End Semester Examination, May 2019  
B. Sc. (Interior Design) – First Semester  
COLORS 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. Marks are indicated against each question.

Q.1 Write short notes on the following:  
   a) Color mixing.  
   b) Color dimensions.  
   c) Contrast of complement.  
   d) Eco friendly components in paint.  

   2×4

PART-A

Q.2 Draw and describe color wheel.  

     8

Q.3 Briefly describe the research done on the psychology of color by (any two) color theorists from the following:  
   a) Faber Birren.  
   b) Leonardo Da Vinci.  
   c) Michel Lugene C'hevreur.  

     4×2

Q.4 Briefly describe (any two) color schemes of each:  
   a) Harmony.  
   b) Contrast.  

     4×2

PART-B

Q.5 Write a design concept and compose two wall paper designs for an interior space of a residence using any two principles of design and color as an element.  

     8

Q.6 Describe the factors which influence the way color schemes are used in planning an interior design.  

     8

Q.7 Discuss “Color Trends”.

     8
End Semester Examination, May 2019
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) Innovative construction Techniques.
b) Residual values and Sunk cost
c) Life cycle cost of Building
d) RERA act

PART-A

Q.2 Write a short notes on Rule and Importance of Building Economics in Architecture. 10
Q.3 Write a shot essay on effect of GST and Demonetization on Building Economics. 10
Q.4 What do you understand by the law of demand and supply? Explain the relationship of equilibrium. 10

PART-B

Q.5 Define Importance factors for comparative analysis of economics of low rise and high rise buildings. 10
Q.6 Define Total Initial Project cost of a building and discuss the various components and their impacts on cost of a building. 10
Q.7 Describe Industrialized building construction system and its contribution towards building economics. 10
End Semester Examination, May 2019  
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) Indira Awaas Yojana  
b) Jnnurm  
c) Rural Housing Policy  
d) Night shelter Scheme  
e) Building Material Reuse

5×4

PART-A

Q.2 Expand the terms: NHB, NCHF, NHPA, BMTPC  

10

Q.3 State the goal and objective of the ‘National Housing and Habitat Policy-1998’. How the governments want to create an Enabling Environment?  

10

Q.4 What is ‘PPP’ in Housing?  

10

PART-B

Q.5 Explain the terms: Housing Need; Housing Demand; Housing Shortage; Housing Value.

10

Q.6 Express your opinion about the housing development in Pune. Express your thoughts on the Eco Housing Scheme of Pune Municipal Corporation.  

10

Q.7 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
End Semester Examination, May 2019  
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 (**Any Four**)  
a) Master Plan  
b) Chandigarh  
c) Zoning  
d) River valley civilization  
e) Techniques used in Survey  
f) Satellite Town.  

**PART-A**

Q.2 Explain Principal aspects for consideration in the Development if settlement Planning.  

Q.3 “City beautiful moment” in America had a great impact on Town Planning Illustrate.  

Q.4 Explain the basic changes in planning approach took place in 1900A.D. and emergence of commercial cities.  

**PART-B**

Q.5 Define Surveys. Explain objectives and techniques used in Survey.  

Q.6 Define Slum and strategies involved in minimizing growth of slums  

Q.7 **Illustrate Modern theories in Town planning:**  
a) Ebenezer Howard.  
b) Patric Geddes.  

5x4
End Semester Examination, May 2019  
Bachelor of Architecture – Ninth Semester  
ARCHITECTURAL JOURNALISM (AR-906)

Time: 3 hrs.  
MaxMarks: 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) Copyright  
   b) Infringement  
   c) Trade mark  
   d) Journals  
   e) Architecture and Critics.  
   2x10

PART-A

Q.2 Define Intellectual Property Right. How Property Rights are protected.  
10

Q.3 What is the difference between Blog and Editorial?  
10

Q.4 Illustrate changing role of Print Media and Journalism in Architecture.  
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, May 2019
Bachelor of Architecture – Fifth Semester
LANDSCAPE ARCHITECTURE-I (AR-508)

Time: 3 hrs.  
MaxMarks: 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 Given the site of 70m and 50m in front of Administration Complex of Institute building develop a Landscape plan incorporating the element features, principles and circulation.  

PART-A

Q.2 Make a Comparison of the French and English Landscape Design.  

Q.3 With the help of sketches explain the sitting and the relationship with surroundings of Mughal gardens in Kashmir  

Q.4 Write down the various elements of Landscape design and also detail any two of them giving the examples.  

PART-B

Q.5 Write short note on Energy saving site planning and Landscape Architecture.  

Q.6 How landscape contributes in “Modifying the Microclimates”? Explain through various examples and neat sketches.  

Q.7 Write any two common and botanical names for the following:  
a) Deciduous trees  
b) Evergreen tree  
c) Ornamental shrubs  
d) Ground covers  
e) Indoor plants

10
Q.1   
a) List out the characteristics of hazards.
b) Relate the concept of risk is disaster management.
c) State the definition of epicenter.
d) Discuss the concept of body waves and surface waves.
e) Give some outline about chemical disasters.
f) State the concept of Global Warming.
g) Categorize the actions involved in effective preparedness and response.
h) Write the types of Earthquake zones in India.
i) List out the Central Agencies designated for specific disaster management.
j) Write the causes of floods.

**PART-A**

Q.2   Generalize deeply on the causes, effects and prevention of Biological disasters.

Q.3   Discuss the actions and prevention measures for various natural and anthropogenic disasters.

Q.4   Explain the various techniques involved to design and construct seismic resistant structures.

**PART-B**

Q.5   Evaluate the reasons effects and preventive measures of the following disasters.
a) Fire
b) Cyclones

Q.6   Interpret the various procedures followed by the pre and post stages in disaster management.

Q.7   Generalize the reasons behind Tsunami also mention clearly about the actions of Tsunami.
Q.1 Write short note on any four of the following:
   a) Administrative approval.
   b) Technical sanction.
   c) Ordinary measurement book.
   d) Quantity survey.
   e) Site plan.
   f) Index plan.
   g) Specifications.

**PART-A**

Q.2 Define the comparison between “Contractor’s estimate and Engineer’s estimate” with complete elaboration.  

Q.3 Explain the “Rules of measurements” and write the “Requirement of estimation and costing”.  

Q.4 What are the difference between preliminary estimate, detailed estimate, supplementary estimates and revised estimate?  

**PART-B**

Q.5 Give the costing and detailing with specification for Italian marble flooring for a hall of size 18.37m × 15.48m with 100mm skirting. The same hall is having a height of 4m, and there are 02 entries of size 2m × 3m each. Also provide the estimate of false cutting (as per your choice) and wooden paneling on all four (4) walls. Put the items in BOQ.  

Q.6 A cabin of size 7m × 5m × 4m has two windows measuring 2m × 1.10m and two doors size 1.50m × 2.00m each. Prepare an estimate for interior work including, flooring, plastering and painting then put all the items in BOQ.  

Q.7 ????????????
End Semester Examination, May 2019  
B. Sc. (Interior Design) – First Semester  
COMMUNICATION SKILLS (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. Marks are indicated against each question.

Q.1 Answer the following questions:

a) Find out which part of the sentence has an error:
   i) She reluctantly said.
   ii) That if nobody else.
   iii) Was doing it.
   iv) She will do it.
   v) No error.
   i) Will you lend me.
   ii) Little money.
   iii) To tide over.
   iv) This crisis?
   v) No error.

b) Use the correct form of tenses from the options given below each question:
   i) By the time she ___________ that it was Allen who had written that letter, he had flown off.
      * had realized
      * realizes
      * realized
      * will realize
   ii) The burglar ___________ for something in this room, and he knew where to look.
      * were searching
      * was searching
      * had searched
      * are searching
   iii) My brother told me that he would ___________ canned drinks if he had the money, as they were on sale.
      * have bought
      * be buying
      * had bought
      * bought
   iv) We will be scaling up the rock wall ___________ everyone is prepared and ready.
      * although
      * unless
      * if
      * lest

2 c) Find the correct order from the choices given below to form a meaningful paragraph:
   i) 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 institutions in the US and a premiere international trading firm.
      * RSPQ
      * SPQR
      * SQRP
      * RSQP
   ii) 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:
      * PRQS
      * SPRQ
Q.2 Write short notes on the following:
a) SQ3R.
b) Barriers to communication.
c) Representation system.
d) Elevators pitch.  

Q.3 Write down communication process. Explain with the help of diagram.

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

Q.5 What is client analysis? Why is it important?

Q.6 Write a letter to your favorite teacher thanking her for her efforts she has put in to make learning more easy and more fun for you all.

Q.7 Define the term “Presentation”. Explain in detail three steps to make an effective presentation.
Q.1 Differentiate between the modern and postmodern architecture philosophies with the help of examples of buildings from that eras.

**PART-A**

Q.2 Explain the concept of Prairie School of Architecture through sketches.

Q.3 Explain the Five Points of Architecture given by Le Corbusier in any two of his buildings.

Q.4 What is the contribution of Buckminster Fuller in the field of architecture? Explain with sketches.

**PART-B**

Q.5 Explain Organic Modernism of the architect Alvar Alto.

Q.6 Explain the design philosophies of Mies Van De Rohe through his works of Architecture?

Q.7 How is Bauhaus the benchmark of Modern Architecture? Explain the socio, economic and political factors behind its institution.
End Semester Examination, May 2019
Bachelor of Architecture – Sixth Semester
GREEN AND INTELLIGENT BUILDINGS (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 Explain the concept of green building and the measures to reduce environment impacts of construction activities.  **20**

**PART-A**

Q.2 What is building automation system? Explain the areas of implementations of BAS In an office building. **10**

Q.3 Explain the relation between people, environment and building. **10**

Q.4 What is a green building? Why they are more sustainable? **10**

**PART-B**

Q.5 Write short notes on the following:
   a) Trombe wall.
   b) Sensors.
   c) Kyoto protocol.
   d) Energy efficient alternate building materials.
   e) Batter walls.  **2×5**

Q.6 Explain the role of “Self Accreditation Systems” like TERI GRIHA, to conserve urban environment. **10**

Q.7 what are intelligent buildings? What are the different building systems in IB TIER TASKS and Goals? **10**
End Semester Examination, May 2019
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 Answer the following questions:
   a) Define “Multi Story Building”.
   b) Write factors affecting height, growth and structural form of multi story building.
   c) Define “Infilled-Frame Structure”.
   d) Define “Rigid-Frame Structure”.
   e) Define “Braced-Frame Structure”.
   f) Write the full form of ISA, ISMB, ISWB and ISHB.
   g) Edge distance and end distance of steel plate with diagram.
   h) When grillage footing is provided.
   i) Write assumptions we have during grillage footing.
   j) Write down factor governing the site selection for industrial building. 20

PART-B

Q.2 a) Write down the advantages and disadvantages of multi story building. 5
   b) Classify multi story building on the basis of height. 5
   c) Write and explain design consideration for multi story building. 5
   d) Explain floor system in reinforced concrete and classify them with diagram. 5

Q.3 a) Write design procedure for grillage footing. 6
   b) Design a slab for a column section ISHB $350@710.2$ N/m subjected to the axial load of 1030 kN for the following conditions:
      i) Load is transformed to the base plate by direct bearing of column flanges.
      ii) Design the anchor bolt, if required.
      The base rests on a M-15 concrete pedestal and use ISHB 350; $D = 350$ mm and $B = 250$ mm, thickness of column flange and web as 11.6 mm and 10.1 mm respectively. 14

Q.4 a) Write the elements of an industrial building. 4
   b) Design a roof for a railway platform $30 \times 12$ m$^2$ wide. The type of roof truss to be provided is shown in figure-1. The roof is to be with asbestos cement sheets. Assume the necessary relevant data. FIGURE-1 16
Q.1 Describe recycled furniture and its uses in today's society. Suggest materials that can be used to create recycled furniture.

**PART-A**

Q.2 Differentiate briefly between the works of four famous cabinet makers of England who worked in neoclassical style.

Q.3 Explain Victorian modern era in detail.

Q.4 Write about the work of famous cabinet maker of your choice and describe how the style has influenced you.

**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

   \[4 \times 2\]

Q.6 Explain briefly about the work of Alain Belanger and Richard Judd. Support your answer with neat sketches.

Q.7 Explain briefly about any two movements which change the scenario of design in interiors.
End Semester Examination, May 2019  
B. Sc. (Interior Design) – Sixth Semester  
MATERIAL FINISHES AND DESIGN TRENDS (351-610)

Time: 3 hrs.  
Max Marks: 40

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 do you think about changing trend plays an important role for the not accepting the old decoration methods present scenario. 8

PART-A

Q.2 Today the global climate change has become a key issue. As an interior designer what would be your contribution to save the planet. 8

Q.3 Explain different technology for the fabrication of different materials available for interior designing of theatre. 8

Q.4 Recycling is a major consideration today and interior designing has a lot to contribute in it. As an interior designer, suggest how will you re-use the old products effectively and innovatively? 8

PART-B

Q.5 Discuss the various global styles using in interior decoration. Explain with any 2 examples. 8

Q.6 “Art and Accessories of any area influences the overall appearance of a space”. Justify the statement considering Indian Art and craft with suitable examples. 8

Q.7 “Green Design” does not mean the “Color Green”. It mean designing eco friendly interiors? Justify. 8
Q.1 Write short notes on the following:
a) Wind shadow.
b) Shading devices.
c) Shading mask.
d) Vertical shadow angle and Horizontal shadow angle.
e) Sun path diagram.  

\[2 \times 5\]

**PART-A**

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

10

Q.3 What are the different types of shading devices? Explain the use of solar chart and shadow angle protractor for working out shading devices for buildings. Give illustrated examples.  

10

Q.4 Write a short note on Kopen classification system and explain the characteristics.  

10

**PART-B**

Q.5 Explain the importance of solar orientation for a building. Explain window shading strategies for south and east facing windows with help of neat sketches.  

10

Q.6 Explain the function of wind catcher in detail with the help of neat sketches.  

10

Q.7 Explain five design strategies for any three climatic zones of India in details. Support your answers with neat sketches.  

10
End Semester Examination, May 2019
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? 20

PART-A

Q.2 Explain in details different climates of India and Explain how building form developed by climatic
condition/Location. 10

Q.3 How vernacular architecture is influenced by:
   a) Local needs.
   b) Local construction materials.
   c) Local traditions. 10

Q.4 Explain the vernacular strategies for the earthquake resistant structures. 10

PART-B

Q.5 Explain (any two) detail vernacular structure and explain:
   a) Laterite structure Goa.
   b) Bhonga house.
   c) Warli house. 5×2

Q.6 Enlist 3 vernacular materials and state the role of construction technology in vernacular architecture. 10

Q.7 Explain Kath-Khuni style in detail. 10
End Semester Examination, May 2019  
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. Marks are indicated against each question.

Q.1 Define (any four) of the following terms:  
a) Contract.  
b) Portfolio.  
c) Business profile.  
d) Resume.  
e) Project management.  
f) Code of ethics.  

PART-A

Q.2 What is professional development? Discuss in detail various stages included in managing a design project.  

Q.3 Discuss in detail how communication plays an important role in building effective clientele.  

Q.4 Define the term professional image. Briefly describe steps to upgrade your professional image. Discuss success pitfalls.  

PART-B

Q.5 Discuss in detail business template with characteristic features.  

Q.6 Define “Business Entities”. Briefly discuss its types with suitable examples.  

Q.7 Write short notes on (any two) of the following:  
a) Code of ethics.  
b) Agreement.  
c) Showrooms.  

2x4  
8  
8  
8  
8  
8  
8  
4x2
End Semester Examination, May 2019
B. Sc. (Interior Design) – Second Semester
WINDOW TREATMENT 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. Marks are indicated against each question.

Q.1 Discuss in detail the role of a window treatment. Justify your answer with suitable examples.  8

**PART-A**

Q.2 Discuss in detail history and window treatment with suitable examples.  8

Q.3 Blinds plays an important role in treating a window. Discuss various types of Blinds along with their uses in interior design.  8

Q.4 Write short notes on (any two) of the following:
   a) Types of curtains.
   b) Latest trends in window treatment.
   c) Use of principles of design in treating a window.  4×2

**PART-B**

Q.5 Define the term soft furnishing. Describe its types through a flow chart.  8

Q.6 Discuss how pillows can add interest to a monotonous design in interior. Include various types to justify your answer.  8

Q.7 Differentiate between upholstery and re-upholstery with suitable examples. Briefly discuss the advantages of re-upholstery.  8
Q.1 Answer (any four) questions from this section:
   a) What is the purpose of specification?
   b) What are the various types of specifications?
   c) What is a revised estimate? When is it prepared?
   d) Explain the various factors to be considered during preparation of a detailed estimate.
   e) Write a short note on "Analysis of rates".
   f) What is meant by schedule of rate and data? How they are prepared and how they are useful?

**PART A**

Q.2 a) Calculate the quantity of brickwork in a 60° arch over a door of 1.80 m width. The arch is 30 cm thick and the thickness of the wall is 30 cm.
   b) Calculate the quantity of brickwork in a segmental arch of 3.5 m span, 60 cm rise and 30 cm thick. The breadth of wall is 30 cm.

Q.3 Write short notes on the following:
   a) Need for Estimation and Costing.
   b) Different methods of taking out quantities.

Q.4 a) What is analysis of rate? Explain the purpose of rate of analysis.
   b) Calculate the quantity of cement and sand required for plastering 1 sq.m of wall with 12mm thick, 1:6 cement mortar.

**PART B**

Q.5 Estimate quantities of any three of the following items of works in the building as per drawing shown in the given figure. Assume missing data:

- a) Brick work in super structure and foundation.
- b) Lime concrete work in foundation.
- c) Earth work in excavation.

Schedule:
d) Tiles flooring including skirting.  
e) R.C.C work in roof slab and lintel.

All walls 300mm thick  
Door "D" 1000 mm X 2100 mm  
Window "W" 1000 X 1200 mm and  
Wood frame both D & W 100mm X 150mm

Data:
- R.C.C. band at lintel level 150 mm
- Window sill level 900 mm
- Lintel height 2100 mm
- Height of floor to ceiling height- 3000 mm
- R.C.C roof slab thickness- 150 mm

Q.6 What is meant by schedule of rate and data? How they have been prepared and how they are useful. Also, explain the various factor to be considered during preparation of detailed estimate.

Q.7 Write detailed specifications for following:
   a) Concrete in flooring.
   b) Damp proof course in plinth.
   c) R.C.C. work in building slab.
   d) Aggregates (fine and coarse) used in brick work in super structure of building.
   e) Earth work in excavation.
End Semester Examination, May 2019
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 Answer the following questions:
   a) Define “Multi Story Building”.
   c) Define “Infilled-Frame Structure”.
   d) Define “Rigid-Frame Structure”.
   e) Define “Braced-Frame Structure”.
   f) Write the full form of ISA, ISMB, ISWB and ISHB.
   g) Explain edge distance and end distance of a steel plate with diagram.
   h) When grillage footing is provided?
   i) Write assumptions we have during grillage footing.
   j) Write down the factors governing the site selection for an industrial building.

PART-B

Q.2 a) Write down the advantages and disadvantages of a multi-story building.
   b) Classify multi story building on the basis of height.
   c) Write and explain design consideration for a multi-story building.
   d) Explain floor system in reinforced concrete and classify them with diagrams.

Q.3 a) Write design procedure for grillage footing.
   b) Design a slab for a column section ISHB 350@710.2 N/m subjected to the axial load of 1030 kN for the following conditions:
      i) Load is transformed to the base plate by direct bearing of column flanges.
      ii) Design the anchor bolt, if required.
      The base rests on a M-15 concrete pedestal and use ISHB 350; D = 350 mm and B = 250 mm, thickness of column flange and web as 11.6 mm and 10.1 mm respectively.

Q.4 a) Write the elements of an industrial building.
   b) Design a roof for a railway platform 30 × 12 m² wide. The type of roof truss to be provided is shown in figure-1. The roof is to be with asbestos cement sheets. Assume the necessary relevant data.
End Semester Examination, May 2019
B. Sc. (Interior Design) – Second Semester
MATERIALS AND FINISHES-II (351.209)

Time: 3 hrs.  
Max Marks: 40

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 five major components of textile products in detail.  8

**PART-A**

Q.2 What are the types of fabrics? Explain five fabrics of each category with their properties.  8

Q.3 Examine the performance of fabric and patterns in carpets.  8

Q.4 Explain the performance of different weaves pattern of fabric through neat sketches.  8

**PART-B**

Q.5 Give two examples and show how to calculate quantities of materials needed for specific applications?  8

Q.6 Explain in detail the finishing of textile products.  8

Q.7 Explain how the textile industry have an impact on the environment. Prepare proposal of recommendations based on environmentally renewable resources and practices?  8
Q.1 Write short notes on (any five) of the following:
   a) Tender notice.  
   b) BOQ 
   c) Contract drawings. 
   d) Project completion.
   e) Record drawings. 
   f) Specification.
   g) Letter of acceptance. 

5×2

Q.2 Explain “BOT” contract, what is its nature of agreement, advantages and disadvantages? What is the role of state support agreement in BOT contract?  

10

Q.3 State any three types of contracts which are used commonly in the industry. Explain their nature, suitability, advantages and disadvantages.  

10

Q.4 Explain the “Arbitration Procedure” in detail, and how the appointment of an arbitrator is been done for any dispute of construction industry.  

10

Q.5 What kinds of evidence are allowed to be presented in the arbitration process? Also, explain the admissibility of evidence during the arbitration procedure.  

10

Q.6 Distinguish between the percentage rate contract and the cost plus percentage contract. Elaborate it in detail.  

10
End Semester Examination, May 2019
Bachelor of Architecture – Sixth Semester
GREEN AND INTELLIGENT BUILDINGS (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 Explain the concept of green building and the measures to reduce Environment Impacts of construction activities. 20

PART-A

Q.2 What is building automation system? Explain the areas of implementation of BAS in an office building. 10

Q.3 Explain the relation between people, environment and building. 10

Q.4 What is a green building? Why they are more sustainable? 10

PART-B

Q.5 Write short notes on the following:
   a) Trombe wall.
   b) Sensors.
   c) Kyoto protocol.
   d) Energy efficient alternate building materials.
   e) Batter walls. 2×5

Q.6 Explain the role of “Self Accreditation Systems” like TERI GRIHA, to conserve urban environment. 10

Q.7 What are intelligent buildings? What are the different building systems in IB TIER TASKS and Goals? 10
Q.1 Explain (any four) of the following:
   a) Load chart.
   b) Progress chart.
   c) Earliest start time.
   d) Burst event in CPM.
   e) Dummy activity.

**PART-A**

Q.2 Define “Project Management” and its important concepts in details.

Q.3 Explain the concept of critical path method. Write all the process involved in CP method.

Q.4 For the below table of information:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
<th>Dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>0 days</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>5 days</td>
<td>Start</td>
</tr>
<tr>
<td>B</td>
<td>2 days</td>
<td>Start</td>
</tr>
<tr>
<td>C</td>
<td>3 days</td>
<td>A, B</td>
</tr>
<tr>
<td>D</td>
<td>5 days</td>
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<td>J</td>
<td>3 days</td>
<td>H</td>
</tr>
<tr>
<td>Finish</td>
<td>0 days</td>
<td>I, J</td>
</tr>
</tbody>
</table>

a) Draw the network diagram.
b) List the network paths.
c) Determine the critical path(s).
d) Determine the float for each activity.

**PART-B**

Q.5 a) Perform a forward pass and a backward pass of the network diagram.
b) Which activities have the same early finish as they have late finish?
Q.6  
  a) What is the total float on activity D?  
  b) What is the total float on activity F?  
  c) How many critical paths are present in the network?  

Q.7  
Compute the critical path of the following plan: 

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
<th>Dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>4d</td>
<td></td>
</tr>
<tr>
<td>Task 2</td>
<td>2d</td>
<td></td>
</tr>
<tr>
<td>Task 3</td>
<td>4d</td>
<td>2</td>
</tr>
<tr>
<td>Task 4</td>
<td>2d</td>
<td></td>
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<tr>
<td>Deliverable A</td>
<td>1, 3, 4</td>
<td></td>
</tr>
<tr>
<td>Task 6</td>
<td>6d</td>
<td>5</td>
</tr>
<tr>
<td>Task 7</td>
<td>2d</td>
<td>5</td>
</tr>
<tr>
<td>Deliverable B</td>
<td>6, 7</td>
<td></td>
</tr>
<tr>
<td>Task 9</td>
<td>2d</td>
<td>1SS</td>
</tr>
</tbody>
</table>
Q.1 Explain the following terms:
   a) Elastic limit.
   b) Poisson’s ratio.
   c) Young Modulus.
   d) Bulk modulus.
   e) Volumetric strain.
   f) Stress and strain.
   g) Type of stress.
   h) Bending moment and shear force relationship.
   i) Factor of safety.
   j) Rigidity.
   k) Type of supports.
   l) Type of beam.
   m) Type of loads.
   n) Moment of resistance.  
\[ 1 \times 14 \]

Q.2  
   a) Explain the assumptions that are made in strength of material.  
   b) Explain the terminology used in strength of material.  
\[ 1 \times 7 \]

Q.3  
   a) A rod of 4.5m long having diameter of 2.5m is subjected to the force as shown in figure-1. If young’s modulus of rod is 200Gpa then determine the deformation.  
   b) State Hook’s law and give all relationships between $E$, $G$, $K$.  
\[ 1 \times 7 \]

Q.4  
   a) Draw S.F.D. and B.M.D. of the beam shown in figure-2 below:  
   b) What is point of contra flexure? Explain in detail.  
\[ 1 \times 10 \]

Q.5  
   a) Define stress and strain also classify them by a flowchart and then with diagram.  
   b) Which one is better simply supported beam or fixed beam? Discuss.  
\[ 1 \times 10 \]

Q.6  
   A simply support beam AB of span 4m is acted upon by an UDL of 5kN/m for a distance of 2m from left support and a point load of 10kN acts at a distance of 1m from right support. Draw S.F.D. and B.M.D. calculate magnitude and location of maximum bending moment.  
\[ 1 \times 14 \]

Q.7  
   a) State the Clapeyron’s theorem of three moments.  
   b) Analyze a continuous beam using Clapeyron’s theorem and draw bending moment diagram. Beam is show in figure-4.  
\[ 1 \times 10 \]
Q.1 Explain the following terms:
   a) Elastic limit. 
   b) Poisson’s ratio. 
   c) Young’s Modulus. 
   d) Bulk modulus. 
   e) Volumetric strain. 
   f) Stress and strain. 
   g) Type of stress. 
   h) Bending moment and shear force relationship. 
   i) Factor of safety. 
   j) Rigidity. 
   k) Type of supports. 
   l) Type of beam. 
   m) Type of loads. 
   n) Moment of resistance. 

Q.2 a) Explain the assumptions that are made in strength of material. 
     b) Explain the terminology used in strength of material.

Q.3 a) A rod of 4.5m long having diameter of 2.5m is subjected to the force as shown in the figure. If young’s modulus of rod is 200Gpa then determine the deformation.

Q.4 a) Draw S.F.D. and B.M.D. of the beam shown in the figure below:

b) What is point of contra flexure? Explain in detail.

Q.5 a) Define stress and strain also classify them by a flowchart and then with diagram. 
     b) Which one is better simply supported beam or fixed beam? Discuss.

Q.6 A simply support beam AB of span 4m is acted upon by an UDL of 5kN/m for a distance of 2m from left support and a point load of 10kN acts at a distance of 1m from right support. Draw S.F.D. and B.M.D. calculate magnitude and location of maximum bending moment.
Q.7  a) State the Clapeyron’s theorem of three moments.
b) Analyze a continuous beam using Clapeyron’s theorem and draw bending moment diagram. Beam is show in the figure.
End Semester Examination, May 2019
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 What is meant by the term renaissance? How it affected architecture in Europe. 12

PART-A

Q.2 What are the essential features of church? Explain with the help of sketches. 12
Q.3 Draw plan section and elevation of Senta Soaphia at Constantinople. Explain in detail. 12
Q.4 Explain the Romanesque architecture in Europe. 12

PART-B

Q.5 What is Industrial steel and sheet glass? How these two materials affected the architecture. 12
Q.6 What is meant by R.C.C. and how this effected on modern architecture? 12
Q.7 Explain essential features of modern architecture with the help of sketches. 12
End Semester Examination, May 2019
B.Sc. (ID) – Second Semester
GENERAL EDUCATION (351.210)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following:
  a) What is a proxemics?
  b) What is the purpose of a case study?
  c) What do we mean by communication in a virtual world?
  d) What is hepcitics?

Q.2 Explain the Do’s and Don’ts of telephonic conversation in detail.

Q.3 Cell phones are incredibly useful and allow us to remain connected while on the go. However, they carry their own set of “etiquette” rules. Discuss the “etiquettes” in detail.

Q.4 Explain the following elements of Tone of Voice:
  a) Pitch
  b) Volume
  c) Pause
  d) Emphasis

Q.5 Discuss the Do’s and Don’ts of facing an interview.

Q.6 What are the security issues involved in communicating via email? Discuss the Do’s and Don’ts of writing an email.

Q.7 What all do you have to do before facing an interview?
Q.1 Answer the following questions:
   a) Define permissible stresses and their respective value for concrete and steel.
   b) Explain characteristics strength of concrete and steel.
   c) Name any three differences between W.S.M. and L.S.M.
   d) Why do we need to design a section doubly reinforced.
   e) Differentiate between one way and two way slabs
   f) Classify columns.
   g) What is slenderness ratio and define effective length of columns?
   h) Define Rise, Tread, going and nosing.

Q.2 a) Explain balanced, under-reinforced and never-reinforced section with the help of stress diagram.
   b) Find the moment of resistance of a RCC beam 300 mm wide and 500 mm effective depth is reinforced with 3 bars of 16mm. Use M25 concrete and Fe 415 steel.

Q.3 a) Write down assumptions of working stress or limit stress method and explain them.
   b) A beam having size of 230 mm width and 500 mm effective depth is subjected to a factored moment of 210 kNm. How many member of bars are required also find reinforcement area required. Use M20 concrete and Fe415 steel.

Q.4 A simply supported slab of a corridor of a hospital building has a clear span of 25 m and it supported on beam 230 mm width. Design the slab, if the beam is carrying a live load of 5 kN/M². Use M20 concrete and Fe415 steel.

Q.5 a) Write differences between short column and long column.
   b) Design a column of size 450 mm x 600 mm and having 3 m unsupported length. The column is subjected to a load of 200 kN and is effectively held in position but not restrained against rotation. Use M20 concrete and Fe415 steel.

Q.6 Design a circular column of diameter 400mm subjected to a load of 1200 kN. The column is having spiral ties. The column is 3m long and is effectively held in position against rotation. Use M25 concrete and Fe415 steel.

Q.7 a) Name different types of stair slabs, explain any one of them.
   b) Write Design a dog legged staircase for an office building in a room measuring 3 m x 6 m (clear dimensions). Floor to floor height is 3.5 m. The building is a public building liable to over-crowding. Stairs are supported on brick walls 230 mm thick at the end of landing. Use M20 concrete and Fe415 steel.
End Semester Examination, May 2019  
B.Arch. – Tenth Semester  
PROFESSIONAL PRACTICE (AR-1003)  

Time: 3 Hours  
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Explain the following two most important organizations in the field of architecture:  
a) Indian Institute of Architects.  
b) Council of Architecture.  

PART-A  
Q.2 What are the various types of Architecture Practices used in India?  

Q.3 Explain the following types of Architecture Competitions:  
a) Special Competitions.  
b) Regional Category Competitions.  

Q.4 What is valuation? Explain the important purposes for valuation.  

PART-B  
Q.5 Explain the Indian Architect’s Act 1972. What is its role and importance in managing the profession and its Professionals?  

Q.6 Who is an Architect? What are the various roles they play in their services?  

Q.7 What are contracts? Explain the various parts of a contract.
End Semester Examination, May 2019
B.Arch. – Sixth Semester
HISTORY OF ARCHITECTURE-IV (AR-604)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Explain essential features of Islamic architecture with sketches. 12

**PART-A**

Q.2 Explain with sketches the Qutab Complex. Draw plan sections of its buildings and Qutab Minar. 12

Q.3 Explain with sketches Tughlaqabad Fort and Tomb of Ghiyas-ud-din Tughlaque. 12

Q.4 Draw plan section and elovation of Taj Mahal and explain the excellence of the building. 12

**PART-B**

Q.5 What is meant by colonial style of architecture in India? Draw sketches of buildings. 12

Q.6 Explain with sketches the city of Chandigarh. 12

Q.7 Explain any building designed by Charls CORREA. 12
End Semester Examination, May 2019  
B.Arch. – Fourth Semester  
BUILDING SERVICES – II (Electrical Installation) (AR-406)

Time: 3 Hours  
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following:  
a) What is meant by electric potential?  
b) What is electric power?  
c) State ohm’s law  
d) What is light?  
e) What is illumination?  
f) Define lumen.  

PART-A  

Q.2 a) An electric boiler draws 10A at 120 volt for a period of 10 hours and a heater draws 9A at 110 volt for a period of 10 hours. Calculate the total cost of energy consumed when the per unit cost of electricity is Rs.4/- p/ kwh.  
b) For the given circuit? Calculate the current flowing through the 5 Ω resistance.

Q.3 a) What is the working principle of a fuse?  
b) State and explain Kirchoff’s Laws.

Q.4 a) What is the working principle of earthing?  
b) Draw the circuit for stair case wiring: One lamp switched on and off.

PART-B  

Q.5 a) What are the different lighting schemes?  
b) Briefly explain flood lighting.

Q.6 a) Two 220 v. lamps are of 70 w and other of 80w are connected in series across 440v supply. Calculate the drop across each element.  
b) A room 20m long and 15m wide is to be illuminated to a level of 200 lux. The utilization and maintenance of factors are 0.7 and 0.8 respectively. If the out-put lumen of each lamp is 3000 lumens, calculate number of lamps required.

Q.7 Write short notes on:  
a) Sodium lamp.  
b) Fluorescent tube light.
Q.1 Give brief description of the following:
   a) Covered areas not counted in F.A.R.
   c) Courtyard.
   d) Floor Area Ratio (FAR) / Floor Space Index (FSI).
   e) Ground coverage and total built up area.
   f) Zonal plans.
   g) Arbitration Act.
   h) Development authority objective and functions.
   i) Permissible covered area and achieved covered area.
   j) Basement. 

   \[2\times10\]

\textbf{PART-A}

Q.2 Discuss the roles of various statutory bodies Development Authorities and Municipal Development Authority.  \[10\]

Q.3 Explain the Heritage Act. How it is helpful in maintaining old historical buildings in today’s context? \[10\]

Q.4 What is land use? Discuss various types of land uses in Master Plan. \[10\]

\textbf{PART-B}

Q.5 Explain the detailed Master Plan of a city. What are its salient features? \[10\]

Q.6 What do you understand by architectural controls. Explain its need and importance in creating quality built environment with suitable examples and importance of role, laws related to this. \[10\]

Q.7 Discuss and give reason for: “The building byelaws should be periodically modified”. \[10\]
End Semester Examination, May 2019  
B.Arch. – Sixth Semester  
BUILDING SERVICES-IV (ENERGY SYSTEM AND HVAC) (AR-608)

Time: 3 Hours  
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following:
   a) What are the factors to be considered for designing a lift?
   b) What are the four common causes of fire?
   c) Why supply air duct insulation thickness is more than return air duct insulation thickness?
   d) What is requirement of air filters in central HVAC system?
   e) Why strip heaters are used in central HVAC system?  

PART-A

Q.2 a) What are different classes of fire? Describe with examples.
   b) Describe with a suitable sectional diagram of a corridor showing condensed/chilled water piping with insulation as per requirement, supply/return duct with insulation specifying thickness, cable tray, clear false ceiling height and clearance spaces between each component above false ceiling.  

Q.3 a) Describe with suitable diagram water cooled vapour compression system along with cooling tower and required pipe connections of cooling tower with vapour compression system.
   b) Write down step wise how the pump head of a chilled water system is calculated along with the safety factor to be taken.  

Q.4 Describe with a suitable diagram the fire damper within AHU Room describing how the fire damper operates during fire in AHU Room.  

PART-B

Q.5 a) Draw AHU within AHU Room showing its location in mm and justify with reasoning the dimensioning of each location.
   b) Describe with suitable diagram the HVAC system of operation theatre room within hospital.  

Q.6 Describe with suitable diagram a central heating system showing 2 nos. of boilers, 2 nos. of chilling machine, 2 nos. of necessary pumps, valve arrangement with all the necessary pipe lines along with a 3 floor building consisting of AHUs and FCUs. Also describe interlocking of valve arrangements during summer and winter.  

Q.7 a) Draw a vertical shaft layout showing chilled water/condenser water pipes with insulation where necessary supply/return air duct with required insulation, fire fighting pipes etc. in a vertical shaft. Also explain why vertical shafts are used in a multi floor building?
   b) Write short notes on:
      i) RTT (Round Trip Time)
      ii) Shortening of time consumed in Lift Travel.  

Q.1 4x5  
Q.2 5x2  
Q.3 5  
Q.4 10  
Q.5 5  
Q.6 10  
Q.7 2½x2
Q.1 Answer the following:
  a) Draw various parts of retaining wall and explain them.
  b) What are bridge abutment and bon culvert.
  c) When counterfort type retaining wall is used.
  d) How do you calculate factor of safety of a retaining wall against sliding.
  e) Write down disadvantages of steel structures.
  f) Define Welding.
  g) Name the type of tension members.
  h) Mention the end condition and its corresponding effective length for two cases in case of a compression member.

**PART-A**

Q.2 Design a counterfort retaining wall to retain 4m earth above ground level. Having\[ \gamma = 15 \text{kN/m}^2, \phi = 30^\circ, \mu = 0.6, q_0 = 200 \text{kN/m}^2 \text{ h=4.0m}. \text{ Use Fe415 and M20 concrete.} \]

Q.3 a) Draw a neat sketch of cantilever Returning wall (RW) and show main reinforcement in its various components.
 b) A total height of a cantilever type R.W is 6m and thickness of base slab is 50. Check for overturning and sliding failure. Assume data.

Q.4 a) What are the advantages of a counterfort type RW over Cantilever type RW. Discuss.
 b) The total height of a counterfort type RW is 7m with thickness of base slab 0.5m. Design the upright slab having counterfort 3.5m apart.

**PART-B**

Q.5 a) Write down types of joint in welding. Explain them.
 b) The tie member of a truss is made of ISA 75x75x6mm and is subjected to a factored tensile load of 100kN. Design a weld joint Refer figure.

Q.6 Determine the design load on the column section ISMB 450@710.3N/m, height of column is 4m and it is pin-ended. Assume that \( f_y=250\text{N/mm}^2 \), \( f_u=410\text{N/mm}^2 \), \( E=2\times10^5\text{N/mm}^2 \).
Q.7 Determine the design bending strength if a beam ISMB300@434N/m. Assume that the factored shear force is less than the design shear strength. Use Fe410 grade steel.
End Semester Examination, May 2019  
B. Sc. (Interior Design) – First Semester  
COLORS 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. Marks are indicated against each question.

Q.1 Write short notes on the following:  
a) Color mixing.  
b) Color dimensions.  
c) Contrast of complement.  
d) Eco friendly components in paint.  

**PART-A**

Q.2 Draw and describe color wheel.  
8

Q.3 Briefly describe the research done on the psychology of color by (any two) color theorists from the following:  
a) Faber Birren.  
b) Leonardo Da Vinci.  
c) Michel Lugene C'hevreul.  
4×2

Q.4 Briefly describe (any two) color schemes of each:  
a) Harmony.  
b) Contrast.  
4×2

**PART-B**

Q.5 Write a design concept and compose two wall paper designs for an interior space of a residence using any two principles of design and color as an element.  
8

Q.6 Describe the factors which influence the way color schemes are used in planning an interior design.  
8

Q.7 Discuss “Color Trends”.  
8
Q.1 Explain the following:
   a) Innovative construction Techniques.
   b) Residual values and Sunk cost
   c) Life cycle cost of Building
   d) RERA act

\[5 \times 4\]

\textbf{PART-A}

Q.2 Write a short notes on Rule and Importance of Building Economics in Architecture. \hspace{1cm} 10

Q.3 Write a shot essay on effect of GST and Demonetization on Building Economics. \hspace{1cm} 10

Q.4 What do you understand by the law of demand and supply? Explain the relationship of equilibrium. \hspace{1cm} 10

\textbf{PART-B}

Q.5 Define Importance factors for comparative analysis of economics of low rise and high rise buildings. \hspace{1cm} 10

Q.6 Define Total Initial Project cost of a building and discuss the various components and their impacts on cost of a building. \hspace{1cm} 10

Q.7 Describe Industrialized building construction system and its contribution towards building economics. \hspace{1cm} 10
End Semester Examination, May 2019
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) Indira Awaas Yojana
   b) Jnnurm
   c) Rural Housing Policy
   d) Night shelter Scheme
   e) Building Material Reuse  5×4

   PART-A

Q.2 Expand the terms: NHB, NCHF, NHPA, BMTPC  10

Q.3 State the goal and objective of the 'National Housing and Habitat Policy-1998'. How the governments want to create an Enabling Environment?  10

Q.4 What is ‘PPP’ in Housing?  10

   PART-B

Q.5 Explain the terms: Housing Need; Housing Demand; Housing Shortage; Housing Value. 10

Q.6 Express your opinion about the housing development in Pune. Express your thoughts on the Eco Housing Scheme of Pune Municipal Corporation. 10

Q.7 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
End Semester Examination, May 2019  
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 (Any Four)  
a) Master Plan  
b) Chandigarh  
c) Zoning  
d) River valley civilization  
e) Techniques used in Survey  
f) Satellite Town.  

PART-A

Q.2 Explain Principal aspects for consideration in the Development if settlement Planning.  

Q.3 “City beautiful moment“ in America had a great impact on Town Planning Illustrate.  

Q.4 Explain the basic changes in planning approach took place in 1900A.D. and emergence of commercial cities.

PART-B

Q.5 Define Surveys. Explain objectives and techniques used in Survey.  

Q.6 Define Slum and strategies involved in minimizing growth of slums  

Q.7 Illustrate Modern theories in Town planning:  
a) Ebenezer Howard.  
b) Patric Geddes.  


End Semester Examination, May 2019
Bachelor of Architecture – Ninth Semester
ARCHITECTURAL JOURNALISM (AR-906)

Time: 3 hrs.  MaxMarks: 60
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) Copyright
   b) Infringement
   c) Trademark
   d) Journals
   e) Architecture and Critics.  

   PART-A

Q.2 Define Intellectual Property Right. How Property Rights are protected.  

Q.3 What is the difference between Blog and Editorial?  

Q.4 Illustrate changing role of Print Media and Journalism in Architecture.  

   PART-B

Q.5 How architectural journalism is a manifestation of authors thought. Explain the need of Architectural Journalism.  

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

Q.7 How architectural journalist are different from other journalist. Write the list of 10 Architectural journals and their scope.
Q.1  Given the site of 70m and 50m in front of Administration Complex of Institute building develop a Landscape plan incorporating the element features, principles and circulation.  

PART-A

Q.2  Make a Comparison of the French and English Landscape Design.  

Q.3  With the help of sketches explain the sitting and the relationship with surroundings of Mughal gardens in Kashmir.  

Q.4  Write down the various elements of Landscape design and also detail any two of them giving the examples.  

PART-B

Q.5  Write short note on Energy saving site planning and Landscape Architecture.  

Q.6  How landscape contributes in “Modifying the Microclimates”? Explain through various examples and neat sketches.  

Q.7  Write any two common and botanical names for the following:  
   a) Deciduous trees  
   b) Evergreen tree  
   c) Ornamental shrubs  
   d) Ground covers  
   e) Indoor plants
End Semester Examination, May 2019  
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  
a) List out the characteristics of hazards.  
b) Relate the concept of risk is disaster management.  
c) State the definition of epicenter.  
d) Discuss the concept of body waves and surface waves.  
e) Give some outline about chemical disasters.  
f) State the concept of Global Warming.  
g) Categorize the actions involved in effective preparedness and response.  
h) Write the types of Earthquake zones in India.  
i) List out the Central Agencies designated for specific disaster management.  
j) Write the causes of floods.  

PART-A

Q.2 Generalize deeply on the causes, effects and prevention of Biological disasters.  

Q.3 Discuss the actions and prevention measures for various natural and anthropogenic disasters.  

Q.4 Explain the various techniques involved to design and construct seismic resistant structures.  

PART-B

Q.5 Evaluate the reasons effects and preventive measures of the following disasters.  
a) Fire  
b) Cyclones  

Q.6 Interpret the various procedures followed by the pre and post stages in disaster management.  

Q.7 Generalize the reasons behind Tsunami also mention clearly about the actions of Tsunami.  

10x2
End Semester Examination, May 2019
B. Sc. (Interior Design) – Fifth Semester
ESTIMATING AND COSTING (351-510)

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 short note on any four of the following:
   a) Administrative approval.
   b) Technical sanction.
   c) Ordinary measurement book.
   d) Quantity survey.
   e) Site plan.
   f) Index plan.
   g) Specifications.

PART-A

Q.2 Define the comparison between “Contractor’s estimate and Engineer’s estimate” with complete elaboration. 8

Q.3 Explain the “Rules of measurements” and write the “Requirement of estimation and costing”. 8

Q.4 What are the difference between preliminary estimate, detailed estimate, supplementary estimates and revised estimate? 8

PART-B

Q.5 Give the costing and detailing with specification for Italian marble flooring for a hall of size 18.37m × 15.48m with 100mm skirting. The same hall is having a height of 4m, and there are 02 entries of size 2m × 3m each. Also provide the estimate of false cutting (as per your choice) and wooden paneling on all four (4) walls. Put the items in BOQ. 8

Q.6 A cabin of size 7m × 5m × 4m has two windows measuring 2m × 1.10m and two doors size 1.50m × 2.00m each. Prepare an estimate for interior work including, flooring, plastering and painting then put all the items in BOQ. 8

Q.7 ?????????????
Q.1 Answer the following questions:
   a) Find out which part of the sentence has an error:
      i) She reluct________ says.
         * reluctantly
      ii) That if nobody else.
         * if
      iii) Was doing it.
         * doing
      iv) She will do it.
         * will do
      v) No error.
         * No error.
   b) Use the correct form of tenses from the options given below each question:
      i) By the time she __________ that it was Allen who had written that letter, he
         * had realized
         * realizes
         * realized
         * will realize
         had flown off.
      ii) The burglar __________ for something in this room, and he knew where to
         * were searching
         * was searching
         * had searched
         * are searching
         look.
      iii) My brother told me that he would_________ the canned drinks if he had the money, as
         * have bought
         * be buying
         * had bought
         * bought
         they were on sale.
      iv) We will be scaling up the rock wall __________ everyone is prepared and
         * although
         * unless
         * if
         * lest
         ready.
   c) Find the correct order from the choices given below to form a meaningful paragraph:
      i) 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
         * RSPQ
         * SPQR
         * SQPR
         * RSQP
         must have quick access to JP Morgan's proprietary trade related data.
         S. JP Morgan's is one of the largest banking institutions in the US and a
         * PRQS
         * SPRQ
         premiere international trading firm.
      ii) P. The impetus for change in cargo handling, after years of operational
         * PRQS
         * SPRQ
         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
         * PRQS
         * SPRQ
         undergone a sea change:
Q.2 Write short notes on the following:
   a) SQ3R.
   b) Barriers to communication.
   c) Representation system.
   d) Elevators pitch.

Q.3 Write down communication process. Explain with the help of diagram.

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

Q.5 What is client analysis? Why is it important?

Q.6 Write a letter to your favorite teacher thanking her for her efforts she has put in to make learning more easy and more fun for you all.

Q.7 Define the term “Presentation”. Explain in detail three steps to make an effective presentation.
THEORY OF ARCHITECTURE AND DESIGN-II (AR-407)

Time: 3 hrs.  
Max Marks: 60

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 Differentiate between the modern and postmodern architecture philosophies with the help of examples of buildings from that eras.

PART-A

Q.2 Explain the concept of Prairie School of Architecture through sketches.

Q.3 Explain the Five Points of Architecture given by Le Corbusier in any two of his buildings.

Q.4 What is the contribution of Buckminster Fuller in the field of architecture? Explain with sketches.

PART-B

Q.5 Explain Organic Modernism of the architect Alvar Alto.

Q.6 Explain the design philosophies of Mies Van De Rohe through his works of Architecture?

Q.7 How is Bauhaus the benchmark of Modern Architecture? Explain the socio, economic and political factors behind its institution.

GREEN AND INTELLIGENT BUILDINGS (AR-607)

Time: 3 hrs.  
Max Marks: 60

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 concept of green building and the measures to reduce environment impacts of construction activities.

PART-A

Q.2 What is building automation system? Explain the areas of implementations of BAS In an office building.

Q.3 Explain the relation between people, environment and building.

Q.4 What is a green building? Why they are more sustainable?

PART-B

Q.5 Write short notes on the following:
   a) Trombe wall.
   b) Sensors.
c) Kyoto protocol.
d) Energy efficient alternate building materials.
e) Batter walls.

Q.6 Explain the role of “Self Accreditation Systems” like TERI GRIHA, to conserve urban environment.

Q.7 What are intelligent buildings? What are the different building systems in IB TIER TASKS and Goals?
**End Semester Examination, May 2019**  
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 Answer the following questions:
   a) Define “Multi Story Building”.
   b) Write factors affecting height, growth and structural form of multi story building.
   c) Define “Infilled-Frame Structure”.
   d) Define “Rigid-Frame Structure”.
   e) Define “Braced-Frame Structure”.
   f) Write the full form of ISA, ISMB, ISWB and ISHB.
   g) Edge distance and end distance of steel plate with diagram.
   h) When grillage footing is provided.
   i) Write assumptions we have during grillage footing.
   j) Write down factor governing the site selection for industrial building.  

Q.2
   a) Write down the advantages and disadvantages of multi story building.  
   b) Classify multi story building on the basis of height.  
   c) Write and explain design consideration for multi story building.  
   d) Explain floor system in reinforced concrete and classify them with diagram.

Q.3
   a) Write design procedure for grillage footing.  
   b) Design a slab for a column section ISHB 350@710.2 N/m subjected to the axial load of 1030 kN for the following conditions:
      i) Load is transformed to the base plate by direct bearing of column flanges.
      ii) Design the anchor bolt, if required.
      The base rests on a M-15 concrete pedestal and use ISHB 350; D = 350 mm and B = 250 mm, thickness of column flange and web as 11.6 mm and 10.1 mm respectively.

Q.4
   a) Write the elements of an industrial building.  
   b) Design a roof for a railway platform 30 × 12 m² wide. The type of roof truss to be provided is shown in figure-1. The roof is to be with asbestos cement sheets. Assume the necessary relevant data.

**FIGURE-1**
End Semester Examination, May 2019
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Describe recycled furniture and its uses in today's society. Suggest materials that can be used to create recycled furniture. 8

PART-A

Q.2 Differentiate briefly between the works of four famous cabinet makers of England who worked in neoclassical style. 8

Q.3 Explain Victorian modern era in detail. 8

Q.4 Write about the work of famous cabinet maker of your choice and describe how the style has influenced you. 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. 8
a) Glasgow School of Design
b) Bauhaus School of Design 4×2

Q.6 Explain briefly about the work of Alain Belanger and Richard Judd. Support your answer with neat sketches. 8

Q.7 Explain briefly about any two movements which change the scenario of design in interiors. 8
End Semester Examination, May 2019  
B. Sc. (Interior Design) – Sixth Semester  
MATERIAL FINISHES AND DESIGN TRENDS (351-610)

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 do you think about changing trend plays an important role for the not accepting the old decoration methods present scenario.  

PART-A

Q.2 Today the global climate change has become a key issue. As an interior designer what would be your contribution to save the planet.  

Q.3 Explain different technology for the fabrication of different materials available for interior designing of theatre.  

Q.4 Recycling is a major consideration today and interior designing has a lot to contribute in it. As an interior designer, suggest how will you re-use the old products effectively and innovatively?  

PART-B

Q.5 Discuss the various global styles using in interior decoration. Explain with any 2 examples.  

Q.6 “Art and Accessories of any area influences the overall appearance of a space”. Justify the statement considering Indian Art and craft with suitable examples.  

Q.7 “Green Design” does not mean the “Color Green”. It mean designing eco friendly interiors? Justify.
Q.1 Write short notes on the following:
   a) Wind shadow.
   b) Shading devices.
   c) Shading mask.
   d) Vertical shadow angle and Horizontal shadow angle.
   e) Sun path diagram.

   **PART-A**

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

Q.3 What are the different types of shading devices? Explain the use of solar chart and shadow angle protractor for working out shading devices for buildings. Give illustrated examples.

Q.4 Write a short note on Kopen classification system and explain the characteristics.

**PART-B**

Q.5 Explain the importance of solar orientation for a building. Explain window shading strategies for south and east facing windows with help of neat sketches.

Q.6 Explain the function of wind catcher in detail with the help of neat sketches.

Q.7 Explain five design strategies for any three climatic zones of India in details. Support your answers with neat sketches.
End Semester Examination, May 2019
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? 20

PART-A

Q.2 Explain in details different climates of India and Explain how building form developed by climatic condition/Location. 10

Q.3 How vernacular architecture is influenced by:
   a) Local needs.
   b) Local construction materials.
   c) Local traditions. 10

Q.4 Explain the vernacular strategies for the earthquake resistant structures. 10

PART-B

Q.5 Explain (any two) detail vernacular structure and explain:
   a) Laterite structure Goa.
   b) Bhonga house.
   c) Warli house. 5x2

Q.6 Enlist 3 vernacular materials and state the role of construction technology in vernacular architecture. 10

Q.7 Explain Kath-Khuni style in detail. 10
END SEMESTER EXAMINATION, MAY 2019
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. Marks are indicated against each question.

Q.1 Define (any four) of the following terms:
   a) Contract.
   b) Portfolio.
   c) Business profile.
   d) Resume.
   e) Project management.
   f) Code of ethics. 2x4

PART-A

Q.2 What is professional development? Discuss in detail various stages included in managing a design project. 8

Q.3 Discuss in detail how communication plays an important role in building effective clientele. 8

Q.4 Define the term professional image. Briefly describe steps to upgrade your professional image. Discuss success pitfalls. 8

PART-B

Q.5 Discuss in detail business template with characteristic features. 8

Q.6 Define “Business Entities”. Briefly discuss its types with suitable examples. 8

Q.7 Write short notes on (any two) of the following:
   a) Code of ethics.
   b) Agreement.
   c) Showrooms. 4x2
End Semester Examination, May 2019
B. Sc. (Interior Design) – Second Semester
WINDOW TREATMENT 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. Marks are indicated against each question.

Q.1 Discuss in detail the role of a window treatment. Justify your answer with suitable examples. 8

PART-A

Q.2 Discuss in detail history and window treatment with suitable examples. 8

Q.3 Blinds plays an important role in treating a window. Discuss various types of Blinds along with their uses in interior design. 8

Q.4 Write short notes on (any two) of the following:  
a) Types of curtains.  
b) Latest trends in window treatment.  
c) Use of principles of design in treating a window. 4×2

PART-B

Q.5 Define the term soft furnishing. Describe its types through a flow chart. 8

Q.6 Discuss how pillows can add interest to a monotonous design in interior. Include various types to justify your answer. 8

Q.7 Differentiate between upholstery and re-upholstery with suitable examples. Briefly discuss the advantages of re-upholstery. 8
Q.1 Answer **any four** questions from this section:
   a) What is the purpose of specification?
   b) What are the various types of specifications?
   c) What is a revised estimate? When is it prepared?
   d) Explain the various factors to be considered during preparation of a detailed estimate.
   e) Write a short note on “Analysis of rates”.
   f) What is meant by schedule of rate and data? How they are prepared and how they are useful?

**PART-A**

Q.2 a) Calculate the quantity of brickwork in a 60° arch over a door of 1.80 m width. The arch is 30 cm thick and the thickness of the wall is 30 cm.  
   b) Calculate the quantity of brickwork in a segmental arch of 3.5 m span, 60 cm rise and 30 cm thick. The breadth of wall is 30 cm.

Q.3 Write short notes on the following:
   a) Need for Estimation and Costing.
   b) Different methods of taking out quantities.

Q.4 a) What is analysis of rate? Explain the purpose of rate of analysis.
   b) Calculate the quantity of cement and sand required for plastering 1 sq.m of wall with 12mm thick, 1:6 cement mortar.

**PART-B**

Q.5 Estimate quantities of any three of the following items of works in the building as per drawing shown in the given figure. Assume missing data:

- a) Brick work in super structure and foundation.
- b) Lime concrete work in foundation.
- c) Earth work in excavation.

Schedule:
d) Tiles flooring including skirting. All walls 300mm thick
   e) R.C.C work in roof slab and lintel. Door "D" 1000 mm X 2100 mm
      Window "W" 1000 X 1200 mm and
      Wood frame both D & W 100mm X 150mm

Data:
- R.C.C. band at lintel level 150 mm
- Window sill level 900 mm
- Lintel height 2100 mm
- Height of floor to ceiling height 3000 mm
- R.C.C roof slab thickness 150 mm

Q.6 What is meant by schedule of rate and data? How they have been prepared and how
   they are useful. Also, explain the various factor to be considered during preparation of
detailed estimate.

Q.7 Write detailed specifications for following:
   a) Concrete in flooring.
   b) Damp proof course in plinth.
   c) R.C.C. work in building slab.
   d) Aggregates (fine and coarse) used in brick work in super structure of building.
   e) Earth work in excavation.
End Semester Examination, May 2019  
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 Answer the following questions:
   a) Define “Multi Story Building”.
   c) Define “Infilled-Frame Structure”.
   d) Define “Rigid-Frame Structure”.
   e) Define “Braced-Frame Structure”.
   f) Write the full form of ISA, ISMB, ISWB and ISHB.
   g) Explain edge distance and end distance of a steel plate with diagram.
   h) When grillage footing is provided?
   i) Write assumptions we have during grillage footing.
   j) Write down the factors governing the site selection for an industrial building.

**PART-B**

Q.2 a) Write down the advantages and disadvantages of a multi-story building.
   b) Classify multi story building on the basis of height.
   c) Write and explain design consideration for a multi-story building.
   d) Explain floor system in reinforced concrete and classify them with diagrams.

Q.3 a) Write design procedure for grillage footing.
   b) Design a slab for a column section ISHB 350@710.2 N/m subjected to the axial load of 1030 kN for the following conditions:
      i) Load is transformed to the base plate by direct bearing of column flanges.
      ii) Design the anchor bolt, if required.
      The base rests on a M-15 concrete pedestal and use ISHB 350; D = 350 mm and B = 250 mm, thickness of column flange and web as 11.6 mm and 10.1 mm respectively.

Q.4 a) Write the elements of an industrial building.
   b) Design a roof for a railway platform 30 × 12 m² wide. The type of roof truss to be provided is shown in figure-1. The roof is to be with asbestos cement sheets. Assume the necessary relevant data.
End Semester Examination, May 2019  
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 Explain the five major components of textile products in detail.  

PART-A

Q.2 What are the types of fabrics? Explain five fabrics of each category with their properties.  

Q.3 Examine the performance of fabric and patterns in carpets.  

Q.4 Explain the performance of different weaves pattern of fabric through neat sketches.  

PART-B

Q.5 Give two examples and show how to calculate quantities of materials needed for specific applications?  

Q.6 Explain in detail the finishing of textile products.  

Q.7 Explain how the textile industry have an impact on the environment. Prepare proposal of recommendations based on environmentally renewable resources and practices?
Q.1 Write short notes on (any five) of the following:
   a) Tender notice.       b) BOQ
   c) Contract drawings.   d) Project completion.
   e) Record drawings.     f) Specification.
   g) Letter of acceptance.
   
   Q.2 Explain “BOT” contract, what is its nature of agreement, advantages and disadvantages? What is the role of state support agreement in BOT contract?

   Q.3 State any three types of contracts which are used commonly in the industry. Explain their nature, suitability, advantages and disadvantages.

   Q.4 Explain the “Arbitration Procedure” in detail, and how the appointment of an arbitrator is been done for any dispute of construction industry.

   Q.5 What kinds of evidence are allowed to be presented in the arbitration process? Also, explain the admissibility of evidence during the arbitration procedure.

   Q.6 Distinguish between the percentage rate contract and the cost plus percentage contract. Elaborate it in detail.
End Semester Examination, May 2019  
Bachelor of Architecture – Sixth Semester  
GREEN AND INTELLIGENT BUILDINGS (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 Explain the concept of green building and the measures to reduce Environment Impacts of construction activities.  

PART-A

Q.2 What is building automation system? Explain the areas of implementation of BAS in an office building.  

Q.3 Explain the relation between people, environment and building.  

Q.4 What is a green building? Why they are more sustainable?

PART-B

Q.5 Write short notes on the following:  
a) Trombe wall.  
b) Sensors.  
c) Kyoto protocol.  
d) Energy efficient alternate building materials.  
e) Batter walls.  

Q.6 Explain the role of “Self Accreditation Systems” like TERI GRIHA, to conserve urban environment.  

Q.7 What are intelligent buildings? What are the different building systems in IB TIER TASKS and Goals?
Q.1 Explain (any four) of the following:
   a) Load chart.
   b) Progress chart.
   c) Earliest start time.
   d) Burst event in CPM.
   e) Dummy activity.

   PART-A

Q.2 Define “Project Management” and its important concepts in details.

Q.3 Explain the concept of critical path method. Write all the process involved in CP method.

Q.4 For the below table of information:

<table>
<thead>
<tr>
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<th>Duration</th>
<th>Dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
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<td>-</td>
</tr>
<tr>
<td>A</td>
<td>5 days</td>
<td>Start</td>
</tr>
<tr>
<td>B</td>
<td>2 days</td>
<td>Start</td>
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<tr>
<td>C</td>
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<td>D</td>
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</tr>
<tr>
<td>Finish</td>
<td>0 days</td>
<td>I, J</td>
</tr>
</tbody>
</table>

   a) Draw the network diagram.
   b) List the network paths.
   c) Determine the critical path(s).
   d) Determine the float for each activity.

   PART-B

Q.5 a) Perform a forward pass and a backward pass of the network diagram.
   b) Which activities have the same early finish as they have late finish?
Q.6  

a) What is the total float on activity D?  
b) What is the total float on activity F?  
c) How many critical paths are present in the network?

Q.7  
Compute the critical path of the following plan:

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
<th>Dependency</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4d</td>
<td></td>
</tr>
<tr>
<td>Task 2</td>
<td>2d</td>
<td></td>
</tr>
<tr>
<td>Task 3</td>
<td>4d</td>
<td>2</td>
</tr>
<tr>
<td>Task 4</td>
<td>2d</td>
<td></td>
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<tr>
<td>Deliverable A</td>
<td></td>
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<tr>
<td>Task 6</td>
<td>6d</td>
<td>5</td>
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<tr>
<td>Task 7</td>
<td>2d</td>
<td>5</td>
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<tr>
<td>Deliverable B</td>
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</tr>
<tr>
<td>Task 9</td>
<td>2d</td>
<td>1SS</td>
</tr>
</tbody>
</table>
Q.1 Explain the following terms:
   a) Elastic limit.
   b) Poisson’s ratio.
   c) Young Modulus.
   d) Bulk modulus.
   e) Volumetric strain.
   f) Stress and strain.
   g) Type of stress.
   h) Bending moment and shear force relationship.
   i) Factor of safety.
   j) Rigidity.
   k) Type of supports.
   l) Type of beam.
   m) Type of loads.
   n) Moment of resistance.

Q.2
   a) Explain the assumptions that are made in strength of material.  
   b) Explain the terminology used in strength of material.

Q.3
   a) A rod of 4.5m long having diameter of 2.5m is subjected to the force as shown in figure-1. If young’s modulus of rod is 200Gpa then determine the deformation.
   b) State Hook’s law and give all relationships between E, G, K.

Q.4
   a) Draw S.F.D. and B.M.D. of the beam shown in figure-2 below:
   b) What is point of contra flexure? Explain in detail.

Q.5
   a) Define stress and strain also classify them by a flowchart and then with diagram.
   b) Which one is better simply supported beam or fixed beam? Discuss.

Q.6 A simply support beam AB of span 4m is acted upon by an UDL of 5kN/m for a distance of 2m from left support and a point load of 10kN acts at a distance of 1m from right support. Draw S.F.D. and B.M.D. calculate magnitude and location of maximum bending moment.

Q.7
   a) State the Clapeyron’s theorem of three moments.
   b) Analyze a continuous beam using Clapeyron’s theorem and draw bending moment diagram. Beam is show in figure-4.
Q.1 Explain the following terms:
  a) Elastic limit.  
b) Poisson’s ratio. 
c) Young’s Modulus.  
d) Bulk modulus. 
e) Volumetric strain.  
f) Stress and strain. 
g) Type of stress.  
h) Bending moment and shear force relationship. 
i) Factor of safety.  
j) Rigidity. 
k) Type of supports.  
l) Type of beam. 
m) Type of loads.  
n) Moment of resistance. 

Q.2 
  a) Explain the assumptions that are made in strength of material.  
  b) Explain the terminology used in strength of material. 

Q.3 
  a) A rod of 4.5m long having diameter of 2.5m is subjected to the force as shown in the figure. If young’s modulus of rod is 200Gpa then determine the deformation. 

b) State Hook’s law and give all relationships between E, G, K. 

Q.4 
  a) Draw S.F.D. and B.M.D. of the beam shown in the figure below: 

b) What is point of contra flexure? Explain in detail. 

PART-B

Q.5 
  a) Define stress and strain also classify them by a flowchart and then with diagram.  
  b) Which one is better simply supported beam or fixed beam? Discuss. 

Q.6 A simply support beam AB of span 4m is acted upon by an UDL of 5kN/m for a distance of 2m from left support and a point load of 10kN acts at a distance of 1m from right support. Draw S.F.D. and B.M.D. calculate magnitude and location of maximum bending moment.
Q.7  

a) State the Clapeyron’s theorem of three moments.

b) Analyze a continuous beam using Clapeyron’s theorem and draw bending moment diagram. Beam is shown in the figure.
Time: 3 hrs.                             Max Marks: 60
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 meant by the term renaissance? How it affected architecture in Europe. 12

PART-A

Q.2 What are the essential features of church? Explain with the help of sketches. 12
Q.3 Draw plan section and elevation of Senta Soaphia at Constantinople. Explain in detail. 12
Q.4 Explain the Romanesque architecture in Europe. 12

PART-B

Q.5 What is Industrial steel and sheet glass? How these two materials affected the architecture. 12
Q.6 What is meant by R.C.C. and how this effected on modern architecture? 12
Q.7 Explain essential features of modern architecture with the help of sketches. 12
End Semester Examination, May 2019
B.Sc. (ID) – Second Semester
GENERAL EDUCATION (351.210)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following:
   a) What is a proxemics?
   b) What is the purpose of a case study?
   c) What do we mean by communication in a virtual world?
   d) What is hepatics?

PART-A

Q.2 Explain the Do’s and Don’ts of telephonic conversation in detail.

Q.3 Cell phones are incredibly useful and allow us to remain connected while on the go. However, they carry their own set of “etiquette” rules. Discuss the “etiquettes” in detail.

Q.4 Explain the following elements of Tone of Voice:
   a) Pitch
   b) Volume
   c) Pause
   d) Emphasis

PART-B

Q.5 Discuss the Do’s and Don’ts of facing an interview.

Q.6 What are the security issues involved in communicating via email? Discuss the Do’s and Don’ts of writing an email.

Q.7 What all do you have to do before facing an interview?
End Semester Examination, May 2019
B.Arch. – Fourth Semester
STRUCTURAL DESIGN – IV (AR-405)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following questions:
   a) Define permissible stresses and their respective value for concrete and steel.
   b) Explain characteristics strength of concrete and steel.
   c) Name any three differences between W.S.M. and L.S.M.
   d) Why do we need to design a section doubly reinforced.
   e) Differentiate between one way and two way slabs
   f) Classify columns.
   g) What is slenderness ratio and define effective length of columns?
   h) Define Rise, Tread, going and nosing.

   \[ \text{PART-A} \]

Q.2 a) Explain balanced, under-reinforced and never-reinforced section with the help of stress diagram. 6
   b) Find the moment of resistance of a RCC beam 300 mm wide and 500 mm effective depth is reinforced with 3 bars of 16mm. Use M25 concrete and Fe 415 steel. 6

Q.3 a) Write down assumptions of working stress or limit stress method and explain them. 5
   b) A beam having size of 230 mm width and 500 mm effective depth is subjected to a factored moment of 210 kNm. How many member of bars are required also find reinforcement area required. Use M20 concrete and Fe415 steel. 7

Q.4 A simply supported slab of a corridor of a hospital building has a clear span of 25 m and it supported on beam 230 mm width. Design the slab, if the beam is carrying a live load of 5 kN/M^2. Use M20 concrete and Fe415 steel. 12

   \[ \text{PART-B} \]

Q.5 a) Write differences between short column and long column. 3
   b) Design a column of size 450 mm x 600 mm and having 3 m unsupported length. The column is subjected to a load of 200 kN and is effectively held in position but not restrained against notation. Use M20 concrete and Fe415 steel. 9

Q.6 Design a circular column of diameter 400mm subjected to a load of 1200 kN. The column is having spiral ties. The column is 3m long and is effectively held in position against rotation. Use M25 concrete and Fe415 steel. 12

Q.7 a) Name different types of stair slabs, explain any one of them. 3
   b) Write Design a dog legged staircase for an office building in a room measuring 3 m x 6 m (clear dimensions). Floor to floor height is 3.5 m. The building is a public building liable to over-crowding. Stairs are supported on brick walls 230 mm thick at the end of landing. Use M20 concrete and Fe415 steel. 9
End Semester Examination, May 2019
B.Arch. – Tenth Semester
PROFESSIONAL PRACTICE (AR-1003)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Explain the following two most important organizations in the field of architecture:
   a) Indian Institute of Architects.
   b) Council of Architecture. 20

   PART-A

Q.2 What are the various types of Architecture Practices used in India? 10

Q.3 Explain the following types of Architecture Competitions:
   c) Special Competitions.
   d) Regional Category Competitions. 10

Q.4 What is valuation? Explain the important purposes for valuation. 10

   PART-B

Q.5 Explain the Indian Architect’s Act 1972. What is its role and importance in managing the profession and its Professionals? 10

Q.6 Who is an Architect? What are the various roles they play in their services? 10

Q.7 What are contracts? Explain the various parts of a contract. 10
End Semester Examination, May 2019
B.Arch. – Sixth Semester
HISTORY OF ARCHITECTURE-IV (AR-604)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Explain essential features of Islamic architecture with sketches. 12

PART-A

Q.2 Explain with sketches the Qutab Complex. Draw plan sections of its buildings and Qutab Minar. 12

Q.3 Explain with sketches Tughlaqabad Fort and Tomb of Ghiyas-ud-din Tughlaque. 12

Q.4 Draw plan section and elovation of Taj Mahal and explain the excellence of the building. 12

PART-B

Q.5 What is meant by colonial style of architecture in India? Draw sketches of buildings. 12

Q.6 Explain with sketches the city of Chandigarh. 12

Q.7 Explain any building designed by Charls CORREA. 12
Q.1 Answer the following:
   a) What is meant by electric potential?
   b) What is electric power?
   c) State ohm’s law
   d) What is light?
   e) What is illumination?
   f) Define lumen.

Q.2 a) An electric boiler draws 10A at 120 volt for a period of 10 hours and a heater draws 9A at 110 volt for a period of 10 hours. Calculate the total cost of energy consumed when the per unit cost of electricity is Rs.4/- p/kwh.
   b) For the given circuit? Calculate the current flowing through the 5 Ω resistance.

Q.3 a) What is the working principle of a fuse?
   b) State and explain Kirchoff’s Laws.

Q.4 a) What is the working principle of earthing?
   b) Draw the circuit for stair case wiring:
      One lamp switched on and off.

Q.5 a) What are the different lighting schemes?
   b) Briefly explain flood lighting.

Q.6 a) Two 220 v. lamps are of 70 w and other of 80w are connected in series across 440v supply. Calculate the drop across each element.
   b) A room 20m long and 15m wide is to be illuminated to a level of 200 lux. The utilization and maintenance of factors are 0.7 and 0.8 respectively. If the output lumen of each lamp is 3000 lumens, calculate number of lamps required.

Q.7 Write short notes on:
   a) Sodium lamp.
   b) Fluorescent tube light.
Q.1 Give brief description of the following:
   a) Covered areas not counted in F.A.R.
   c) Courtyard.
   d) Floor Area Ratio (FAR) / Floor Space Index (FSI).
   e) Ground coverage and total built up area.
   f) Zonal plans.
   g) Arbitration Act.
   h) Development authority objective and functions.
   i) Permissible covered area and achieved covered area.
   j) Basement.

   **PART-A**

Q.2 Discuss the roles of various statutory bodies Development Authorities and Municipal Development Authority.  

Q.3 Explain the Heritage Act. How it is helpful in maintaining old historical buildings in today’s context?  

Q.4 What is land use? Discuss various types of land uses in Master Plan.  

   **PART-B**

Q.5 Explain the detailed Master Plan of a city. What are its salient features?  

Q.6 What do you understand by architectural controls. Explain its need and importance in creating quality built environment with suitable examples and importance of role, laws related to this.  

Q.7 Discuss and give reason for: “The building byelaws should be periodically modified”.  

Q.1 Answer the following:
   a) What are the factors to be considered for designing a lift?
   b) What are the four common causes of fire?
   c) Why supply air duct insulation thickness is more than return air duct insulation thickness?
   d) What is requirement of air filters in central HVAC system?
   e) Why strip heaters are used in central HVAC system?

   **PART-A**

   Q.2 a) What are different classes of fire? Describe with examples.
   b) Describe with a suitable sectional diagram of a corridor showing condensed/chilled water piping with insulation as per requirement, supply/return duct with insulation specifying thickness, cable tray, clear false ceiling height and clearance spaces between each component above false ceiling.

   Q.3 a) Describe with suitable diagram water cooled vapour compression system along with cooling tower and required pipe connections of cooling tower with vapour compression system.
   b) Write down step wise how the pump head of a chilled water system is calculated along with the safety factor to be taken.

   Q.4 Describe with a suitable diagram the fire damper within AHU Room describing how the fire damper operates during fire in AHU Room.

   **PART-B**

   Q.5 a) Draw AHU within AHU Room showing its location in mm and justify with reasoning the dimensioning of each location.
   b) Describe with suitable diagram the HVAC system of operation theatre room within hospital.

   Q.6 Describe with suitable diagram a central heating system showing 2 nos. of boilers, 2 nos. of chilling machine, 2 nos. of necessary pumps, valve arrangement with all the necessary pipe lines along with a 3 floor building consisting of AHUs and FCUs. Also describe interlocking of valve arrangements during summer and winter.

   Q.7 a) Draw a vertical shaft layout showing chilled water/condenser water pipes with insulation where necessary supply/return air duct with required insulation, fire fighting pipes etc. in a vertical shaft. Also explain why vertical shafts are used in a multi floor building?
   b) Write short notes on:
      i) RTT (Round Trip Time)
      ii) Shortening of time consumed in Lift Travel.
End Semester Examination, May 2019
Bachelor of Architecture – Fifth Semester
STRUCTURAL DESIGN-V (AR-505)

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. All questions carry equal Marks.

Q.1 Answer the following:
   a) Draw various parts of retaining wall and explain them.
   b) What are bridge abutment and bon culvert.
   c) When counterfort type retaining wall is used.
   d) How do you calculate factor of safety of a retaining wall against sliding.
   e) Write down disadvantages of steel structures.
   f) Define Welding.
   g) Name the type of tension members.
   h) Mention the end condition and its corresponding effective length for two cases in case of a compression member.

PART-A

Q.2 Design a counterfort retaining wall to retain 4m earth above ground level. Having \( \gamma = 15 \, \text{kN/m}^2 \), \( \phi = 30^\circ \), \( \mu = 0.6 \), \( q_0 = 200 \, \text{kN/m}^2 \) \( h=4.0 \text{m} \). Use Fe415 and M20 concrete.

Q.3 a) Draw a neat sketch of cantilever Returning wall (RW) and show main reinforcement in its various components.
   b) A total height of a cantilever type R.W is 6m and thickness of base slab is 50. Check for overturning and sliding failure. Assume data.

Q.4 a) What are the advantages of a counterfort type RW over Cantilever type RW. Discuss.
   b) The total height of a counterfort type RW is 7m with thickness of base slab 0.5m. Design the upright slab having counterfort 3.5m apart.

PART-B

Q.5 a) Write down types of joint in welding. Explain them.
   b) The tie member of a truss is made of ISA 75x75x6mm and is subjected to a factored tensile load of 100kN. Design a weld joint Refer figure.

Q.6 Determine the design load on the column section ISMB 450@710.3N/m, height of column is 4m and it is pin-ended. Assume that \( f_y=250 \, \text{N/mm}^2 \), \( f_u=410 \, \text{N/mm}^2 \), \( E=2\times10^5 \, \text{N/mm}^2 \).

Q.7 Determine the design bending strength if a beam ISMB300@434N/m. Assume that the factored shear force is less than the design shear strength. Use Fe410 grade steel.
End Semester Examination, May 2019
B. Sc. (Interior Design) – First Semester
COLORS 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. Marks are indicated against each question.

Q.1 Write short notes on the following:
a) Color mixing.
b) Color dimensions.
c) Contrast of complement.
d) Eco friendly components in paint. 2×4

PART-A

Q.2 Draw and describe color wheel. 8

Q.3 Briefly describe the research done on the psychology of color by (any two) color theorists from the following:
a) Faber Birren.
b) Leonardo Da Vinci.
c) Michel Lugene C'hevreul. 4×2

Q.4 Briefly describe (any two) color schemes of each:
a) Harmony.
b) Contrast. 4×2

PART-B

Q.5 Write a design concept and compose two wall paper designs for an interior space of a residence using any two principles of design and color as an element. 8

Q.6 Describe the factors which influence the way color schemes are used in planning an interior design. 8

Q.7 Discuss “Color Trends”. 8
Q.1 Explain the following:
   a) Polygon of forces.
   b) Newton’s law of Motion.
   c) Equilibrant.
   d) Free body diagram.
   e) Type of beams.
   f) Type of Loads.
   g) Type of Supports.
   h) Law of Parallelogram of forces.
   i) Bow’s notation.
   j) Center of Gravity.
   k) Centroid.
   l) Moment of Inertia (M.O.I.).
   m) Type of Trusses.
   n) Method of Analyzing.

Q.2 a) Write down all Newton’s law of Motion.
     
     b) Calculate the magnitude of two forces, such that if they act at right angles, their resultant is 5N but when they act at an angle of 60°, their resultant is \(\sqrt{376}N\).

Q.3 a) What is a couple? Write down properties of a couple.
     
     b) Calculate reactions of beam shown in the figure below.

Q.4 a) What is a moment, Write down its characteristics?
     
     b) Calculate reactions for the beam shown in figure given below.
PART-B

Q.5  a) Write down centroids of following:
   i) Rectangle.
   ii) Circle.
   iii) Semicircle.
   iv) Triangle.

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

Q.6  a) Write down MOI of Following.
   i) Ellipse
   ii) Circle
   iii) Rectangle
   iv) Triangle

   b) Calculate Centroidal MOI of Lamia shown below:

Q.7  a) Name methods to analyze a truss, explain any one.

   b) Analyze given truss by any method.
Q.1  Show on the world map the following river valley civilizations and write type of buildings evolved during each.
   • Egyption Civilization.
   • Mesopotamian Civilization.
   • Chinese Civilization.

**PART-A**

Q.2  What is Hanging Gardens and show the details with sketches which civilization constructed these gardens.

Q.3  What is a Pyramid? Draw plan, sections and elevation which civilization these were constructed.

Q.4  What is Grid Iron pattern? Explain the town planning during Greek civilization.

**PART-B**

Q.5  Compare Pantheon Rome and Collusion Rome in terms of Architecture, Volume and Function

Q.6  Why Greeks are known as classical Architecture and Roman are know as massive builders. Explain with sketches.

Q.7  What are the factors responsible for evolution of an architectural styles. Take example of Chinese, Egyptian and Mesopotamian architecture.
Q.1 Write in short the history of the development of the subject Urban Design. Describe the basic objectives of Urban Design.  

PART-A

Q.2 Describe with illustration:
   a) The five elements used to construct the Image of an Urban Area.
   b) The basic elements used to develop the Townscape of an Urban Area

Q.3 What are the different phases of the Urban Design process? Describe them in brief.

Q.4 Explain with neat sketches about Urban Space. Discuss the four basic qualities of Urban Design.

PART-B

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

Q.6 What are the different parameters or elements of a visual survey in Urban Design, related to the characteristics of a city or its parts? Describe them in brief?

Q.7 “Quality urban design reflects and enhance the distinctive character and culture of urban environment”. Explain the above statement with example?
Q.1 Define (any four) terms of the following:
   a) Ambient lighting.
   b) Lamp.
   c) Foot-candles.
   d) Lux.
   e) Luminaries.
   f) Fixture.
   g) SHR. 2×4

**PART-A**

Q.2 Discuss in detail various levels of lighting. Supplement your answer with appropriate sketches. 8

Q.3 Describe various types of lamps used for lighting in buildings. 8

Q.4 Write short notes on (any two) of the following:
   a) Residential lighting fixture.
   b) Switches.
   c) Natural and artificial light. 4×2

**PART-B**

Q.5 What are the guidelines for lighting design? 8

Q.6 a) It is proposed to illuminate an electronic workshop of dimensions 9m × 8m × 3m to an illuminance of 550lx at the bench level. The specification calls for luminaries having one 1500 mm. 65W fluorescent natural tube with an initial output of 3700 lumens. Determine the number of luminaries required for this installation when the UF and MF are 0.9 and 0.8 respectively. 5
   b) List various symbols used in the lighting layout. 3

Q.7 Write short notes on the following:
   a) Outdoor light.
   b) Lumen method. 4×2
End Semester Examination, May 2019
B. Sc. (Interior Design) – First Semester
HISTORY OF FURNITURE-I (351-105)

Time: 3 hrs.  
Max Marks: 40

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 (any four) terms of the following:
   a) Carving.
   b) Marquetry.
   c) Inlay.
   d) Rosette.
   e) Stucco work.
   f) Mosaic.  

   PART-A

Q.2 Massive structures are one of the major characteristics of Egyptian civilization. Describe other characteristics and furniture styles of this era with suitable examples.  

Q.3 Write a note on “Roman Era” discussing about furniture, culture, motifs and other key features.  

Q.4 Multipurpose furniture was one of the most prominent characteristic of middle age furniture. Briefly describe the furniture of this era with example.  

   PART-B

Q.5 Describe William and Mary furniture making with key features, motifs, material etc. along with neat furniture sketch.  

Q.6 Discuss in detail the renaissance describing culture, furniture, finishes, motifs and other elements used in this time period with suitable illustrations.  

Q.7 Describe LOUIS XIV furniture and also describe its key features, motifs, material etc. along with a neat furniture sketch.
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  

No error 

Part A:

Q.2 Write short notes on:

a) Communication process 

b) Group discussion do’s and don’ts 

c) Affective writing skills. 

d) Data interpretation. 

Q.3 What is presentation? State the relevance of presentation skills in your career. 

Q.4 Write a application to your favorite teacher thanking him/her for the efforts she has put in to make learning easy for you all. 

Part B:

Q.5 Write an email to your HOD requesting for some books that your think are useful for your studies but are not available in the library. 

Q.6 Write a paragraph on:

a) A change that would improve our lives. 

b) Importance of communication skills in architecture. 

Q.7 Define ‘sentences’. What are different types of sentences? Give two examples each.
Q.1  a) Define luminous flux. Write its unit.
    b) What is luminous intensity?
    c) How do you define day light factor? Calculate the illuminance at a point on a room, given the day light factor of 5% if the external illuminance is 9500 lux,
    d) What is meant by reverberation and reverberation time?
    e) Write sabine’s formula for reverberation time.
    f) Define utilization and maintenance factor.

PART-A

Q.2  a) What is the power consumption with illuminance of 40 lux, luminous efficacy of 20 lumens/watt and surface area of 15 square-meter?
    b) What is room index? The area of a room is (14X12) meter square and desk to ceiling height is 1.50. Calculate room index.
    c) A specific application requires 600 lumens of light. If luminous efficacy is 20 lumens/watt. Calculate the power.

Q.3  An office 20mx12mx3m requires an illuminated level of 300 lux on the working plane. It is proposed to use 40 watt twin fluorescent fitting having a rated output of 90 lumens per watt. The ceiling to desk height is 2.1 meter and SHR is 1.24. Assuming a utilization factor of 0.60 and maintenance factor of 0.8 respectively. Calculate:
    a) Room Index.
    b) Total number of lamps required.
    c) Sketch lamp layout indicating lamps required in length and width of the room.

Q.4  Describe the construction and the working of Incandescent lamp in detail.

PART-B

Q.5  a) Give an account of the bad acoustic properties of some halls. Discuss the methods for remedying these defects.
    b) If the intensity is increases by a factor 20, by how many decibel is the sound level increased?

Q.6  a) A cinema hall has a volume of 7000m³. It is required to have reverberation time of 1.4 sec. What should be the total absorption in the hall?
    b) Write an essay on acoustics of buildings.

Q.7  a) Calculate the reverberation time of hall of 1500m³ having a seating capacity for 120 persons:
    i) When the hall is empty
    ii) With full capacity of audience
    iii) Audience occupying Only cushioned seats with the following data.
<table>
<thead>
<tr>
<th>Surface</th>
<th>Area</th>
<th>Coefficient of absorption in Sabine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastered wall</td>
<td>112m²</td>
<td>0.03</td>
</tr>
<tr>
<td>Wooden floor</td>
<td>130m²</td>
<td>0.06</td>
</tr>
<tr>
<td>Plastered ceiling</td>
<td>170m²</td>
<td>0.04</td>
</tr>
<tr>
<td>Wooden door</td>
<td>20m²</td>
<td>0.06</td>
</tr>
<tr>
<td>Cushioned chairs</td>
<td>100 nos</td>
<td>1.0</td>
</tr>
<tr>
<td>Audience (Each person)</td>
<td>120</td>
<td>4.7</td>
</tr>
</tbody>
</table>
End Semester Examination, May 2019  
B. Sc. (Interior Design) – Third Semester  
MARKETING TECHNIQUES (351-307)

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 Define **(any four)** of the following terms:  
a) Marketing mix.  
b) Know your customer.  
c) Sales channels.  
d) Costs.  
e) Niche market.  
f) Positioning.  

4×2

**PART-A**

Q.2 Define “HR”. Explain the HR agenda that should be incorporated by a start-up.  

8

Q.3 Define the term ”Marketing”. Explain the different stages of marketing research.  

8

Q.4 What are few different types of new products? Explain the stages of new product development.  

8

**PART-B**

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

8

Q.6 Define “FAB”. How can FAB be used to improve the sales of an organization?  

8

Q.7 Elaborate **(any two)** of the following on the basis of market segmentation:  
a) Behavioral.  
b) Geographical.  
c) Socio-cultural.  
d) Demographical.  

4×2
End Semester Examination, May 2019  
Bachelor of Architecture – Third Semester 
STRUCTURAL DESIGN-III (AR-305) 

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. Each question carries equal marks.

Q.1 Answer the following:  
a) What are main assumptions in pure bending?  
b) Write down name of methods use to find deflection.  
c) What is pure bending?  
d) Difference between long and short column.  
e) Write down Euler’s Formula.  
f) Write down Rankine’s formula  
g) What is a composite section?  
h) Explain middle third rule.  

PART-A

Q.2 Drive Flexural formula for a beam.

Q.3 a) Write down slope and deflection of simply supported beam carrying:  
   i) Point load at center  
   ii) Uniformly distributed load  
   b) A beam of uniform rectangular section 100mm wide and 240mm deep is simply supported at its ends. It carries a uniformly distributed load of 9.125 kN/m run over the entire span of 4m. Find.  
      i) Deflection of the centre.  
      ii) Slope at the supports  
      Take E=1.1x10^4 N/mm^2

Q.4 a) Write down Equivalent length (le) of:  
   i) Both ends hinged  
   ii) One end fixed and other free  
   iii) Both end fixed  
   iv) One end fixed and other hinged  
   b) A hollow alloy tube 3m long of 30 mm and 20 mm external and internal diameter respectively is subjected to tension text. It has shown a deflection of 5.8 mm under a tensile load of 50kN. Find the buckling load if the tube is used as column with one end fixed and other end free

PART-B

Q.5 a) What is modular Ratio? Explain.  
b) A fletched beam consist of two timber joists 100mm wide and 240mm deep with a steel plate 180mm deep and 10mm thick placed symmetrically between the timber joists and well clumped find.  
   i) Maximum fiber stress in steel when the maximum fiber stress in wood is 80kg/cm^2.  
   ii) The combined moment of resistance if the modular ratio is 18.

Q.6 a) Draw shear stress and bending stress distribution a cross depth of a rectangular beam in a neat hand sketch.
b) A simply supported beam of 60 span is subjected to a uniformly distributed load of 15kN/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.

Q.7 A beam is made up of channel section 100mm x 50mm which has a uniform thickness of 15mm. Draw the distribution of shear stress across a vertical section if the shearing force is 100kN. Also find the ratio between the maxi. shear stress and average shear stress.
Q.1 Write short notes on the following Explain with neat sketches, where if necessary.
   a) Cross Sectional Elements
   b) Grade separator Interchange
   c) Traffic-Calming Techniques
   d) Elements of Intersection Design.

   5×4

   **PART-A**

   Q.2 What are the various classifications of Intersections at Grade? Discuss the Principles of Intersection Design.
   10

   Q.3 Outline the Principle of Rotary Design. What are the various elements of rotary Intersections?
   10

   Q.4 a) What are the various Traffic Control Devices and its functions?
      b) Calculate the safe stopping sight distance for design speed of 50km/H for:
         i) Two –way Traffic in a two lane road.
         ii) Two-way Traffic in a single lane road.
   5

   **PART-B**

   Q.5 Define the structures of geometric design of roads and explain the standards for horizontal alignment and vertical alignments?
   10

   Q.6 What are the various components of comprehensive urban planning? Discuss the different levels of planning studies.
   10

   Q.7 Draw the cross-sectional elements for following urban roads:
      a) Arterial (4- Lane Divided)
      b) Sub-Arterial (4-Lane Divided)
      c) Collector Street (4-Lane Divided)
   10
Q.1 Answer the following questions:
   a) Find out which part of the sentence has an error:
      i) She reluctantly said.  ii) That if nobody else.
      iii) Was doing it.     iv) She will do it.
      v) No error.
      i) Will you lend me.  ii) Little money.
      iii) To tide over.    iv) This crisis?
      v) No error.
   b) Use the correct form of tenses from the options given below each question:
      i) By the time she ___________ that it was Allen who had written that letter, he had flown off.
         * had realized    * realizes
         * realized       * will realize
      ii) The burglar ___________ for something in this room, and he knew where to look.
         * were searching  * was searching
         * had searched   * are searching
      iii) My brother told me that he would the canned drinks if he had the money, as they were on sale.
         * have bought    * be buying
         * had bought     * bought
      iv) We will be scaling up the rock wall ___________ everyone is prepared and ready.
         * although       * unless
         * if            * lest
   c) Find the correct order from the choices given below to form a meaningful paragraph:
      i) 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 institutions in the US and a premiere international trading firm.
         * RSPQ    * SPQR
         * SQPR    * RSQP
      ii) 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:
         * PRQS    * SPRQ
**PART-A**

Q.2 Write short notes on the following:
   a) SQ3R.
   b) Barriers to communication.
   c) Representation system.
   d) Elevators pitch.

2x4

Q.3 Write down communication process. Explain with the help of diagram.

8

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

8

**PART-B**

Q.5 What is client analysis? Why is it important?

8

Q.6 Write a letter to your favorite teacher thanking her for her efforts she has put in to make learning more easy and more fun for you all.

8

Q.7 Define the term “Presentation”. Explain in detail three steps to make an effective presentation.

8
End Semester Examination, May 2019
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. Marks are indicated against each question.

Q.1 Write short notes on (any two) of the following:
a) Environmental degradation.
b) Rain water harvesting.
c) Green home. 4×2

PART-A

Q.2 Describe the link between greenhouse effect, global warming and climate change. 8
Q.3 Describe the ethical challenges associated with climate change. 8
Q.4 Explain the steps individuals can take to reduce their impact on the environment. 8

PART-B

Q.5 List ways to reduce heating and cooling costs in a home. 8
Q.6 What are the efficient ways of using water at home? 8
Q.7 Discuss various strategies for reducing fuel consumption. 8
End Semester Examination, May 2019  
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 Write short notes on the following:  
   a) Transfer of tiles and Titles records.  
   b) Power of attorney.  
   c) Residential purchase contracts.  
   d) RERA.  
   e) Benami transaction act.  

   **PART-A**  

Q.2 On what grounds the registration of a real estate agent can be revoked? And what are the consequences of revocation of registration?  

Q.3 Discuss the various types of agreements between the consultants and principal. Also explain the documentation processes in real estate.  

Q.4 Write a short note on ‘the code of ethics in real estate’.  

   **PART-B**  

Q.5 What is the role of government in real estate market? Discuss various regulatory scenario governing real estate projects?  

Q.6 What are the functions of RHRA and discuss the registration process under this act?  

Q.7 Write a short note on scope of real estate management and discuss the factors affecting real estate market.
Q.1 What do you understand by “SMART CITY”. Explain and Elaborate.  

**PART-A**

Q.2 How information and communication technology can help in making an existing city into SMART ONE.  

Q.3 What allied professionals should join the Architect in forming the CORE TEAM which should be entrusted in designing of a new proposed SMART CITY.  

Q.4 Explain the reasons for the gap in delivery of public services and the initial proposal for them. Also as to what can be done to estimate such bottle necks so that the performance of agencies responsible for public services improves.  

**PART-B**

Q.5 What kind and type of Public surveys should be conducted to set the best feedback from general public which will help in designing of a SMART CITY?  

Q.6 Tell about few International Trends which are prevalent in today’s time in the designing of SMART CITY.  

Q.7 Enumerate few key considerations which are a must in the designing of a SMART CITY.
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
a) Differentiate between plain surveying and geodetic surveying.
b) Differentiate between direct leveling and indirect leveling.
c) Differential between error and mistake.
d) Differentiate between direct ranging and indirect ranging. 2x4

PART-A
Q.2
a) A plan was drawn to a scale of 1:3000 was measured by a scale of 1:4000. Find the percent error in the length and area measured. 4
b) Calculate the error for following expression: 4
   \[ s = \frac{x}{y} \]

Q.3
a) Explain the process of erecting perpendicular to a chain line from a point on it. 4
b) In passing a obstacle in the form of a pond, stations A and D on main lines were taken on opposite sides of 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 same straight line. BD and DC were then chained and found to be 125m and 150m respectively. Find the length of AD. 4

Q.4
a) Explain variations in compass surveying. 4
b) The interior angles of a traverse are given below: If the bearing of line AB is N56°45'W. Find the bearings of remaining lines of traverse.
   \[ LA = 114°51',\ \ LB = 114°30',\ \ LC = 108°15',\ \ LD = 90°45',\ \ LE = 111°39' \]

PART-B
Q.5
a) Explain special methods of spirit leveling. 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 RL 100.000m. Find RL's of other points by Rise and fall method. A was the first reading point and instrument was shifted after 2.604, 0.864, 1.215 5

Q.6
a) How do we measure bearing of a line with theodolite? 3
b) Explain the process of temporary adjustments in theodolite in detail. 5

Q.7
a) Differentiate between direct method and indirect method of contouring 4
b) How do we prepare a contour map and how do we interpret it? 4
End Semester Examination, May 2019
B. Sc. (Interior Design) – First Semester
MATERIAL 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. Marks are indicated against each question.

Q.1 Write short notes on the following:
a) Plastic interior emulsion.
b) Block board.
c) Metal.
d) Ceramic Tiles. 2x4

PART-A

Q.2 What are wood products? Name all of them. Explain plywood and block board with all sizes available. 8

Q.3 You are given a project to design a kitchen for a residence. What flooring material would you use? Also specify other materials for kitchen slab and splash back that you will use. Justify your answer in detail. 8

Q.4 Write the unit of measurement that you will use to calculate the following:
a) Flooring.
b) Ply board.
c) Leather fabric.
d) Bathroom wall tiles. 2x4

PART-B

Q.5 Calculate the price for the wallpaper including installation for 2 walls of a bedroom:
Wall A = 15’-0” × 10’-0”
Wall B = 20’-0” × 10’-0”
Wall B has a door of size = 3’=0” × 8’-0”
Wallpaper cost = ₹3000/roll
Installation cost = ₹400/roll
Calculate the total cost for both the walls. 8

Q.6 What is hardwood? Explain any 2 hardwoods in detail with pros and cons. 8

Q.7 What are tiles? Explain in detail with types and specify the areas where you can use this material. 8
Q.1 Define the following terms *(attempt any four):*
   a) Empathize mode.
   b) Define mode.
   c) Ideate mode.
   d) Prototype mode.
   e) Test mode.

**PART-A**

Q.2 How design thinking learning integrate business, technology and people.  

Q.3 Elaborate with the help of neat sketches about the applying design thinking in traditional and contemporary design thinking.

Q.4 What is your definition of design thinking? Elaborate the elements of design thinking for the point of view of an interior designer?

**PART-A**

Q.5 What are the five design concepts underlying relational strength for the interior designer?

Q.6 What the rules for the guiding narrative structure in conceptualization of design thinking?

Q.7 Illustrate the design thinking in terms of design thinking process. Explain with neat sketches
End Semester Examination, May 2019  
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 relevance of elements and principles in interior design. Justify your answer with suitable examples.  

**PART-A**

Q.2 Lines are the most important elements of design. Discuss in detail its various types and usage with suitable examples.  

Q.3 Discuss in detail how texture and color can be used to enhance an interior space. Support your answer with pictorial representations?  

Q.4 Elaborate the role of various shapes and patterns in our environment with suitable examples.  

**PART-B**

Q.5 Discuss “Balance” in detail. Describe types through appropriate pictorial representations.  

Q.6 Rhythm and Harmony are the two principles which change the whole impact of design. Justify the statement and give appropriate sketches to support your answer.  

Q.7 Define the term “Emphasis”. Given below picture is a good example of emphasis in interior design. Explain how?
Q.1 Explain in detail with the help of sketches any three buildings from the three design movements following Industrial Revolution elaborating on the difference in their design features? 20

**PART-A**

Q.2 What is an Exterior Space? How can it relate to the buildings? 10

Q.3 Art Historian Stephan Tschudi Madsen divides Art Noveau 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 Explain the Art Nouveau characteristics for Hotel Tassel built by Victor Horta? 10

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

Q.7 What is a typical Design Process? Explain in brief though a flow chart. 10
End Semester Examination, May 2019
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 Explain what do you understand by the following (any four):
   a) P, Q and S trap with diagram.
   b) Single and Dual water supply system.
   c) Steps involved in water supply scheme
   d) Rain water harvesting.
   e) Composting.  

**PART-A**

Q.2 a) Estimate the population in 2031 by Geometrical Increase Method:  
   Population:  7500  11500  16500  2200
   b) Discuss why population forecasting is so important for design of water supply schemes? 

Q.3 Explain different types of water demand considered for water treatment plant design.  

Q.4 What are the objectives of water treatment and explain the flow process of water treatment plant with diagram?
End Semester Examination, May 2019
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 Explain the following Architectural elements with sketches. (Islamic Architecture) member, Hauz, minar, cloister and a dome. 12

**PART-A**

Q.2 Draw plan section and elevations of Qutabminar

Q.3 Explain Architectural style during the sayyed & lodhi dynasties.

Q.4 Explain with sketches. The Buildings of Fateh pur sikri 12

**PART-B**

Q.5 Explain with sketches the partages church at Goa.

Q.6 Explain Chandigarh city and buildings

Q.7 Explain the buildings designed by architect Raj Rewal
Q.1 Discuss the social and economic reasons furniture construction changes over the decades. 8

**PART-A**

Q.2 Explain in detail the work of any one cabinet maker of Georgian period. Support your answer with neat sketches. 8

Q.3 Explain briefly the neoclassical style of 18th century. 8

Q.4 Briefly explain and differentiate between classical and modern Victorian style furniture. 8

**PART-B**

Q.5 Describe the works of two designers who were against the age of mass production and favored the traditional craftsmanship. 8

Q.6 Distinguish between different renown designers and give examples on how they have influenced furniture designers of the 21st century? 8

Q.7 Describe recycled furniture and its uses in today’s society. Suggest materials that can be used to create recycled furniture. 8
Q.1 Calculate the quantities of (any two) items from the attached plan:
   a) Earth backfilling in excavation after foundation up to ngl.
   b) Concrete quantity in R.C.C. slab 4.5” thick.
   c) Cement plaster qty. on internal walls.
   d) DPC quantity.
   e) Brick work qty. in superstructure.

   10×2

PART-A

Q.2 Write short notes on the following:
   a) Analysis of rates.
   b) Carpet area.
   c) Plinth area estimate.
   d) Individual wall method of estimate.
   e) Tile terracing.

   2×5

Q.2 Write units of the following measurements:
   a) Anti termite treatment.
   b) 230mm. brickwork.
   c) R.C.C. slab shuttering.
   d) Door shutters.
   e) Polishing on windows.
   f) Terrace gola.
   g) Earth backfilling.
   h) Rain water khurra.
   i) Tile terracing.
   j) Kota stone flooring.

   1×10

Q.3 Explain the following items in detail:
   a) Advantages of detailed estimate.
   b) Bill of quantities and abstract of cost.

   5×2

PART-B

Q.5 Work out the rate analysis of the following:
   a) R.C.C. slab in M30 (1:1:2).
   b) 230mm. thick masonry in super structure in 1:6.

   5×2

Q.6 Write down the specification of the following:
   b) Brick work 1st class in 1:4 cement mortar.

   5×2

Q.7 Explain the following items in detail:
   a) General specifications of second class building.
   b) General specifications of fourth class building.

   5×2
Q.1 Explain the following terms:
   a) Elastic limit.  
   b) Plastic limit.  
   c) Ultimate stress.  
   d) Working stress.  
   e) Factor of safety.  
   f) Volumetric strain.  
   g) Poisson’s ratio.  
   h) Bulk modulus.  
   i) Stress.  
   j) Strain.  
   k) Shear force.  
   l) Bending moment.  
   m) Rigidity.  
   n) Type of beams.  

Q.2  
   a) Explain the terminology used in strength of material.  
   b) Explain assumptions that are made in strength of material.  

Q.3  
   a) Draw stress-strain graph and explain main points of it.  
   b) A steel bar of variable section is subjected to force as shown in figure below. Take $E = 205kN/m^2$. Determine total elongation.  

   ![Figure with forces and dimensions](image-url)  

Q.4 Draw S.F.D. and B.M.D. of the beam shown in figure below:  

   ![Beam diagram](image-url)  

Q.5  
   a) Why fixed beams are economical?  
   b) A fixed beam AB of span “L” carries load as shown in figure below. Find fixing moments and draw S.F.D. and B.M.D.  

   ![Beam diagram with loads](image-url)  

Q.6  A continuous beam ABCD is shown in figure given below. Find moment over the beam and the reactions at supports. Also draw S.F.D. and B.M.D.

Q.7  A continuous beam ABC is shown in figure below. Beam is loaded with UDL of 5kN/m. Find reactions at supports and moments over the beam. Also draw B.M.D. and S.F.D.
End Semester Examination, May 2019  
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 (**any four**):
   a) Business profile.
   b) Contract.
   c) Time management.
   d) Curriculum Vitae.
   e) General partnership.
   f) Time management.

**PART-A**

Q.2 Discuss in detail Designer’s Code of Ethics.  
8

Q.3 Discuss in detail various resources which a designer uses while completing a Design Project  
8

Q.4 Define the terms Contract and Agreement. Discuss in detail various forms and requirements of an Agreement  
8

**PART-B**

Q.5 Discuss in detail procedures followed in an interior Designer Project. Describe each step with suitable examples.  
8

Q.6 Define Portfolio. Discuss in detail requirements of an Interior Portfolio and trips to improve the presentation.  
8

Q.7 Write short notes on (**any two**) of the following:
   a) Trade shows.
   b) Business Entities.
   c) Joint ventures.  
4x2
End Semester Examination, May 2019
Bachelor of Architecture – Fourth Semester
HISTORY OF ARCHITECTURE - II (AR-404)

Time: 3 hrs.                          Max Marks: 60
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 meant by the term early Christian. Explain the architectural development during this period in Europe 12

PART-A

Q.2 Show in map where the byzantine style of architecture evolved. Explain with sketches. 12
Q.3 Explain the style of architecture evolved during the renaissance period with sketches. 12
Q.4 What is a vault, what is a dome, what is an Arch. Explain with the help of sketches? 12

PART-B

Q.5 Explain a building of colonial style in New Delhi with sketches. 12
Q.6 Explain the modern architecture style and its evolution. 12
Q.7 Explain Industrial revolution. 12
End Semester Examination, May 2019
B.Sc. (ID) – Second Semester
COMMUNICATION–II (351.207)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following questions.

Directions: in Q a) to d), find out which part of the sentence has an error?

a) A. The course of events  B. took a turn for the worst
C. when the policy to be implemented  D. was negated by the house

b) A. The traveler asked  B. the peasant if he could
C. tell him the way  D. to the nearest inn

c) A. The police brought  B. The conmen to the villagers
C. So that they  D. can identify them

d) A. He is taking care of  B. The garden at his house
C. Since his  D. Father’s death

In question e) to g), use the correct form of tenses from the options given below each question:

e) I thought today ______ Saturday, but it turns out that it ______ Friday.
A. was, is  B. are, were
C. is, was  D. were, was

f) Oh my! You seem to ______ yourself. Let me get you a band aid.
A. cut  B. cuts
C. has cut  D. have cut

g) By the time we got to the restaurant, Ramesh ______ two burgers.
A. ate  B. had eaten
C. eats  D. would have eaten

h) 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 institutions in the US and a premiere international trading firm.
A. RSPQ  B. SPQR  C. SQPR  D. RSQP  

PART-A

Q.2 What is client analysis? How is it conducted also State its importance.  8

Q.3 What are different type of sentences? Explain in detail with examples.  8

Q.4 What is body language. What points about body language should be kept in mind while delivering a presentation?  8

PART-B

Q.5 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.6 Define the term objectives. What are the characteristics of objectives? If you were to deliver a presentation offering a new course to college students. What would the objectives of your presentation be?  

Q.7 Write an email to your favorite teacher thanking him/her for the efforts she has put in to make learning easy for you all.
End Semester Examination, May 2019
B.Sc. (ID)—Second Semester
COMMUNICATION—II (351.207)

Time: 3 Hours
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following:
Directions: In Q.1, find out which part of the sentence has an error?

a) A The course of events B Took a turn for the worst C When the policy to be D Was negated by the implemented house E No error

b) A The traveler asked B The peasant if he could C Tell him the way D To the nearest inn E No error

c) A The police brought B The conmen to the villagers C So that they D Can identify them E No error

d) A He is taking care of B The garden at his house C Since his D Father’s death E No error

In question e) to g), use the correct form of tenses from the options given below each question:

e) I thought today ___________ Saturday, but it turns out that it_________ Friday.
   A) was, is  B) are, were  C) is, was  D) were, was

f) Oh my! You seem to _______ yourself. Let me get you a band aid.
   A) cut  B) cuts  C) has cut  D) have cut

g) By the time we got to the restaurant, Ramesh _______ two burgers.
   A) ate  B) had eaten  C) eats  D) would have eaten

h) 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 institutions in the US and a premiere international trading firm.
   A) RSPQ  B) SPQR  C) SQPR  D) RSQP

1x8

PART-A

Q.2 How to conduct audience analysis? 8

Q.3 What are different types of sentences? Explain in detail with examples. 8

Q.4 What is body language? What are its different parts? 8
**PART-B**

Q.5 What is charisma pattern and representation system? Write an introduction to engage all kind of audience. How does knowledge of representation system help in delivering effective presentation?  

Q.6 Define the term objectives. What are the characteristics of objectives? If you were to deliver a presentation offering a new course to college students, what would be the objectives of your presentation?  

Q.7 Write an email to your favorite teacher thanking him/her for the efforts he/she has put in to make learning easy for you all.
Q.1 What is territorial organization of a space? What are the three types of territorial spaces? 14

**PART-A**

Q.2 What is the relationship between psychology and spatial behavior? 14

Q.3 Explain verbal and non-verbal types of social interactions. 14

Q.4 Explain Abraham Maslow's theory in psychology in detail. 14

**PART-B**

Q.5 State the theory of cultural lag and state its limitations. 14

Q.6 What is the concept of society? Explain various types in which societies are classified. 14

Q.7 How does culture act as adaptive screen between environment and mankind? 14
Q.1 Explain the following Islamic architectural elements with sketches:
   a) Mimber.
   b) Hauz.
   c) Minar.
   d) Cloister.
   e) Dome.

PART-A

Q.2 Draw plan section and elevations of Qutb minar.

Q.3 Explain architectural styles during the Sayyad and Lodhi dynasties.

Q.4 Explain with sketches the buildings of Fateh Pur Sikri.

PART-B

Q.5 Explain with sketches the Portuguese church at Goa.

Q.6 Explain Chandigarh city and its buildings.

Q.7 Explain the buildings designed by architect Raj Rewal.
End Semester Examination, May 2019  
B. Sc. (Interior Design) – Sixth Semester  
MATERIAL FINISHES AND DESIGN TRENDS (351.610)

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 Recycling is a major consideration today and interior designing has a lot to contribute in it. As an interior designer, suggest how will you re-use the old products differently and innovatively?  

8

PART-A


8

Q.3 “Art and Accessories of any area influences the overall appearance of a space”. Justify the statement considering Indian Art and craft with suitable examples.  

8

Q.4 What do you think about changing trend plays any important role for the not accepting the old decoration methods for longer duration?  

8

PART-B

Q.5 Discuss the Various Global Styles using in interior Decoration. Explain with any two Examples.  

8

Q.6 Explain different technology for the fabrication of different materials available for interior designing of theatre.  

8

Q.7 Today the global climate change has become a key issue. As an interior designer what would be your contribution to save the planet?  

8
Notes: 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) What is meant by electricity?
   b) Define ‘electric current’.
   c) Define ‘electric energy’.
   d) What is light?
   e) Define ‘luminous flux’.
   f) What is meant by luminous intensity?

2×6

PART-A

Q.2 a) An electric boiler draws 12 Amp at 115 volts for a period of six hours; a heater draws 10 amp at 125 volts for 6 hours. Calculate the total cost of energy consumption if the cost of 1 kwh is Rs. 4.
   b) For the given network; calculate the current flowing through 6Ω resistance.

Q.3 a) What is the necessity of a fuse? Briefly explain the basic principle of fuse.
   b) What is Kirchoff’s voltage law?

Q.4 a) Draw the circuit for house wiring: One switch for one fan; One switch for one lamp and one switch for one three pin socket.
   b) Write a short note on earthling.

PART-B

Q.5 a) Two 220V lamps, one 60W and another 75W are connected in series. Across a 440V supply. Calculate voltage drop across each lamp.
   b) A room 15m long and 11m wide is to be illuminated to a level of 200 lux. The utilization and maintenance factor are 0.75 and 0.8 each lamp is 3000 lumens, calculate the number of lamps required.

Q.6 a) What is the scheme of factory lighting?
   b) What are the objectives of street lighting and how they are achieved?

Q.7 Write short notes on:
   a) Incandescent lamp.
   b) Compact fluorescent lamp (CCFL).
Q.1 Write short notes on the following:
   a) Wind Shadow.
   b) Thermal Comfort and Climate Responsive Design.
   c) Dry bulb Temperature and Relative Humidity.
   d) Vertical Shadow Angle and Horizontal Shadow Angle.
   e) Givoni Bioclimatic Chart.  

   **PART-A**

Q.2 Define Psychometric Chart and analyze the concept of web-bulb temperatures.  

Q.3 What are the different types of shading devices? Explain the sued of solar chart and shadow angle protractor for working out shading devices for buildings. Give illustrated examples.  

Q.4 a) What is Human heat balance and Thermal stress index?  
   b) Explain Radiative Cooling and Evaporative Cooling.  

   **PART-B**

Q.5 Explain the importance of solar orientation for a building. Explain window shading strategies for South and East facing windows with help of neat sketches.  

Q.6 Explain the function of wind catcher in detail with the help of neat sketches.  

Q.7 Explain five design strategies for any three climatic zones of India in details. Support your answers with neat sketches.
End Semester Examination, May 2019
B.Sc. (Interior Design) – Second Semester
MATERIAL AND FINISHES - II (351.209)

Time: 3 Hours
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 Write short notes on:
   a) Balanced weave.
   b) Thread count.
   c) Tufting.
   d) Calendaring.

   2x4

PART-A

Q.2 List down the major components of textile products. Write about fibers and yarns in detail. 8

Q.3 Differentiate between the natural and blended fabrics with examples. 8

Q.4 Write the advantages and disadvantages of specifying any four textiles in different applications. 8

PART-B

Q.5 Describe woven fabrics. List three basic weaves and weave variations in detail with sketches. 8

Q.6 Write down about the coloration, finishes and its categories in detail. 8

Q.7 List out the problems and ways the textile industry has addressed environmental and recycling issues. 8
Q.1 Answer the following questions:
   a) Suspended Structures.
   b) Core Structures.
   c) Space Structures.
   e) Define multistory building.
   f) Full form of ISA, ISMB, ISWB, ISHB.
   g) Why we provide grillage footing.
   h) Assumptions for grillage footing.
   i) Purlins and sag rods.
   j) Gantry girder and Girt.

Q.2 a) Explain framed-tube structures and classify them with diagrams.
   b) Why do we need multi story building?
   c) Classify multi story building on the basis of height.
   d) Write down advantages and disadvantages of multi-story building.

Q.3 a) Steps for design procedure for grillage foundation.
   b) A column section ISHB 350 @ 661.2 N/m carries an axial load of 1100 kN. Design a suitable gusset base using:
      i) Riveted Construction
      ii) HSFG bolts.
      Allowable bearing pressure on concrete is 400 kN/m²
      Use O = 350, B = 250m. t₁ = 11.6 and t₂ = 8.3

Q.4 a) Name and draw the types of Roof Trusses.
   b) Design a roof for a railway platform 30X12 m² wide. The type of roof truss to be provided is show in the figure. The roof is to be with asbestos cement sheets. Assume the necessary relevant data.
Q.1 Give brief description of the following:
   a) Land use in Master Plan.
   b) Permissible Covered Area and Achieved Covered Area.
   c) Carpet Area.
   d) Courtyard.
   e) Floor Area Ratio (FAR).
   f) Total Built up Area.
   g) Zonal Plans.
   h) Ground Coverage.
   i) Development authority objective and functions.

   **PART-A**

   Q.2 Discuss the roles of various statutory bodies development authority, municipal development authority.

   Q.3 Explain the Heritage Act. How it is helpful in maintaining old historical buildings in today’s context?

   Q.4 List the documents necessary for submission of plans for sanction to a municipal authorities.

   **PART-B**

   Q.5 Explain in detail Master plan of a city what are its salient features?

   Q.6 What do you understand by Architectural Controls? Explain its need and importance in creating quality built environment with suitable examples and importance of role laws related to this.

   Q.7 Discuss and give reasons for “The building byelaws should be periodically modified.”
Q.1  Prepair the list of all contract documents. Why it is necessary to include the “TENDER NOTICE” in the contract document. What are the advantages of using “STANDARD SET OF CONDITIONS” of contract?

Q.2  What is schedule-A in contract documents? What information does it contains? Why should an engineer or an owner preserve one set of original drawings?

Q.3  What is “item rate contract” or “unit price contract”? State its “Nature of agreement”, mode of payment to contractor, suitability, advantages and disadvantages.

Q.4  What is sub-contract? What are its essential features? What is “LABOUR” contract? Where and when we can use these contracts?

Q.5  What do you mean by “ARBITRATION”? State the procedure of an “ARBITRATION” on what basis an ARBITRATOR is being appointed?

Q.6  Explain the kind of evidence any party can submit during the conduction of an ARBITRATION? Explain the admissibility of evidence during the ARBITRATION.
End Semester Examination, May 2019
Bachelor of Architecture – Fourth Semester
THEORY OF DESIGN-II (AR-407)

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. Marks are indicated against each question.

Q.1 Explain the following with the help of sketches.
   a) The Red House by William Morris.
   b) Formalism.
   c) Art Deco in India.
   d) The International Style. 3x4

PART-A

Q.2 Compare and contrast modern and postmodern architectural philosophies. 12

Q.3 What are the features of Arts and Crafts Movement? Explain with sketches and examples. 12

Q.4 What is typical design process? Explain through a Flow Chart. 12

PART-B

Q.5 What are bubble diagrams? Explain four design factors that can be dealt with during the stage. 12

Q.6 How does building envelope act as a space defining element? Discuss the characteristics of a tolerance space. 12

Q.7 Develop a formatted post-occupancy evaluation form for a client in detail. 12
Q.1 Answer the following questions:
   a) What is a case study?
   b) What is the purpose of a case study?
   c) What do we mean by communication in a virtual world?
   d) What is the difference between hobbies and interests?  

   **PART-A**

Q.2 In today’s world business communication is also done through telephone (i.e., conference calls). Explain the do’s and don’ts of telephonic conversation in detail.  

Q.3 Cell phones are incredibly useful and allow us to remain connected while on the go. However, they carry their own set of “etiquette” rules. Discuss the “etiquettes” in detail.  

Q.4 Explain the following elements of **Tone of Voice:**
   a) Pitch.
   b) Volume.
   c) Enthusiasm.
   d) Emphasis.  

   **PART-B**

Q.5 Discuss the do’s and don’ts facing an interview.  

Q.6 What are the security issues involved in communicating via email? Discuss the do’s and don’ts of writing an email.  

Q.7 What are things you should find out about the employer/company before you go for the interview?
End Semester Examination, May 2019
B. Arch. - 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 any TWO questions from Part-B. Marks are indicated against each question.

Q.1 Answer the following questions:
   a) Name different grades of cement, steel and concrete.
   b) Write factor of safety and partial factor of safety for concrete and steel.
   c) Define permissible stress.
   d) Why we do not use over-reinforced sections?
   e) What is two way slab?
   f) What is characteristic strength?
   g) Write down types of column.
   h) Write down types of staircases.

   **PART-A**

Q.2 a) Write down and explain assumptions for working stress method or limit state method.  
   b) Differentiate between W.S.M and L.S.M.  

Q.3 Determine the moment of resistance of RCC beams 350 mm x 500 mm (effective) and is reinforced with 3 bars of 20 mm diameter. The permissible stress in concrete and steel are 7 N/mm² and 230 N/mm².  

Q.4 A beam 250 mm x 550 mm (effective) is subjected to a factored bending moment 300 kNm. Determine the area of steel required. Use M20 concrete and Fe 250 steel. Assume d’ = 50 mm.  

   **PART-B**

Q.5 A simply supported slab of a corridor of a hospital building has a clear span of 2.5m and is supported on a beam of 230 m width. Design a slab, if the beam is carrying a live load of 5 kN/m². Use M20 concrete and HYSD 415 bars. Check for shear and development length.

Q.6 Design a short RCC column to carry an Arial load of 1600 kN. It is 4 m long effectively held in position and restrained against rotation at both ends. Use M20 concrete and Fe 415 steel.

Q.7 Design a circular column of diameter 400 mm subjected to a load of 1200 kN. The column is having spiral tics. The column is 3 m long and is effectively held in position at both ends but not restrained against rotation. Use M25 concrete and Fe 415 steel.
End Semester Examination, May 2019  
Bachelor of Architecture – Fourth Semester  
THEORY OF ARCHITECTURE AND DESIGN (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 Differentiate between the modern and postmodern architecture philosophies with the help of examples of buildings from that eras.  

PART-A

Q.2 Explain the major design philosophy used by Frank Lloyd Wright in his buildings through sketches.  

Q.3 Explain the five points of architecture given by Le Corbusier in any two of his buildings.  

Q.4 What is the contribution of Buckminster Fuller in the field of architecture? Explain with sketches.  

PART-B

Q.5 Explain Organic Modernism of the architect Alvar Alto.  

Q.6 Explain the design philosophies of Robert Venturi through his works of Architecture.  

Q.7 How is Bauhaus the benchmark of modern architecture? Explain the socio, economic and political factors behind its institution.
End Semester Examination, May 2019
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 What is Vernacular Architecture? Discuss with the help of sketches about the influence of various determinants of Vernacular Architecture. 20

PART-A

Q.2 Explain in detail the vernacular construction technique from any one specific climatic region in India, with the help of sketches. 10

Q.3 Define the vernacular architecture of (any two) from the following with examples:
   a) Hot and dry climate.
   b) Warm and humid climate.
   c) Composite climate. 5×2

Q.4 Explain the Vernacular Strategies for the Earthquake Resistant Structures. 10

PART-B

Q.5 Explain (any two) detail vernacular structure and explain:
   a) Laterite Structure Goa.
   b) Bhonga House.
   c) Warli House. 5×2

Q.6 Enlist 3 vernacular materials and state the role of construction technology in vernacular architecture. 10

Q.7 Explain vernacular architecture of Punjab in detail. 10
End Semester Examination, May 2019
B.Arch. – Sixth Semester
GREEN AND INTELLIGENT BUILDINGS (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 any **TWO** questions from **PART-B.** Marks are indicated against each question.

Q.1 What are the intelligent Buildings? What are the different building systems in IB, TIER Tasks and Goals?  

**PART-A**

Q.2 Explain the relation between people, Environment and Building.   

Q.3 Explain key parameter of Green Building Rating System. Explain any three rating system or rating points and parameter.  

Q.4 Define Daylight. What is its basic principle of effective Daylight design?  

**PART-B**

Q.5 Explain the role of ‘self accreditation systems’ like TERI GRIHA, to conserve urban environment.  

Q.6 What is Building Automation system? Explain the areas of implementations of BAS in an office building.  

Q.7 Write short notes on:
   a) passive techniques in building envelope mentioned in ECBC
   b) Measurement of productivity
   c) Energy efficient alternate building materials.
   d) Waste management methods in GRIA rated buildings
   e) Semiotics in Architecture.  

2x5
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 any TWO questions from PART-B. Marks are indicated against each question.

Q.1 Discuss in detail factors to be kept in mind, while selecting treatments for a window. Justify your answer with suitable examples.  8

PART-A

Q.2 Define the terms (any four):
   a) Heading
   b) Cornice
   c) Drapery
   d) Grommet Pleat
   e) Moulding
   f) Valance  2x4

Q.3 How can different period styles of Window Treatment be coordinated with interior design? Give examples  8

Q.4 Pleats are the most important treatment which is used for various reasons. Discuss in detail with suitable sketches.  8

PART-B

Q.5 Write short notes on (any Two):
   a) Window Headings.
   b) Pleats and their uses.
   c) Hardware and Accessories.  4x2

Q.6 List out various types of soft furnishings describing their uses in all interior.  8

Q.7 Define ‘Re-upholstery’. Discuss in detail considerations to be kept in mind while choosing upholstery for your Drawing Room.  8
Q.1 Answer the following questions:
   a) What is vertical transportation?
   b) What is the use of fire extinguishers?
   c) What is aspect ratio in ducting?
   d) What is use of vibration pad in chilling machine?
   e) Why boilers are used in central HVAC system?

4×5

PART-A

Q.2 a) Describe 4 different types of fire extinguishers.  
   b) Describe with suitable sectional diagram of a room showing fan coil unit (FCU) and 
      air distribution system showing ducting, grilles/diffusers as applicable.

Q.3 a) Write down stepwise how the static head of a blower in AHU is calculated along with 
      the safety factor to be taken.  
   b) Write down stepwise how the pump head of a condenser water system is calculated 
      along with the safety factor to be taken.

Q.4 a) Describe with suitable fire damper diagram within AHU Room and ducts crossing 
      floors of a multi floor building and also describing how the fire damper stops 
      transmission of fire from AHU Room.  
   b) Describe with suitable diagram showing supply air/return air ducting from AHU along 
      with AHU room, volume control damper, diffusers, grilles.

PART-B

Q.5 a) What is prefilter, micro (fine) filter and HEPA filter? Show the use of these filters 
      with diagram showing AHU, ducting, diffusers as applicable. 
   b) Describe with suitable diagram, the HVAC System of operation theatre room within 
      hospital.

Q.6 a) What are the types of cooling towers? Describe functioning of each type with 
      diagrams. 
   b) Describe with suitable diagram showing strip heaters in an arrangement of AHU, 
      ducting, grilles/diffusers etc.

Q.7 a) Describe “Round Trip Time (RTT)” in details.  
   b) Describe with suitable diagram the valve & strainer arrangement for chilled water 
      and condenser water system equipments like chilling machine, pumps, cooling tower 
      and AHU.

PART-B

Q.5 Explain the principle elements of solid waste Management.
Q.6 Discuss on the disposal of waste water from the kitchen and toilets of an apartment in a two storey building.

Q.7 Explain Rain water harvesting in India, its need, methods and advantages.
End Semester Examination, May 2019
Bachelor of Architecture / B. Sc. (ID) – First Semester
ENVIRONMENTAL STUDIES (CH-202A)

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) Define Ecology. Who coined this term and when?
   b) Differentiate between renewable and non-renewable resources.
   c) Explain the impacts of overgrazing.
   d) Differentiate between food chain and food web.
   e) What are the roles of autotrophs and chemotrophs in ecosystem?
   f) Name the most Biodiversity rich area in India.
   g) Differentiate between point source and non-point source of water pollution.
   h) Why are plastic bags a big environmental nuisance?
   i) What do you mean by social equity?
   j) How can global warming be controlled? 2×10

PART-A

Q.2 a) Discuss the multidisciplinary nature of Environmental Studies. Give a suitable example of how an environmental problem may be addressed with multidisciplinary approach. 10
   b) What are the various goods and services provided by a forest ecosystem? Describe various threats to our forests. 10

Q.3 a) What are soil erosion and its causes? How can it prevented? 10
   b) Explain the following:
      i) Types of energy harnessed from oceans
      ii) Impact of ground usage 5x2

Q.4 a) Give an account on Biodiversity conservation. 10
   b) What are Hot Spots of Biodiversity? Discuss about the hot spots in India. 10

PART-B

Q.5 a) Write short note on:
      i) Environmental problems faced by women inside the rural households.
      ii) Causes and effects of thermal pollution on the life of aquatic animals 5x2
   b) Give a detailed account of environmental disasters and their management. 10

Q.6 a) What is rainwater harvesting? Describe the rainwater harvesting system. 10
   b) Give a detailed account of conservation of Energy. Enlist the energy saving ideas. 10

Q.7 a) Why is the resettlement and rehabilitation of people affected by mining and dam projects a major challenge in India? 10
   b) Write short notes on the following:
      i) Disarmament.
      ii) Chemical Weapon convention. 5x2