helpful for your course. **8**

Q.7 Define the term presentation. Explain in detail three steps to make an effective presentation. **8**

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – First Semester MATERIALS AND FINISHES-I (351-108)

Time: 3 hrs.

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Make a list of Materials which are used in Interiors. The list should cover various finishes used for Floors, Walls and Ceilings. **8**

PART-A

Q.2 Write about Materials which have insulation properties and are used in areas requiring quiet atmosphere like library or auditorium etc. **8**

Q.3 Write about Eco friendly materials which can lessen the impact on the deterioration of our environment. **8**

Q.4 What materials can be used to reduce the risk of injury to the user and enhance the safety aspect including fire resistance, non-polluting and non-offensive? **8**

PART-B

Q.5 Explain the Unit of measurement used for calculating various items of works in an interior like, flooring, panelling, loose furniture, electrical items, fabric etc. **8**

Q.6 Give the thickness of commonly used items in interior finishes like ply, board Veneer, Glass, Tile, Marble, Laminate etc. **8**

Q.7 Give the sizes of commonly used items in interior finishes like Tile, Ply, Board, Laminate, Glass, Veneer Gyp Board Etc. **8**

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Second Semester

HISTORY OF FURNITURE-II (351.205)

Time: 3 hrs.

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 Discuss the social and economic reasons for furniture construction changes over the decades. **8**

PART-A

Q.2 Write in detail about the furniture designs of two cabinet makers of 18th century in neoclassical style. **8**

Q.3 Explain Victorian era in detail. **8**

Q.4 Draw and differentiate between the design of furniture pieces of neoclassical style and victorian style. **8**

PART-B

Q.5 Write in detail about the famous designers from the two schools of thoughts mentioned below and explain how they were major force in developing the concepts and laying the foundations of industrial design.

a) Glasgow School of Design.

b) Bauhaus School of Design.

4×2

Q.6 Explain briefly about the minimalistic style furniture. Give examples of various furniture styles of different periods supporting the style along with neat sketches. **8**

Q.7 As an interior designer if you have to redesign your drawing room space, which kind of furniture style you think will suit in your residence and why? Describe briefly how the style has influenced you? **8**

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Second Semester

COMMUNICATION-II (351.207)

Time: 3 hrs.

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 What is non-verbal communication? Define different parts of non-verbal communication? **8**

PART-A

Q.2 What is presentation? Write down the techniques to deliver an effective presentation? **8**

Q.3 Write short notes on:

a) Proxemics.

b) Representation system.

4×2

Q.4 Write a letter to the concerned authority to request for some new books to be made available in college library. **8**

PART-B

Q.5 What are formal and informal letters? Differentiate between them with examples. **8**

Q.6 How to conduct audience analysis and why? **8**

Q.7 Rearrange the following jumbled sentences into meaningful ones:

a) Every country / they are / found / except / Antarctica / every continent / in virtually / and inhabit

b) I'd / thought / nervous / the / get / interview / I / I through / was / never / so

c) Its / urbanization / in India / everywhere / has tentacles / spread

d) Place / our lines / music / important / has / in / an

2×4

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Second Semester MATERIALS AND FINISHES-II (351.209)

Time: 3 hrs.

Max Marks: **40**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

- Q.1 List out the problems and ways the textile industry has addressed environmental and recycling issues. **8**

PART-A

- Q.2 Explain production methods used in manufacturing textiles for end used applications in detail. **8**

- Q.3 Outline the differences between natural and synthetic fibers and explain the environmental impact created when specifying specific types of fibers. **8**

- Q.4 Explain the performance of different weaves of fabric and show different patterns through neat sketches. **8**

PART-B

- Q.5 Discuss the advantages and disadvantages of blending natural and manmade fibers. **8**

- Q.6 Explain by giving examples the advantages and disadvantages of specifying certain textiles in different applications. **8**

- Q.7 Calculate the quantity required of the following:

- a) Quantity of fabric for sofa sets.
- b) Quantity of curtain fabric for 10' – 0" × 10' – 0" glass window.
- c) Carpet area on floor and skirting of 10' – 0" × 10' – 0" room.

8

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Second Semester

GENERAL EDUCATION (351.210)

Time: 3 hrs.

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 What is communication process? What are the barriers to communication and how to overcome them? **8**

PART-A

Q.2 What is presentation? What points are to be kept in mind while making a PowerPoint presentation? **8**

Q.3 Write short notes on:
a) Phonetics.
b) Interviewing skill. **4×2**

Q.4 What are the different types of interviews? **8**

PART-B

Q.5 Define 'listening'. What is the importance of listening? **8**

Q.6 Define 'body language'. How can you use body language to ensure maximum delivery or an efficient delivery? **8**

Q.7 What is 'memo'? What are different purpose of writing a memorandum? Explain with an example. **8**

End Semester Examination, Dec. 2018
B. Sc. (Interior Design) - Second Semester
WINDOW TREATMENTS AND SOFT FURNISHINGS (351.211)

Time: 3 hrs

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

Q.1 Define the term 'window treatment'. Describe various types of treatments through a flow chart. **8**

PART-A

Q.2 How can different period styles of window treatment be coordinated with interior design. Give examples. **8**

Q.3 Write short notes on **(any two)** of the following:

a) Latest trends in window treatment.

b) Use of principles of design in treating a window.

c) Advantages and disadvantages of treating a window. **4x2**

Q.4 Blinds plays an important role in treating a window. Discuss various types of blinds along with their uses in interior design. **8**

PART-B

Q.5 Define the terms upholstery and re-Upholstery in a tabular form, illustrating the differences between the two. Briefly discuss the advantages of re-upholstery. **8**

Q.6 Pillows comes under soft furnishings. So suggest some options to your client giving Pros and Cons of each option. **8**

Q.7 Define 'soft furnishing'. Discuss various types of curtains along with suitable sketches. **8**

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) - Third Semester

LIGHTING (351.305)

Time: 3 hrs

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

Q.1 Define the following terms (**any four**):

- a) Luminaire
- b) Lux
- c) Lamp
- d) Foot-Candles
- e) Task Light
- f) SHR
- g) Fixture

2x4

PART-A

Q.2 What are the different parameters considered for placement of fixture

8

Q.3 What are the different accessories used in Lighting.

8

Q.4 Write short note on (any two) of the following:

- a) Types of bulb.
- b) Briefly differentiate between Natural and Artificial light.
- c) Residential Lighting Fixtures.

4x2

PART-B

Q.5 What are the guidelines for good natural lighting?

8

Q.6 It is proposed to illuminate a class room of dimensions 6 x 8 x 2.85 m to an illuminance (E) of 400 lx at the bench level. The specification calls for luminaries having one 1050 mm 40W fluorescent natural tube with an initial output of 3200 lumens with white metal base and prismatic plastic diffuser (its UF is 0.57). Determine the number of luminaries required for this installation when the MF is 0.7, respectively. The reflection coefficients are: (C=0.70, W=0.3, F=0.2). Draw Diagram also.

8

Q.7 Write short notes on:

- a) Indoor Light.
- b) What causes the different colors in LED's.

2x4

End Semester Examination, Dec. 2018

B.Sc. (Interior Design) - Third Semester

MARKETING TECHNIQUES (351.307)

Time: 3 hrs

Max Marks. **40**

No. of pages: 1

Note: Attempt any **FIVE** questions in all; **Q.1is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Define the following terms (**any four**):

- a) Marketing Research.
- b) Know you Customer.
- c) Sales Channels.
- d) CRM.
- e) Niche Market.
- f) Positioning.

2x4

PART-A

Q.2 What are Costs of a business? Explain the different types of costs involved in the foundation of a start-up. **8**

Q.3 Define the term Marketing Mix. How do the different elements of the marketing mix effect the growth of an organization? **8**

Q.4 Define FAB. How can FAB be used to improve the sales of an organization? **8**

PART-B

Q.5 What is Advertising? Enlist four methods of advertising used to increase the visibility of a brand? **8**

Q.6 What are few different types of New Products? Explain the stages of new product development. **8**

Q.7 Elaborate on the following basis of Market Segmentation (**any two**):

- a) Behavioral.
- b) Geographical.
- c) Socio-Cultural.
- d) Demographical.

4x2

End Semester Examination, Dec. 2018

B.Sc. (Interior Design) – Third Semester

LIVING GREEN (351-309)

Time: 3 hrs.

Max Marks: **40**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Write short notes on (**any two**) of the following:

- a) Global Warming.
- b) Composting.
- c) Eco friendly Materials.

4x2

PART-A

- Q.2 Describe the ethical challenges associated with climate change. **8**
- Q.3 What is environmental degradation? What are the various causes and effects of environment degradation? **8**
- Q.4 Explain the steps individuals can take to reduce their impact on the environment. **8**

PART-B

- Q.5 What is Energy Conservation? Give examples on the ways to save energy. **8**
- Q.6 How does indoor air gets polluted and explain the steps to improve indoor air quality and reduce pollution? **8**
- Q.7 What is carbon footprint? Examine the current fuels in use today and list travel means that are not carbon producers. **8**

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Third Semester

DESIGN THINKING (351.310)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 What is your definition of designs thinking? Elaborate the elements of design thinking for the point of view of an interior designer. **20**

PART-A

Q.2 What are the five design concepts underlying relational strength for the interior designer? **10**

Q.3 What the rules for the guiding narrative structure in conceptualization of design thinking? **10**

Q.4 Illustrate the design thinking in terms of design thinking process. Explain with neat sketches. **10**

PART-A

Q.5 How is it design thinking learning integrate business, technology and people? **10**

Q.6 Elaborate with the help of neat sketches about the applying design thinking in traditional and contemporary design thinking. **10**

Q.7 Define the following terms:

- a) Empathize mode.
- b) Define mode.
- c) Ideate mode.
- d) Prototype mode.
- e) Test mode.

2×5

End Semester Examination, Dec. 2018
B. Sc. (Interior Design) – Fourth Semester
BUSINESS SKILLS FOR DECORATORS (351.401)

Time: 3 hrs

Max Marks: **40**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Define the terms of **(any four)** of the following:

- a) Curriculum Vitae
- b) Retailer.
- c) Contract.
- d) Time management.
- e) Exhibition.
- f) General partnership.

2x4

PART-A

Q.2 Define 'contract'. Discuss in detail various forms and requirements of a contract. **8**

Q.3 Communication plays an important role in 'interior design'. Justify the statement with suitable examples. **8**

Q.4 Discuss Designer's Code of Ethics in detail. **8**

PART-B

Q.5 Define 'portfolio'. Discuss in detail requirements of an interior design portfolio and tips to improve the presentation. **8**

Q.6 Discuss in detail procedures followed in an interior designer project. Describe its each step with suitable examples. **8**

Q.7 Write short notes on **(any two)** of the following:

- a) Time management.
- b) General contractors.
- c) Joint ventures.

4x2

End Semester Examination, Dec. 2018

B. Sc. (Interior Design) – Fifth Semester ESTIMATION AND COSTING (351.510)

Time: 3 hrs.

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FOUR** questions in all. **Part-B is compulsory**. Attempt any **THREE** questions from **Part-A**. Marks are indicated against each question.

PART-A

Q.1 Write short notes about the following (**any five**):

- a) Analysis of rates.
- b) Quantity survey.
- c) Ordinary measurement book.
- d) Specifications.
- e) Long wall short wall method.
- f) Plinth area method.

2×5

Q.2 What are the different types of estimates? How they are different from each other? **10**

Q.3 Explain the rules of measurements and write the requirement of estimation and costing. **10**

Q.4 Write down the units of measurement of the following:

- a) Earth work excavation.
- b) Brick masonry.
- c) Cement concrete.
- d) Damp proof course.
- e) Stone masonry.
- f) DOORS.
- g) SKIRTING.
- h) GLASS.
- i) Paint work.
- j) PVC pipe.
- k) Wood
- l) Door mandles.

1x10

PART-B

Q.5 Prepare the preliminary estimate of a floor having carpet area of 1000 sq.m.

- a) Estimate for flooring (white marble).
- b) Estimate for paint and POP with wall height 3m.
- c) Estimate for door and windows.
- d) Estimate for POP false ceiling. Put all the items in bo.

10

OR

A cabin size of 7m × 5m × 4m has two windows measuring 1m × 1.10m and two doors of size 1.50m × 2.0m each.

Prepare estimate for interior work including flooring, plastering and painting. Put all the items in bo.

10

End Semester Examination, Dec. 2018
Bachelor of Science (Interior Design) - Sixth Semester
MATERIAL FINISHES AND DESIGN TRENDS (351.610)

Time: 3 hrs

Max Marks. **40**

No. of pages: 1

Note: Attempt any **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1 'Growth of communication and overseas sourcing has allowed blending the East and the West'. Justify the above statement in terms of:
- a) Contemporary furniture and furnishings.
 - b) Color trends.
 - c) Latest materials.
- 8**

PART-A

- Q.2 Based on a concept, write a design concept statement along with 3D sketches of a **residence (any space)** of your choice (on any one) from the following (**any one**):
- a) European.
 - b) Asian.
 - c) African.
- 8**

- Q.3 Write in detail about the fabrics and its types in detail. **8**

- Q.4 Mention two elements of interior design and explain the technology used in the fabrication of materials (one for each element) for exterior and interior spaces. **8**

PART-B

- Q.5 Design a contemporary style furniture pieces for display purpose of toys showing all the details. **8**

- Q.6 "Green design" does not mean the "colour green". It means designing eco-friendly interiors. **Justify.**
8

- Q.7 As an interior designers suggest how will you re-use the old products differently and innovatively. Justify. **8**

End Semester Examination, Dec. 2018
B. Sc. (Interior Design) – Sixth Semester
PROFESSIONAL PRACTICE AND PROJECT REPORT PRESENTATION
(351.611)

Time: 3 hrs.

Max Marks: **40**

No. of pages: **1**

Note: Attempt **FOUR** questions in all; **PART-A is compulsory**. Attempt any **THREE** questions from **PART-B**. Each question carries equal marks.

PART-A

Q.1 Write short notes on **(any five)** of the following:

- a) Bill of quantities.
- b) Specifications.
- c) Arbitration.
- d) Tender notice.
- e) All in contract.
- f) Ethics and values.

4x5

PART-B

Q.2 What are the advantages of using "standard set of conditions" in a contract? Why should owner or designer preserve the one set of original drawings? **10**

Q.3 Explain "ARBITRATION" IN DETAIL. Why "ARBITRATION" take to be there in a contract? **10**

Q.4 What is "item rate or unit price" contract? Explain its nature of argument, mode of payment, advantages and limitations. **10**

Q.5 Explain "percentage rate contract" and write its advantages in detail. **10**

Q.6 Write short notes on:

- a) Cost plus percentage contract.
- b) Cost plus fixed fee contract.
- c) Cost plus fluctuating fee contract.
- d) Labour contract.
- e) BOI contract.

5x4

End Semester Examination, Dec. 2018

Bachelor of Architecture – First Semester

STRUCTURAL DESIGN-I (AR-105)

Time: 3 hrs

Max Marks: **70**

No. of pages: 2

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Explain the following:

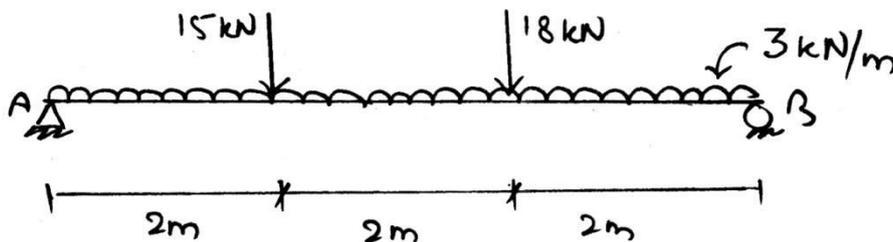
- Newton's Law of Motion.
- Free body space diagrams.
- Polygon of forces.
- Equilibrium.
- Types of supports.
- Types of loads.
- Force.
- Bow's notation.
- Centre of gravity.
- Centroid.
- Moment of inertia.
- Types of trusses.
- Method of analyzing.
- Forces in members of trusses.

1x14

PART-A

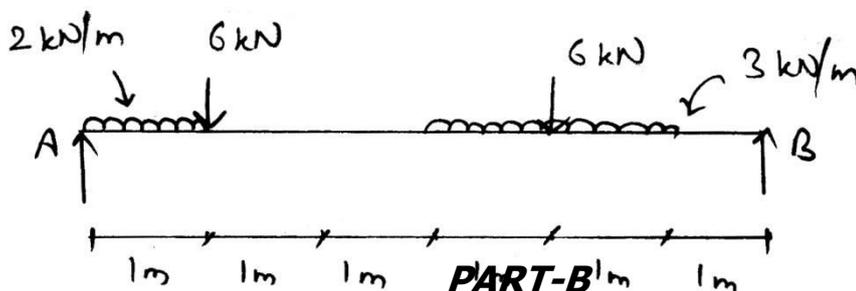
- Q.2 a) Name laws of forces. Explain any two in detail. **6**
b) The angle between two forces of magnitude 10 N and 20 N is 60° , the 20 N force being horizontal. Determine the resultant in magnitude and direction when:
i) Both forces are pull forces.
ii) The force of 20 N is pull force and that of 10 N is a push force. **8**

- Q.3 a) What is a moment? Write down its characteristics in brief. **4**
b) Calculate reactions of beam show in figure given below:



10

- Q.4 a) Explain equilibrant and show type of beams (with diagrams). **4**
b) Calculate reactions for the beam shown in figure given below:



10

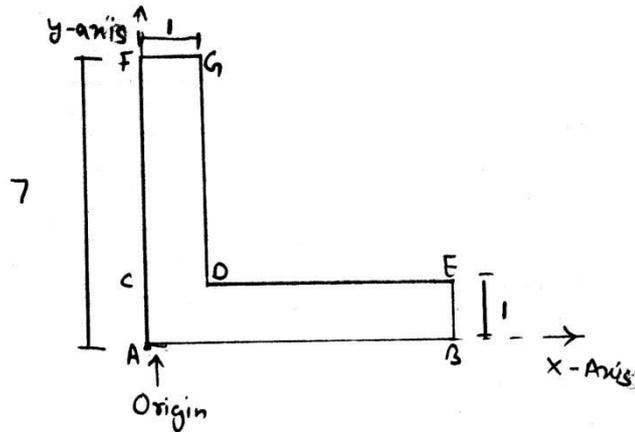
PART-B

Q.5 a) Write down centroid of following:

- i) Rectangle.
- ii) Circle.
- iii) Semicircle.
- iv) Triangle.

1x4

b) Calculate the centroid of lamina in figure given below:



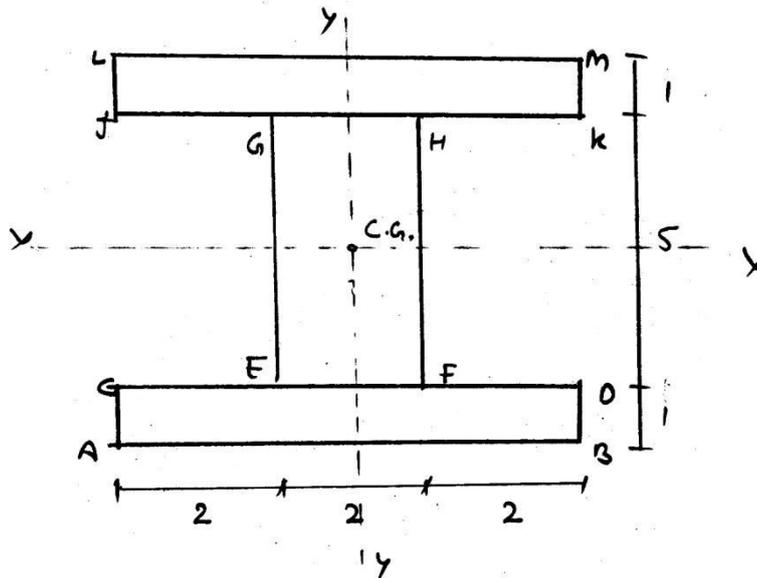
10

Q.6 a) Write down moment of inertia (MOI) of following:

- i) Rectangle.
- ii) Triangle.
- iii) Circle.
- iv) Ellipse.

1x4

b) Calculate centroidal MOI of lamina shown in figure given below:

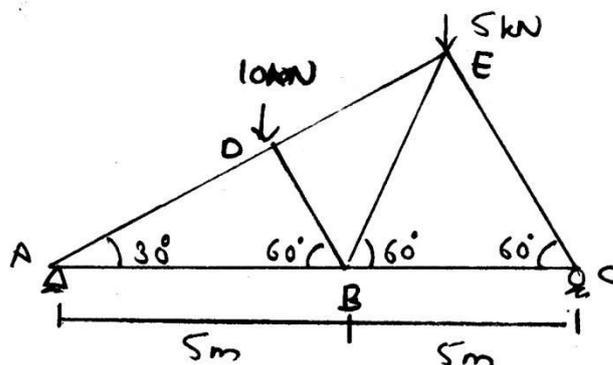


10

Q.7 a) What are the basic assumption made to analyze a truss?

4

b) Analyze the truss shown in figure give below by any method:



10

End Semester Examination, Dec. 2018

Bachelor of Architecture – First Semester

COMMUNICATION SKILLS (AR-109)

Time: 3 hrs

Max Marks: **40**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

Q.1 **Find out which part of the sentence has an error:**

- | | |
|--|---------------------------------|
| a) i) The course of events | ii) Took a turn for the worst |
| iii) When the policy to be implemented | iv) Was negated by the house. |
| b) i) The traveler asked | ii) The peasant if he could |
| iii) Tell him the way | iv) To the nearest inn |
| c) i) The police brought | ii) The comen to the villagers. |
| iii) So that they | iv) Can identify them. |
| d) i) He is taking care of | ii) The garden at his house |
| iii) Since his | iv) Father's death |

Use the correct form of tenses from the option give below each question:

- e) I thought today _____ Saturday, but it turns out that it _____ Friday.
i) was, is ii) are, were iii) is, was iv) were, was
- f) Oh my! You seem to _____ yourself. Let me get you a band aid.
i) cut ii) cuts iii) has cut iv) have cut
- g) By the time we got to the restaurant, Ramesh _____ two burgers.
i) ate ii) had eaten iii) eats iv) would have eaten
- h) "The store _____ in ten minutes," said the announcer.
i) has closed ii) are closing iii) will close iv) closed

1x8

PART-A

Q.2 Write short notes on:

- a) SQ3R.
- b) Assertive communication.
- c) Affective writing skills.
- d) Data interpretation.

8

Q.3 What is communication process? Explain with help of a diagram.

8

Q.4 Write an application stating the pathetic condition of the play-ground in your college campus addressing the concerned person.

8

PART-B

Q.5 Write an email to your favorite teacher thanking him/her for the efforts she has put in to make learning easy for you all.

8

Q.6 Write a paragraph on:

- a) A change that would improve our lives.
- b) Social networking sites.

8

Q.7 Define 'sentences'. What are different types of sentences? Give two examples each.

8

End Semester Examination, Dec. 2018
 Bachelor of Architecture – Second Semester
STRUCTURAL DESIGN-II (AR-205)

Time: 3 hrs.

Max Marks: **70**

No. of pages: 2

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt **ANY TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

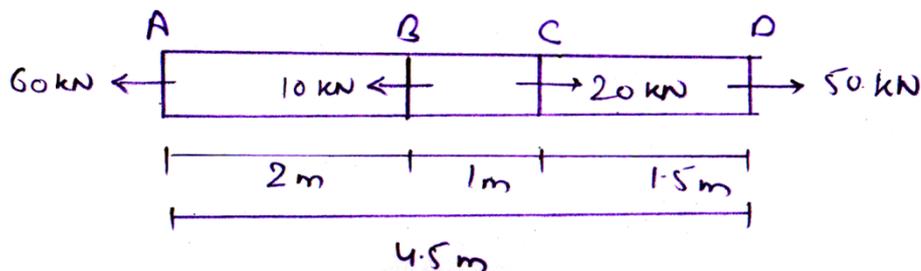
Q.1 Explain the following:

- a) Poisson's ration.
- b) Elastic limit.
- c) Young Modulus.
- d) Bulk modulus.
- e) Stress and strain.
- f) Volumetric strain.
- g) Type of stresses.
- h) Bending moment and shear force relationship.
- i) Factor of safety.
- j) Moment of resistance.
- k) Type of loads.
- l) Type of beams.
- m) Type of supports.
- n) Rigidity.

1×14

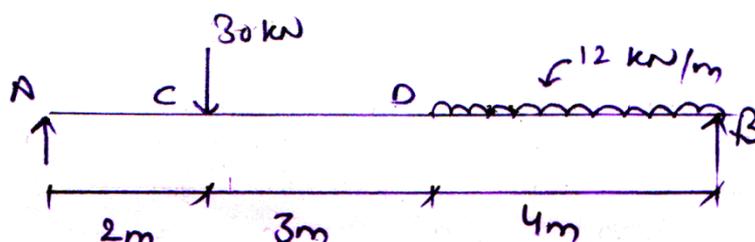
PART-A

- Q.2 a) Explain assumptions that are made in strength of materials. **7**
 b) Explain the terminology used in strength of materials. **7**
- Q.3 a) Give Relationship between E, N and K. State the Hook's Law. **7**
 b) A rod of 4.5 m long having diameter of 25 mm is subjected to the forces as shown in figure below. If young's modulus of Rod is 200 GPa the determine the deformation.



7

- Q.4 a) What is point of contraflexure? Explain in briefly. **4**
 b) Draw S.F.D and B.M.D of beam given below:

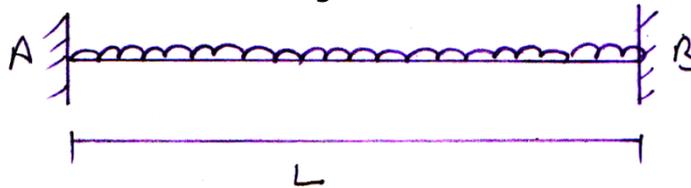


10

PART-B

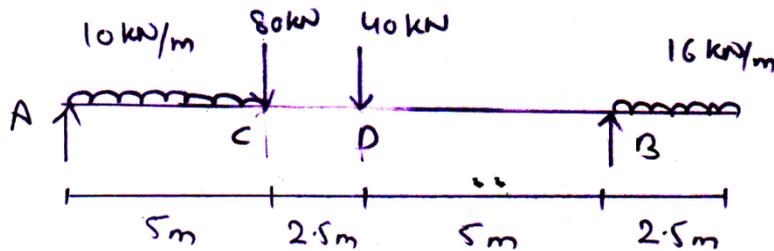
- Q.5 a) Which one is better simply supported or fixed beam. Discuss. **4**

b) Draw S.F.O and B.M.D of beam given below:



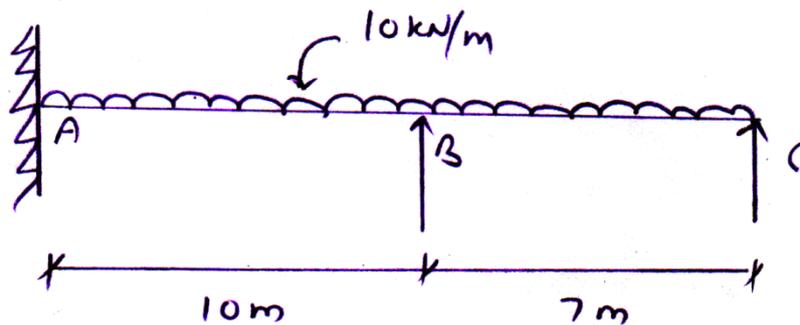
10

Q.6 Find moment over the beam with reactions at the support. Also draw S.F.D. and B.M.D. of beam given below.



14

Q.7 A continuous beam ABC is shown in figure below. Find the moments along the beam and reactions at the supports. Also draw S.F.D. and B.M.D.



14

End Semester Examination, Dec. 2018

Bachelor of Architecture – Second Semester

STRUCTURAL DESIGN-II (AR-205)

Time: 3 hrs.

Max Marks: **70**

No. of pages: **2**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt **ANY TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Explain the following:

- Point of contra flexure.
- Poisson's Ratio.
- Volumetric Strain.
- Fixed and Continuous Beams.
- Types of Stresses.
- Hook's Law.
- Factor of Safety.

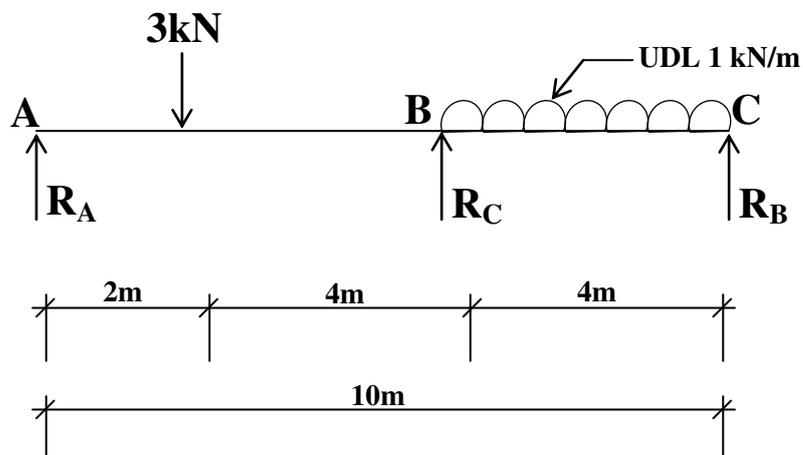
2×7

PART-A

- Q.2 a) Explain relationship between E, K and G. **6**
b) A concrete column of 200 mm. × 300 mm. is reinforced with 4 bars of 20 mm. dia and carries a load of 300 kN. Calculate load shared by concrete and steel and the stresses in respective materials. $E_s = 2 \times 10^5$ MPa, $E_c = 0.15 \times 10^5$ MPa. **8**
- Q.3 a) Draw and explain stress strain curve for the mild steel. **6**
b) Describe the various mechanical properties of materials, like elasticity, plasticity, malleability, hardness, strength, toughness and ductility with illustrations of the materials. **8**
- Q.4 a) Explain Shear Force and Bending Moment. **4**
b) A simply supported beam AB of span 4 m is acted upon by an UDL of 5kN/m for a distance of 2 m from left support and a point load of 1 m from right support. Draw shears force and bending moment diagrams. Calculate magnitude and location of maximum bending moment. **10**

PART-B

- Q.5 a) State the Clapeyron's theorem of three moments. **4**
b) A continuous beam ABC consists of two consecutive spans AB and BC 4 meters each and carrying a distributed load of 60 kN per meter run. The end A (left side) is fixed and end C (right side) is simply supported. Find the support moments and the reactions. **10**
- Q.6 A continuous beam ABC 10 m. long rests on three supports A, B and C at the same level and is loaded as shown in figure given below: Find the support moments and support reactions. Draw the shear force and bending moment diagrams.



- Q.7 a) What are the advantages and disadvantages of fixed beam? **6**
- b) A beam 8 meters long fixed at both ends carries a uniformly distributed load over the whole span. Find the load intensity on the beam.
- i) If the maximum bending moment shall not exceed 40 kNm.
- ii) If the deflection shall not exceed $1/400$ of the span.
Take $EI = 9.5 \times 10^9 \text{ kN/mm}^2$. **8**

End Semester Examination, Dec 2018
Bachelor of Architecture – Second Semester
SOCIOLOGY AND PSYCHOLOGY OF ARCHITECTURE (AR-207)

Time: 3 hrs.

Max Marks: **70**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.*

Q.1 Write short notes on following:

- a) Image of city and its five elements of identification.
- b) Cultural identity.
- c) Ethnocentrism.
- d) Concept and factors of social and cultural changes in relation to architecture.
- e) Theory of cultural lag.
- f) Territorial spaces and its types.

5×6

PART-A

- Q.2 What is Maslow's law of hierarchy of needs? Explain with diagram. **10**
- Q.3 What do you understand by sociology and how is it important for architecture? **10**
- Q.4 What is culture and concept of culture in sociology? Explain material and non-material culture in detail. **10**

PART-B

- Q.5 Explain poverty and ghettoization with reference to slums in detail. **10**
- Q.6 Explain hierarchy of spaces, proxemics and territoriality. How do they influence the design of built environment? **10**
- Q.7 Explain theory and classification of territoriality according to "ALTMAN" **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Second Semester

CLIMATOLOGY (AR-209)

Time: 3 hrs.

Max Marks: **70**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Write short notes on the following:

- a) Wind vane.
- b) Lux meter.
- c) Sun path diagram.
- d) Summer solstice.
- e) Equinox.
- f) Winter solstice.

5×6

PART-A

Q.2 Explain three passive design strategies to reduce heat gain through building envelope. Elaborate with help of neat sketches. **10**

Q.3 Explain five weather parameters for any three climatic zones of India in detail. **10**

Q.4 Explain the importance of ventilations in building design. Explain any two passive design strategies for enhancing ventilation in detail. **10**

PART-B

Q.5 Explain the functioning of solarium in detail with help of neat sketches. **10**

Q.6 Explain the importance of solar orientation for a building. Explain window shading strategies for north and west facing windows with help of neat sketches. **10**

Q.7 What is difference between passive design and active design strategies? Explain passive design strategies for enhancing day lightning in the building. **10**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Third Semester
HISTORY OF ARCHITECTURE-I (AR-304)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 What is meant by the term Prehistoric? What is Paleolithic and Neolithic age? Explain with sketches the architecture developed during Neolithic age. **12**

PART-A

Q.2 Show Nile Valley on map and explain the development and style of Architecture during Egyptian Valley Civilization. **12**

Q.3 What is a Ziggurats and in which part of the world it was constructed? Explain with sketches and maps. **12**

Q.4 What were the Salient features of Chinese architectural style? Show Great Wall of China on the map. **12**

PART-B

Q.5 Explain the architectural style evolved during the period of Roman Empire. **12**

Q.6 Why Greek architecture is known as classical architecture? Explain with sketches. **12**

Q.7 Compare Greek temple with Egyptian temple with sketches. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture –Third Semester STRUCTURAL DESIGN-III (AR-305)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Answer the following:

- a) Explain pure bending.
- b) Write down assumptions of pure bending.
- c) Define buckling and critical load in case of column.
- d) Name at least four types of end conditions for a column.
- e) What is eccentric loading on a column?
- f) Explain middle-third rule.
- g) What is a composite section?
- h) What is Shear Stress? Explain.

1½x8

PART-A

Q.2 a) What is section modulus? Write down value of section modulus of following:

- i) Rectangular Section.
- ii) Circular Section.
- iii) Hollow Circular Section.

5

b) A beam of depth equal to twice the width carries a load of 18 kN over the entire span of 350 cm. Determine the actual dimensions of the beam, if the maximum stress does not exceed 8 MPa.

7

Q.3 a) Write down relationship between deflection with slope, bending moment, shear force and rate of loading.

4

b) A wooden beam 4m long, simply supported at its ends is carrying a point load of 7.25 kN at its center. The cross section of the beam is 140 mm wide and 240 mm deep. If $E = 6 \times 10^3 \text{ N/mm}^2$, then find:

- i) Deflection at the center.
- ii) Slopes at the supports.

8

Q.4 a) Write down Euler's assumptions for column.

4

b) Determine Euler's buckling load for a column of I-section with flanges 300 mm X 10 mm and web 40 mm X 8 mm. The length of the column is 6 m. One end is fixed and other end is hinged. $E = 200 \text{ kN/mm}^2$

8

PART-B

Q.5 A beam is made up of channel section 100 mm X 50 mm which has a uniform thickness of 15 mm. Draw the distribution of shear stress across a vertical section if the shearing force is 100 kN. Also, find the ratio between the maximum shear stress and average shear stress.

12

Q.6 a) What is modular ratio? How it is helpful in composite section analysis?

4

b) A Fliched beam of a wooden joint is 100 mm wide and 240 mm deep and it is strengthened by steel plate 100 mm thick and 240 mm deep on either side of the joint. Determine the moment of resistance. The maximum stress in steel, $P_s = 140 \text{ m/mm}^2$ and maximum stress in wood, $P_w = 7 \text{ N/mm}^2$.

8

Q.7 a) What is shear stress? Explain shear stress distribution with an example.

6

- b) A simply supported beam of 6 m span is subjected to a uniformly distributed load of 15 kN/m over its entire length. The cross section of the beam is 20 cm wide and 30 cm deep. Sketch the variation of bending stress in the beam cross-section. **6**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Third Semester
SURVEYING AND LEVELLING (AR-306)

Time: 3 hrs.

Max Marks: **40**

No. of pages: 1

Note: Attempt any **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each questions carry equal marks.

Q.1 Write short notes on:

- a) Difference of Surveying and levelling.
- b) Difference of dip and local attraction.
- c) Difference of True meridian and magnetic meridian.
- d) Contour interval and horizontal equivalent.

2x4

PART-A

Q.2 a) A plan was drawn to a scale of 1:4000 was measured by a scale of 1:5000. Find the percent error in the length and area measured. **2**

b) Explain and differentiate between mistakes and errors (Cumulative, Compensating). **3**

c) Calculate the error for following expression: **3**

$$s = x \times y$$

Q.3 a) With figure explain types of cross staffs. **4**

b) In passing an obstacle in the form of a pond, stations A&D on main lines, were taken on opposite sides of the pond on the left of AD, a line AB, 200m long was laid down and a second line AC, 250m long, was ranged on the right of AD, the points B,D,C being in the same straight line. BD&DC were then chained and found to be 125m and 150m. respectively. Find the length of AD. **4**

Q.4 a) Explain the difference between prismatic compass and surveyor's compass. **4**

b) The interior angles of a traverse are given below: If the bearing of the line AB is $N36^{\circ}45'W$. Find the bearings of remaining lines of traverse.

$$LA = 114^{\circ}51', LB = 114^{\circ}30', LC = 108^{\circ}15', LD = 90^{\circ}45', LE = 111^{\circ}39' \quad \mathbf{4}$$

PART-B

Q.5 a) How many types of staff are there? **3**

b) The following readings were observed with staff in leveling operation: 1.185, 2.604, 1.925, 2.305, 1.155, 0.864, 1.105, 1.685, 1.215, 1.545. A is benchmark with R.L. 100.000m. Find RL's of other points by H.I. method. The first reading of point A was taken and instrument was shifted after 2.604, 0.864, 1.215. **5**

Q.6 a) How do we measure internal angle with theodolite? Explain. **4**

b) Explain the difference between repetition method and reiteration method. **4**

Q.7 a) Explain the characteristics of contour maps. **4**

b) Explain the methods of contouring in brief. **4**

End Semester Examination, Dec. 2018
Bachelor of Architecture and Planning – Third Semester
THEORY OF ARCHITECTURE -I (AR-307)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1 Explain the design features of the three design movements that were followed by Industrial Revolution with the help of sketches. **20**

PART-A

- Q.2 What are Spatial Relationships? What are the types of relationships between spaces? **10**

- Q.3 Art Historian Stephan Tschudi Madsen divides Art Nouveau Movement into how many classifications? Explain. **10**

- Q.4 What are bubble diagrams? Explain any four design factors that can be dealt with during this stage. **10**

PART-B

- Q.5 How was the Glasgow School of Art a rendition of Art Nouveau design movement? Explain with sketches. **10**

- Q.6 Explain in brief the Form, Function and Materialization in Architecture. **10**

- Q.7 Explain the importance of the following spaces in an architectural space:
a) Circulation Space.
b) Interior Space.
c) Activity Space. **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Third Semester

BUILDING SERVICES-I (WATER SUPPLY AND SANITATION) (AR-308)

Time: 3 hrs

Max Marks. **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all. **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1 Write down what you understand about the following (**any four**):

- a) Pipe appurtenances with diagram.
- b) Total water demand.
- c) Water Conveyance system.
- d) Solid Waste Management.
- e) Steps involved in water supply scheme.

3x4

PART-A

Q.2 Elaborate different types of water distribution networks with diagram. Write their advantages and disadvantages also. **12**

Q.3 a) Estimate the population in 2041 by Geometrical Increase Method:

Year:	1981	1991	2001	2011
Population:	8000	12000	17000	22500

b) Discuss briefly about any two Population Forecasting Methods.

6x2

Q.4 What are Intake structures? Explain how the location and site of Intake structures in selected? **12**

PART-B

Q.5 Explain Trash Chute System for a High Rise Building with diagram. **12**

Q.6 What are the objectives of sewage treatment plant and explain the flow process of conventional sewage treatment plant with diagram? **12**

Q.7 What do you understand by Septic Tank? Explain its working with diagram. **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fourth Semester
HISTORY OF ARCHITECTURE-II (AR-404)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.*

Q.1 Explain the evolution of a typical church form and style across the different periods in the Christian architecture. **12**

PART-A

Q.2 Describe the typical renaissance features in a building with the help of neat sketches. Name any three architects from the renaissance period. **12**

Q.3 Compare the church architectures of early christian and byzantine periods. **12**

Q.4 Explain the following:
a) Gothic revival.
b) Greek revival. **6×2**

PART-B

Q.5 How did the invention of R.C.C changed the course of architecture during modern times? **12**

Q.6 How did Walter Gropius came to be known as an avant grade architect of the modern movement? **12**

Q.7 Explain the various new structural systems and construction methods that had started during the modern movement. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester THEORY OF ARCHITECTURE–II (AR-404)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each questions.

- Q.1 Explain different elements of 'church architecture' and their significance in the structure system of the following:
- a) Corbel.
 - c) Flying buttresses.
 - d) Pinnacles.
 - e) Dome.
- 3x4**

PART-A

- Q.2 What was Romanesque architecture and what were its hallmarks? Quote with examples. **12**
- Q.3 Compare the domes of churches of various time periods like Florence cathedral, St. Peter Rome, Hagia Sophia and Pizza Cathedral and trace their architectural relevance. **12**
- Q.4 Describe the role of Constantinople as the centre after the fall of Rome and Byzantine architecture of that period. **12**

PART-B

- Q.5 Describe the works of Walter Gropious and his role as a founding father of modern architecture. **12**
- Q.6 Trace an essay on scientific technological progress inventions of new materials after industrial revolutions in architecture from 19th century to 21st century. **12**
- Q.7 Explain the following:
- a) Early Renaissance and high Renaissance.
 - b) Mies Vander Rohe.
 - c) William Morris.
 - d) Contemporary Architecture.
- 3x4**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester

STRUCTURAL DESIGN-IV (AR-405)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Answer the following questions:

- What is balance section?
- What is neutral axis?
- What is stress?
- What is shear strength in terms of staircase?
- Explain one way slab.
- What is eccentricity in column?

2×6

PART-A

Q.2 A single reinforced beam 250 mm×500 mm in section is reinforced with 4 bars of 16 mm diameter with an effective cover of 50 mm. Effective span of the beam is 6 m. Assuming M20 and Fe250 concrete steel determine the central concentrated load P that can be carried by the beam in addition to its self-weight. **12**

Q.3 Derive the formula for strength of flanged section in flexure: $M_u = 0.36f_{ck}b_f x_u (d - 0.42x_u)$ **12**

Q.4 A hall has clear dimension 3 m×9 m with wall thickness 230 mm. The line load on the slab is 3 kN/m² and a finishing load of 1kN/m². Use M20 concrete and Fe415 steel, design the slab. **12**

PART-B

Q.5 Design the reinforcement for a short axially loaded square column of size 400 mm×400 mm to support a load of 1000kN. Use M20 concrete and Fe415 steel. **12**

Q.6 Explain the following terms:

- Pedestal.
- Helical reinforcement.
- Flight height.
- Tread-Riser type stairs.

12

Q.7 Design a dog legged stairs for an office building in a room measuring 2.8 m×5.8 m clear. Vertical distance between the floors is 3.6m. Width of the flight is to be 1.25m. Allow a live load of 3kN/m². Sketch the details of the reinforcements. Use M20 concrete and Fe415 steel. Assume the stairs are supported on 230 mm walls at the ends of outer edges of landing slabs. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester

STRUCTURE DESIGN-IV (AR-405)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Answer the following questions:

- Define "a balanced section".
- What do you understand by development length?
- Show on a sketch the tension and compression side in case of a simply supported and a cantilever beam.
- Why the maximum stress in a eccentrically loaded column is greater than a column in which the load is acting along center of gravite of column.
- Define "Rise and Tread" in case of a stair.
- Explain the reason why load carrying capacity of a long column is less than that of a short column when cross sections of both columns are same.
- There are two slabs, first one $3\text{m} \times 8\text{m}$, second one $4\text{m} \times 3\text{m}$. Mention whether they are one way or two way and why?
- What do you understand by dog-legged stair? Explain in detail. **1½×8**

PART-A

- Q.2** a) Explain "under reinforced section" in detail. **3**
b) A singly reinforced beam 350 mm wide and 550 mm deep has an effective span of 6m and carries an all inclusive load of 20 kN/m. The beam is reinforced with 4 bars of 20 mm diameter at an effective cover of 35 mm. Find the maximum stresses produced in concrete and steel. Assume $m = 13.33$. **9**
- Q.3** a) Explain why doubly reinforced beam are provided in lieu of single reinforced beam. **3**
b) A beam of RCC is 250 mm wide and 400 mm deep to center of tensile reinforced. It is reinforced with four bars of 16 mm diameter as compressive steel at an effective cover of 50 mm and four bars of 20 mm diameter as tensile steel. If the stress in concrete and steel are not to exceed 7 N/mm^2 and 230 N/mm^2 respectively, determine the moment of resistance of section. Take $m = 13.33$. **9**
- Q.4** a) Describe the IS guidelines about main and distribution steel in a slab. **3**
b) Design a slab over a room $4\text{ m} \times 6\text{ m}$ as per IS code. The edges of the slab are simply supported and the corners are not held down. Live load on slab is 3000 N/m^2 . The slab has a bearing of 150 mm on supporting wall. Use M20 concrete and Fe415 grade steel. **9**

PART-B

- Q.5** a) Write down IS recommendation regarding longitudinal reinforcement in a column. **3**
b) A short column of square section is to be designed to carry an axial load of 1020 kN. Design the column as per IS code, permissible stress in steel and concrete are 130 N/mm^2 and 5 N/mm^2 . **9**
- Q.6** A rectangular RCC column is 450 mm wide and 750 mm deep. It is reinforced with 7 bars of 28 mm diameter placed at an effective cover of 50 mm from top edge and seven similar bars at the same effective cover from bottom edge. Determine the maximum thrust on the section which can be applied at a distance of 100 mm from the centerline if the compressing stress in concrete not to exceed 7 N/mm^2 .
Take
 $m = 13.33$. **12**
- Q.7** a) Name different types of staircase and describe anyone in brief. **3**
b) Design a staircase whose effective horizontal span is 1.5 m. The risers are 150 mm and the treads are 270 mm. Live load on stair is 3000 N/mm^2 . Use M20 grade concrete and Fe415 grade steel. **9**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester

BUILDING SERVICES-II (AR-406)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Write short notes on the following:

- a) OHM's law.
- b) Distribution boards.
- c) Earth fault.
- d) Glare.

3×4

PART-A

Q.2 Explain the following with help of neat sketches:

- a) Direct lighting.
- b) Semi-indirect lighting.
- c) Diffused lighting.

4×3

Q.3 What is the difference between ambient, accent and task lighting? Design a small residence showing the lighting layout with proper symbols and fixtures. **12**

Q.4 Draw the schematic diagram that shows the energy from generation to distribution and explain each of the stages. Also, explain the types and stages of installing protective devices during electrical installation. **12**

PART-B

Q.5 Calculate the number of lamps required in length and width of the room (design room light layout) size length-13m, width-9m and number of luminaries-25. **12**

Q.6 Explain the following in brief:

- a) MCB.
- b) Eartheings.
- c) LCB.
- d) Power equation triangles.

4×3

Q.7 Also, explain five differences between tungsten lamp, LED lamp and CFL lamp. What is the difference between a lamp and a luminaries? **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fourth Semester
BUILDING SERVICES-II (ELECTRICAL INSTALLATION) (AR-406)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; Attempt any **TWO** questions from **Part-A** and any **THREE** questions from **Part-B**. Each question carries equal marks.

PART-A

- Q.1 Explain three types of lamps used for interior as well as exterior lighting. Make the comparison chart of the lamp types explaining their advantages and disadvantages. **12**
- Q.2 Draw the schematic diagram that shows the energy from generation to distribution and explain each of the stages. Explain the types and stages of installing protective devices during Electrical installation. **12**
- Q.3 Define and explain the following:
a) Lightning protective system.
b) Energy efficient lighting. **6×2**

PART-B

- Q.4 Explain the various standards mentioned in National Electric code for Electrical Installation. **12**
- Q.5 Explain the following:
a) Direct and Indirect lighting.
b) Day lighting factor.
c) Space height ratio. **4×3**
- Q.6 An office area has length: 20 meter; width: 10 meter; height: 3 meter. The ceiling to desk height is 2 meters. The area is to be illuminated to a general level of 250 lux using lamp 64 watt CFL luminaries with a SHR of 1.25. Each lamp has an initial output (Efficiency) of 85 lumen per watt. The lamps Maintenance Factor (MF) is 0.63, Utilization Factor (UF) is 0.69 and space height ratio (SHR) is 1.25. Design the lighting layout of the office. **12**
- Q.7 What is the difference between Ambient, Accent and Task lighting? Design a small residence showing the lighting layout with proper symbols and fixtures. **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fourth Semester
THEORY OF ARCHITECTURE AND DESIGN-II (AR-407)

Time: 3 hrs.

Max Marks: **60**

No. of pages: *1*

Note: *Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.*

Q.1 Explain modern architecture in India. Also describe the early post-independence development of architecture in India. **12**

PART-A

Q.2 "Form follows Function" – who coined this phrase? Explain the phrase with an example. **12**

Q.3 What is Bubble diagram? Explain four design factors which need to be considered design during the stage. **12**

Q.4 What is typical design process? Explain it through a flow chart in brief. **12**

PART-B

Q.5 Discuss in the elements and principles of design in detail. **12**

Q.6 How does a building envelope act as space definer element? Discuss the characteristics of interior space in detail. **12**

Q.7 Compare and contrast modern and post-modern architectural philosophies in detail. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester

THEORY OF DESIGN-II (AR-407)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Explain the relevance of different architecture movements starting from 18th to 21st century as a social trend. Also compare the theories and expressions of different architecture movements. **20**

PART-A

- Q.2 What is a typical design process? Explain in brief through a flow chart. **10**
- Q.3 What is Bubble Diagram? Explain 4 design factors which need to deal during the stage design. **10**
- Q.4 Explain different theories and expressions of Diagrid and Symbolist architecture movements. **10**

PART-B

- Q.5 Discuss the elements and principles of design in detail. **10**
- Q.6 Trace theories and expressions of two post-modernist architects. **10**
- Q.7 Develop a formatted post-occupancy evaluation form for a client in detail. **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester VERNACULAR ARCHITECTURE (AR-408)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part A** and **TWO** questions from **Part B**. Marks are indicated against each question.

- Q.1 Define vernacular architecture. What are the determinants of vernacular architecture? How vernacular architecture is influenced by:
- Local Needs
 - Local Construction Materials
 - Local Traditions.
- Explain answer with neat sketches and quote vernacular of at least two different areas of India. **20**

PART-A

- Q.2 Define the following:
- Kacha
 - Pakka
 - Semi Pakka
- 10**
- Q.3 Explain the vernacular strategies for the following:
- Landslide resistant structure.
 - Heavy rain fall area.
- 5×2**
- Q.4 Enlist five vernacular materials and state the role of technology in vernacular architecture in detail. **10**

PART-B

- Q.5 Detail Vernacular Structures and explain them:
- Dhajji Dewar
 - Vernacular Architecture of Leh
- 5×2**
- Q.6 Explain Vernacular Warli House and Bhonga House Structures in detail. **10**
- Q.7 Explain the Vernacular Strategies for the following:
- Earthquake resistant structure.
 - Cyclone resistant structure.
- 5×2**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fourth Semester VERNACULAR ARCHITECTURE (AR-408)

Time: 3 hrs

Max Marks: **60**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1 What is Vernacular Architecture? Discuss with the help of sketches about the influence of various determinants of Vernacular Architecture. **12**

PART-A

- Q.2 Define the following with examples:
a) Hot and dry climate.
b) Warm and humid.
c) Composite. **4x3**
- Q.3 Elaborate the impact for developing vernacular earthquake resistant structure. **12**
- Q.4 What do you understand by the term vernacular? What are the factors which are responsible for making an architecture that Vernacular? Do you agree that vernacular is the need for today? **12**

PART-B

- Q.5 Define the following:
a) Coffered ceiling.
b) Thatch roof.
c) Log hut. **4x3**
- Q.6 Elaborate the vernacular construction technique from any one specific climatic region in India, with the help of sketches. **12**
- Q.7 How does the disaster influence the vernacular architecture development? **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fifth Semester
HISTORY OF ARCHITECTURE-III (AR-504)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt any **FIVE** questions in all. **Q.1 is Compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Write short notes with sketches on the following:

- a) Vedic Village.
- b) TORAN.
- c) Pradakshina Path.
- d) Temple cities of South India.

3x4

PART-A

Q.2 Explain the architectural development during Indus Valley civilization show the location on map and draw sketches. **12**

Q.3 WATH is "Rathas" in Hindu architecture compare the North Indian and South Indian Styles of Hindu architecture. **12**

Q.4 How the Hindu architectural features evolved from Bamboo as basic material to stone structures. **12**

PART-B

Q.5 Discuss in detail the architecture of SUN Temple at Konark. **12**

Q.6 Describe Sanchi Stupa with sketches. Which architectural style is this? **12**

Q.7 where is MahabaliPuram shown on map. Describe Shore temple of MahabaliPuram draw plan elevations and sections. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fifth Semester

STRUCTURAL DESIGN-V (AR-505)

Time: 3 hrs

Max Marks: **60**

No. of pages: 2

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal Marks.

Q.1 Answer the following:

- What is a retaining wall? Give two examples.
- In how many ways a retaining wall may fail? Name them.
- Draw a free hand sketch of a Counter fort Retaining wall (RW) and mark its components.
- Write down formula for checking overturning in RW.
- What are the type of steel structures?
- What are the advantages of steel structures name them.
- What is the difference between butt joint and lap joint? Explain with sketch.
- Name the types of compression members.

1½x8

PART-A

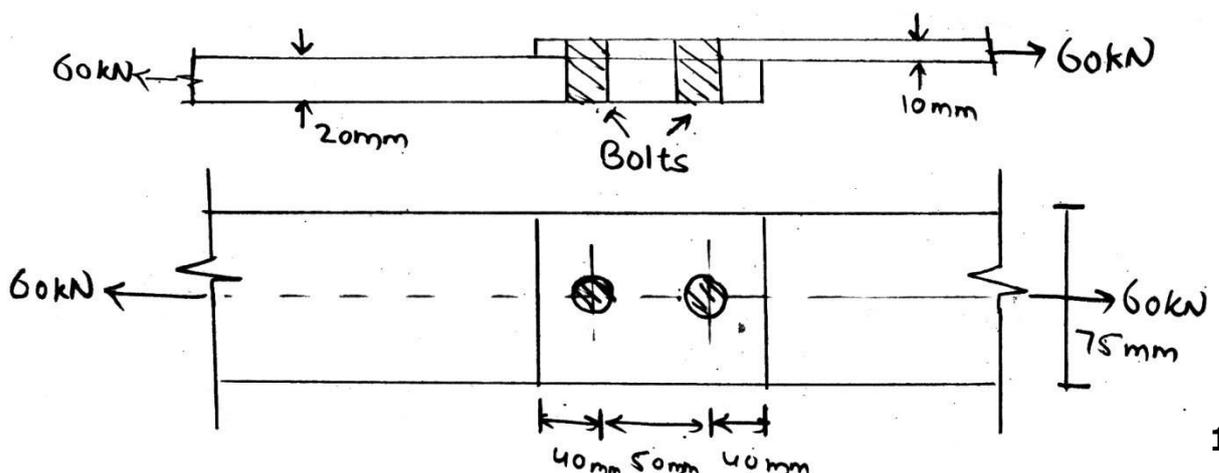
Q.2 Write down types of retaining walls. Explain all of them with neat sketches. **12**

Q.3 Design a cantilever retaining wall to retain horizontal earthen embankment of height 4 m above the ground level. The earthen backfill is having a density of 18 KN/m^3 and angle of internal friction as 30° . The safe bearing capacity of the soil is 80 KN/m^3 . The coefficient of friction between soil and concrete is assumed as 0.45. Design stem of this retaining wall too. Use M20 concrete and Fe415 steel. **12**

Q.4 a) What is shear wall? Write type of shear wall and explain them. **6**
b) Design a shear wall having height and length of 3 m and 4 m respectively. Shear wall have thickness of 100mm and carrying load of 600 kN/m. Use M20 concrete and Fe415 steel. Assume $d^1/D = 0.1$. **6**

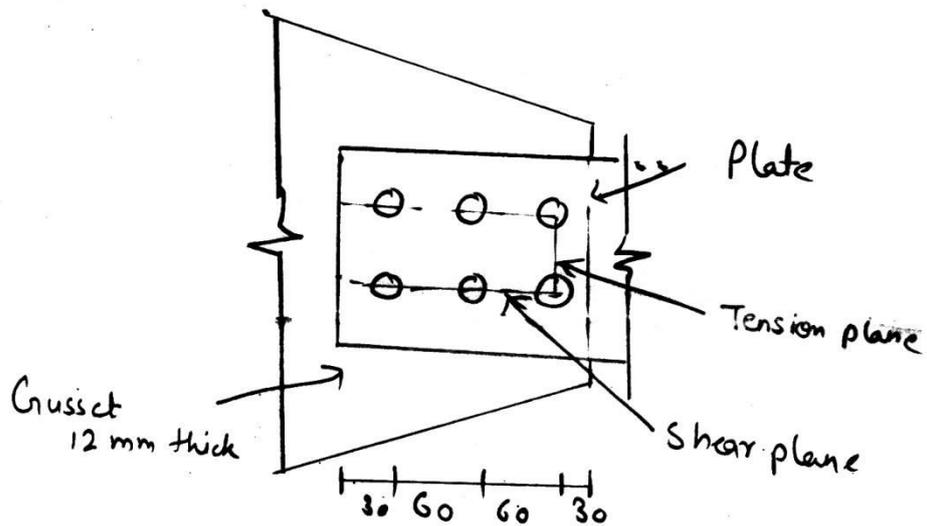
PART-B

Q.5 Design a Lap joint between two plates as show in the figure, so as to transmit a factored load of 60 KN using M20 bolts of grade 4.6 and grate 410 plates.



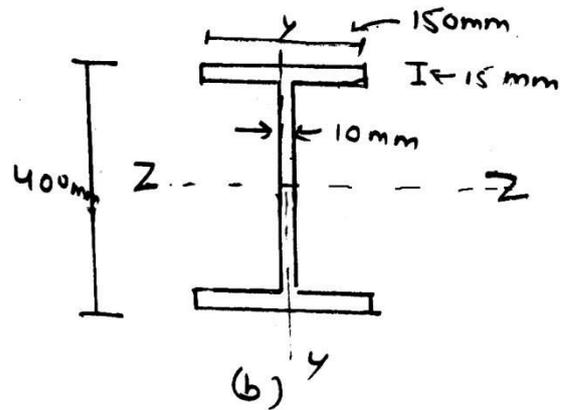
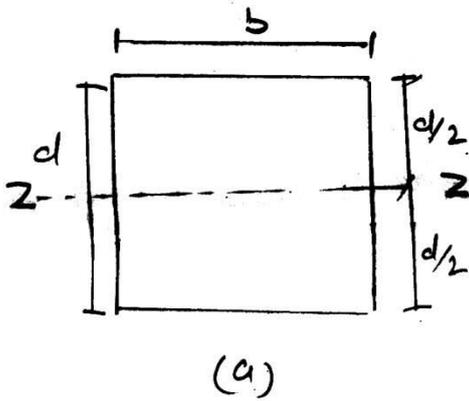
12

Q.6 Determine the design tensile strength of the plate 120 mm X 8 mm connected to a 12 mm thick gusset plate with bolt holes as shown in the figure. The yield strength and ultimate strength of steel used are 250 MPa and 400 MPa. The diameter of the bolts used is 16 mm.



12

- Q.7 Determine the plastic moment capacity and plastic section modulus of:
- The rectangular section of size $b \times d$ about Z-Z axis as shown in the figure-3a.
 - I section about Z-Z axis as shown in figure-3b.
 - I section about Y-Y axis as shown in figure-3b.



12

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fifth Semester
BUILDING ECONOMICS AND TECHNOLOGIES (AR-506)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1 Explain the following:
a) Break even analysis.
b) Pay back concept.
c) Modular coordination.
d) Supply and demand analysis. **5×4**

PART-A

- Q.2 Define total initial project cost of a building and discuss the various components and their impact on cost of a building. **10**
- Q.3 What do you understand by the law of demand and supply? Explain the relationship of equilibrium. **10**
- Q.4 What are the functions of "RERA", also discuss the registration process under this act. **10**

PART-B

- Q.5 Explain important factors for comparative analysis of economics of low rise and high rise buildings. **10**
- Q.6 Describe various design factors that should be considered in economizing building economics. **10**
- Q.7 Discuss industrialised building construction system and its contribution towards economics. **10**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Fifth Semester
BUILDING SERVICES-III (ILLUMINATION AND ACOUSTICS
(AR-507)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each questions.

- Q.1 Describe different types of lighting fixtures with their uses and applicability. Indicate different types of lamps used in the fixtures. **12**

PART-A

- Q.2 Describe four different factors affecting the acoustics in a building with help of sketches. Provide their remedies. **12**

- Q.3 What is daylighting factor? Explain outdoor lux levels for different climates. Indicate day light factor for a reading room and a lobby space. **12**

- Q.4 A shop has dimension length 20m, width 10m and height is 2.7m. The working plane (wherever applicable) height is 0.7m. T5 fluorescent lamp of 20W is used with lumen output of 2000 lumens. The required lux level is 450 lux. The air-conditioned shop has LLF-0.8 and UF-0.74. Calculate:
- Room index.
 - Total number of lamps required in shop.
 - Sketch lamp layout indicating lamp required in shop. **12**

PART-B

- Q.5 Explain the following:
- Echo.
 - Sound diffraction.
 - Lamp efficacy. **12**
- Q.6 Explain different types of HID lamps. Explain four differences between HID and LED lamp. **12**
- Q.7 Explain with help of sketches three actions which can be taken to improve outdoor noise compatibility for any type of land use. **12**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fifth Semester

BUILDING SERVICES-III (ILLUMINATION AND ACOUSTICS)(AR-507)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1
- Define luminous intensity. Write its unit.
 - What is luminous efficacy?
 - How so you define illuminance?
 - Differentiate between Reverberation and Echo.
 - What are the properties of sounds?
 - Define coefficient of sound absorption. **2x6**

PART-A

- Q.2
- What is room index? The area of a room is (12X11) meter square and desk to ceiling height (Hm) is 1.20. Calculate room index. **5**
 - What is the power consumption with illuminance of 50 lux, luminous efficacy of 10 lumens/watt and surface area of 15 square-meter? **5**
 - A specific application requires 500 lumens of light. If luminous efficacy is 15 lumens/watt. Calculate consumption of power. **2**
- Q.3
- An office has length 22 meter, with 12 meter and height 3 meter. The ceiling to desk height is 2.2 meter. The area is to be illuminated to a general level of 250 lux. Using twin lamp 30 watt CFL luminaries with a SHR of 1.25 and each lamp has an initial output of 85 lumens / watt. The lamp's (MF) and (UF) is 0.62 and 0.68 respectively. Calculate:
- Room Index.
 - Total number of lamps required.
 - Sketch lamp layout indicating lamps required in length and width of the room. **12**
- Q.4
- Describe the construction and the working of Halogen lamp in detail. **12**

PART-B

- Q.5
- Differentiate between musical sound and noise. **4**
 - Give an account of the bad acoustical properties of some halls. Discuss the methods for remedying these defects. **8**
- Q.6
- Write an essay on acoustics of buildings. **7**
 - A cinema hall has a volume of 7500 m³. It is required to have reverberation time of 1.5 sec. What should be the total absorption in the hall? **5**
- Q.7
- The volume of a room is 1200 m³. The wall area of the room is 220 m³, the floor area is 120 m² and the ceiling area is 120 m². The average sound absorption coefficient (i) for wall is 0.03 (ii) for ceiling is 0.80 and (iii) for the floor is 0.06. Calculate the average sound absorption coefficient and the reverberation time. **8**
 - What is the percentage change in intensity represented by one decibel? Given Antilog (0.1) = 1.26 **4**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Fifth Semester LANDSCAPE ARCHITECTURE-I (AR-508)

Time: 3 hrs.

Max Marks: **60**

No. of pages: *1*

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1 Attempt (**any five**) parts. All parts carry equal marks.
- a) Natural and man-made water bodies.
 - b) Natural climatic factors affecting Landscape of a region.
 - c) Enumerate the elements of landscape design including the Natural and man-made.
 - d) Importance of Softscape in landscape design and criteria for their selection.
 - e) Role of lighting in landscape design.
 - f) Importance create by the texture, foliage, pattern, contrast in a view. **4×5**

PART-A

- Q.2 Discuss the design principles of Chinese Garden and Japanese Garden Styles. **10**
- Q.3 Write short note on Energy saving site planning and Landscape Architecture. **10**
- Q.4 What are various factors affecting landscape design? Elaborate in detail with neat sketches and suitable examples. **10**

PART-B

- Q.5 Write (**any two**) common and botanical names for the following:
- a) Deciduous trees.
 - b) Evergreen tress.
 - c) Ornamental shrubs.
 - d) Ground covers.
 - e) Indoor plants. **2×5**
- Q.6 How landscape contributes in "Modifying the Microclimates"? Explain through various examples and neat sketches. **10**
- Q.7 Write down the various elements of landscape design and also detail any two of them giving the examples. **10**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Sixth Semester
HISTORY OF ARCHITECTURE-IV (AR-604)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 How did the modern architecture effect the mindset of Indian architects post independence? Explain with example? **20**

PART-A

Q.2 Explain the contrast between town planning concepts of Shahjahanabad and Lutyens Delhi. **10**

Q.3 Explain the cardinal principles in Charles Correa's vast body of work through examples. **10**

Q.4 Explain the town planning concept of Jaipur with the help of sketches. **10**

PART-B

Q.5 Explain the philosophies of B.V. Doshi through his works in his tenure as an architect. **10**

Q.6 What are the various Bauhaus characteristics visible in A.P. Kanvinde works? **10**

Q.7 How did the colonization of India by Portuguese, French, Dutch and British effect the architecture of India? **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Sixth Semester

STRUCTURAL DESIGN-VI (AR-605)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **THREE** questions in all; **Part-A is compulsory**. Attempt any **TWO** questions from **Part-B**. Marks are indicated against each question.

PART-A

Q.1 Explain the following:

- a) Functions of shear wall.
- b) Assumptions of portal frame method.
- c) Terms and conditions of grillage foundation.
- d) Principal rafter with diagram.
- e) Rigid frame structure with line diagram.
- f) Grade of bolt 5.6.
- g) Braced frame structure with line diagram.
- h) Pitch of bolts with diagram.
- i) Edge distance and end distance of steel plate with diagram.
- j) How to calculate net tensile cross sectional area of a bolt?

2×10

PART-B

Q.2 Design a grillage foundation to support a column. The load of column is 1500 kN. The size of base plate is 700 mm × 800 mm. The safe bearing capacity of soil is 110 kN/m². The permissible bending stress is 220 N/mm². **20**

Q.3 Design the principal tie member of a fink type roof truss for the following data. Design also its connection with a 10 mm thick gusset plate using 18 mm diameter bolts of grade 4.8. Use steel of grade Fe410. Design tensile load is 140 kN and compressive force is 50 kN. Use factor of safety as per IS-800, and assume standard data as per IS-800 where necessary. **20**

Q.4

- a) Write down ten points of design procedure of roof truss and explain them in detail. **10**
- b) Write ten points, how to decrease the weight of a multistoried structure. **5**
- c) Write five advantages and five disadvantages of multistoried buildings. **5**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Sixth Semester
ARCHITECTURAL LEGISLATION (AR-606)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Give brief description of the following:

- a) Floor area ratio (FAR)
- b) Floor space index (FSI)
- c) Covered area.
- d) Carpet area.
- e) Architectural control drawings.
- f) Completion certificate.
- g) Sanction plan.
- h) Bye-laws.
- i) Land use in Master Plan.
- j) National building code.

2x10

PART-A

- Q.2 What do you understand by architectural legislation? Elaborate its role and importance. **10**
- Q.3 List the documents necessary for submission of plans for sanction to a municipal authorities. **10**
- Q.4 Explain role and importance of building bye-laws in the construction of buildings in an urban area of a city. **10**

PART-B

- Q.5 How the national building code has helped in unifying the standards across the entire country. **10**
- Q.6 Use and advantage of arbitrations Act in settlement of disputes between various parties involved in building construction. **10**
- Q.7 What do you understand by heritage regulations? Please elaborate and explain. **10**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Sixth Semester
GREEN AND INTELLIGENT BUILDING (AR-607)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

- Q.1 Elaborate the importance of sustainable building materials in green building rating system. Also, highlight the five low embodied building materials. **12**

PART-A

- Q.2 Explain the following:
a) Solarium.
b) Cavity wall.
c) Stack effect.
d) Solar Heat Gain Coefficient (SHGC). **3×4**
- Q.3 Explain five important design strategies to be considered while designing a green building in a hot and dry climate. **12**
- Q.4 Explain importance of building envelope design in a green building. What do you understand by high performance envelope design strategies? **12**

PART-B

- Q.5 Explain in detail key parameters considered in a green building rating systems worldwide. **12**
- Q.6 What are the key issues to be taken care while designing an intelligent building? **12**
- Q.7 Explain dual plumbing system. Discuss two ways to conserve water on site. **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Sixth Semester
BUILDING SERVICES IV (ENERGY SYSTEM AND HVAC) (AR-608)

Time: 3 hrs.

Max Marks: **60**

No. of pages: *1*

Note: Attempt **THREE** questions in all; **Part A is compulsory**. Attempt any **TWO** questions from **Part B**. Marks are indicated against each question.

PART-A

Q.1 Answer the following questions with neat sketches:

- a) What is RTT?
- b) Define MCB and its application.
- c) What is vertical transportation?
- d) Discuss the comparison between natural ventilation and mechanical ventilation. **5×4**

PART-B

- Q.2
- a) Draw a sectional view of operation theatre indicating air conditioning system of the same with brief description. **10**
 - b) Draw Air Handling Unit (AHU) room with all relevant dimensions in 'mm' and also briefly describe the reason of keeping different spaces of different sides of AHU. **10**
- Q.3
- a) What are the factors considered in air conditioning for human comfort? **10**
 - b) How does variable frequency drive work in AHU controlling air flow in HVAC system? **10**
- Q.4
- a) What is fire warning system and explain the circuit with its different components? **10**
 - b) List the classification of fire and explain the basic requirements of exit route and also discuss its capacity and dimensions. **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Seventh Semester

URBAN DESIGN (AR-703)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Explain the following with neat sketches:

a) Image of city.

b) Role of public spaces in a city.

10x2

PART-A

Q.2 Write in short the history of the development of the subject urban design.

10

Q.3 How the character and context play an important in urban design?

10

Q.4 Write a short note on 'open spaces and public realm interface'.

10

PART-B

Q.5 Write a short note on 'DUAC'. Taking Delhi as an example. Discuss the urban design controls.

10

Q.6 What is urban design? Compare between architecture, urban design and urban planning?

10

Q.7 What are the different phases of the urban design process? Describe then in brief.

10

End Semester Examination, Dec. 2018
Bachelor of Architecture – Seventh Semester
TRAFFIC AND TRANSPORTATION (AR-704)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 Write short notes on the following:

- a) Traffic manoeuvres at an intersection.
- b) Traffic flow theory.
- c) Elements of intersection.
- d) Conflict points.

5×4

PART-A

Q.2 Discuss "hierarchy of roads". Draw cross-sectional elements for all types of urban roads. **10**

Q.3 Outline the principle of 'rotary design'. What are the various elements of rotary intersection? **10**

Q.4 What are the various traffic calming techniques? Discuss the functions of traffic control devices. **10**

PART-B

Q.5 a) Calculate the safe stopping sight distance for design speed of 50km/h for:

- i) 2-way traffic in a 2-lane road.
- ii) 2-way traffic in a single lane road.

5

b) Explain the variable which governs the design controls.

5

Q.6 What are the various classifications of intersections at grade? Discuss the principles of intersection design. **10**

Q.7 Explain the various traffic data collections and analysis techniques in detail. **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Seventh Semester HOUSING FOR URBAN POOR (AR-707)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 Write short notes on (**any four**) of the following:

- a) Cooperative housing.
- b) Creating slum free cities.
- c) HUDCO.
- d) Rural housing.
- e) Rational comprehensive planning theory.

5×4

PART-A

Q.2 Explain the following terms:

- a) Housing need.
- b) Housing demand.
- c) Housing shortage.
- d) Housing value.

10

Q.3 Express your opinion about the housing development in Pune. Express your thoughts on the eco housing scheme of Pune Municipal Corporation. **10**

Q.4 Discuss in brief the efforts taken by the government to address the issue of growing slums in cities. Express your opinion on slum rehabilitation, resale of the compensated house by the slum dwellers and TDR generation and other tools developed under the SRA. **10**

PART-B

Q.5 Expand the following terms:

- a) NHB.
- b) NCHF.
- c) NHPA.
- d) BMTPC.

5×4

Q.6 What is 'PPP' in housing? **10**

Q.7 State the goal and objectives of the 'National Housing and Habitat Policy-1998'. How the governments want to create an enabling environment? **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Seventh Semester

SMART CITIES (AR-708)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Explain the concept of "SMART CITY". **12**

PART-A

Q.2 What are the most important components of public service which will contribute in making the city in to a smart one? **12**

Q.3 Elaborate the role of feed-back from general public and types of survey which can help planners and designers who are responsible for making a smart city. **12**

Q.4 List the members of the core team with their fields of specialization which should be made responsible for designing and planning of a smart city. **12**

PART-B

Q.5 How digitization or use of information technology is going to help in the governance of a smart city. **12**

Q.6 How do you suggest that the corruption level in municipal corporations of our cities can be brought down since corrupt free services are a major objective of a smart city. **12**

Q.7 Do you know of any pattern or trends which are being followed in different parts of the world in making of smart cities? **12**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Ninth Semester
TOWN PLANNING (AR-904)

Time: 3 hrs

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1 Detail the following
- a) Master plan.
 - b) Development controls.
 - c) Slums.
 - d) Aspects of settlement planning.
- 5x4**

PART-A

- Q.2 Explain in brief evolution of settlement planning in India and in Europe. **10**
- Q.3 Impact on town planning after first industrial revolution in India and Europe. **10**
- Q.4 Define 'surveys'. Explain objectives and techniques used in survey. **10**

PART-B

- Q.5 How factory towns led to growth of slums, formation of Public Health Acts and improvement trusts? **10**
- Q.6 **Illustrate Modern theories in Town planning (any three):**
- a) Ebenezer Howard.
 - b) Patric Geddes.
 - c) C.A. Doxiadis.
 - d) Satellite Town.
- 10**
- Q.7 **Illustrate Town of India (any two):**
- a) Orissa.
 - b) Gandhinagar.
 - c) Chandigarh.
- 5x2**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Ninth Semester

DISASTER MANAGEMENT (AR-905)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

- Q.1
- Differentiate between a natural hazard and disaster.
 - State the concept of vulnerability.
 - What are the four process in disaster management circle?
 - Compare hypocenter and epicenter.
 - Write the types of earthquake zones in India.
 - Classify the types of body waves.
 - Describe the causes of Tsunami.
 - Give some outline about chemical disasters.
 - State the effects of climate change.
 - List out the central agencies designated for natural hazard specific early warnings.

2x10

PART-A

- Q.2 Explain in detail about the various typologies of disasters with their causes and effects. **10**
- Q.3 Describe in detail about the various techniques involved to construct earthquake resisting structures. **10**
- Q.4 What is the reason for earthquake and state the various terms involved in earthquake also the types of seismic waves. **10**

PART-B

- Q.5 State the problems, issues and options involved in post disaster management. **10**
- Q.6 Generalize the reasons behind landslides and also write the effects and preventive measures on landslides. **10**
- Q.7 Evaluate the causes, effects and preventive measures of the following disasters:
- Floods.
 - Cyclones.
- 10**

End Semester Examination, Dec. 2018
Bachelor of Architecture – Ninth Semester
ARCHITECTURAL JOURNALISM (AR-908)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Detail the following (**any two**) with example reference to architecture:

- a) Journals.
- b) Blogs.
- c) Editorial.
- d) Intellectual property rights.
- e) Architecture and critics.

4×5

PART-A

Q.2 Illustrate Architecture criticism and global perspective. **10**

Q.3 Define Intellectual property right. How property rights are protected. **10**

Q.4 What is journalism? Name diverse subparts of architectural journalism and illustrate method of publishing in journal. **10**

PART-B

Q.5 How architectural journalism is a manifestation of authors thought. Explain the need of architectural journalism. **10**

Q.6 Write about advent of architectural journalism in India. Architectural Journalism plays a key role in shaping the city. Illustrate. **10**

Q.7 How architectural journalist are different from other Journalist. Write the list of 10 architectural journals and their scope. **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – Ninth Semester

REAL ESTATE MANAGEMENT (AR-909)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

Q.1 Answer the following questions:

a) Write a short note on scope of Real Estate Management and discuss the factors affecting real estate market. **10**

b) Define the following terms:

i) Transfer of titles and titles records.

ii) Code of ethics of real estate participants. **5×2**

PART-A

Q.2 Discuss the real estate scenario of India with market size projection and the government initiatives to boost the real estate industry for 2020? **10**

Q.3 Write a short note on the evolution of the real estate regulation and development act 2016? And discuss the macro level impact of act on industry, promoters and buyers? **10**

Q.4 Discuss the various types of agreements between the consultants and principal. Also explain the documentation processes in real estate. **10**

PART-B

Q.5 What are the functions of RERA and discuss the registration process under this act? **10**

Q.6 What is the role of government in real estate market? Discuss various regulatory scenario governing real estate projects? **10**

Q.7 On what grounds the registration of a real estate agent can be revoked? And what are the consequences of revocation of registration? **10**

End Semester Examination, Dec. 2018

Bachelor of Architecture – First Semester ENVIRONMENTAL STUDIES (CH-202B)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Each question carries equal marks.

Q.1 Answer briefly:

- a) Enlist the importance of Environmental Studies?
- b) How one can conserve Natural Resources?
- c) What is Ecological succession? Write different stages of Ecological succession.
- d) Differentiate between in situ and ex situ conservation.
- e) Define water pollution. What is its effect?
- f) Evaluate the Environment Protection Act, 1986.
- g) Explain the major implications of Global warming.
- h) What is climate change? Explain the effects of climate change.
- i) What do you mean by endangered species?
- j) Explain the trophic levels in an ecosystem. **2×10**

PART-A

- Q.2 a) What is meant by formal and non formal environmental education? How do you make public awareness on environment degradation? **10**
b) Discuss about the growing need and used of alternate sources of energy. **10**
- Q.3 a) Define food chain and food web. Depict a food web with the help of a schematic diagram. **10**
b) How are nutrients recycled in nature? Explain in detail why is leguminous crop rotation used in agriculture? **10**
- Q.4 a) Define 'biodiversity'. Why is it important to conserve biodiversity? What are the various approaches of conservation of biodiversity? **10**
b) Write short note on the following:
i) bio-geographic Zones.
ii) Eco tourism. **5x2**

PART-B

- Q.5 a) Discuss in detail various causes of water pollution. What are the various control measures for water pollution? **10**
b) Explain the following:
i) Eutrophication.
ii) Measures to control soil pollution. **5x2**
- Q.6 a) What is rainwater harvesting? Describe the rainwater harvesting system. **10**
b) What is ozone layer and how does it protect us? What factors are leading to the depletion of ozone layer in the atmosphere? **10**
- Q.7 a) Write an explanatory note on 'Human Rights in India'. **10**
b) Write short notes on the following:
i) Chemical and Nuclear Weapon.

ii) Biological Weapon Convention.

5x2

End Semester Examination, Dec. 2018
B. Sc. (Interior Design) – Fifth Semester
ENTREPRENEURSHIP DEVELOPMENT (COM-0306)

Time: 3 hrs.

Max Marks: **100**

No. of pages: **1**

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 Write short notes on:

- a) Seed money
- b) Entrepreneurship
- c) Contract
- d) Leadership
- e) Strong value proposition.

5×4

PART-A

Q.2 What are the various sources of Finance available to a venture? Explain in detail. **20**

Q.3 Explain the stages involved in the development of a new product? **20**

Q.4 Explain the following methods of environmental scan used in industry analysis:

- a) SWOT
- b) ETOP
- c) PEST

20

PART-B

Q.5 What is marketing research? Explain the stages of market research. **20**

Q.6 What are the various types of business plans? Explain the guidelines used in writing an effective business plan? **20**

Q.7 What are business organizations? Enlist and explain any four different types of business organizations? **20**