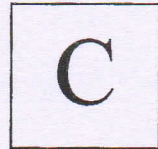


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B.Arch. Degree VII Semester Examination November 2019

AR 1702 URBAN DESIGN

(2014 Scheme)

(Illustrate your answer with sketches)

Time: 3 Hours

Maximum Marks: 100

PART A

(Answer ALL questions)

(8 × 5 = 40)

I. Write short notes on the following:

- (a) Urban form and pattern
- (b) Scope of urban design
- (c) Urban massing and scale
- (d) Urban spaces and enclosures
- (e) Urban design surveys
- (f) Skyline studies
- (g) Urban conservation
- (h) Waterfront development

PART B

(4 × 15 = 60)

II. Define urban design and its historic evolution.

OR

III. Explain the relevance of urban design in the fast urbanizing world.

IV. Describe briefly on the principles of urban spatial structure.

OR

V. Describe Kevin Lynch's principles of image of the city.

VI. Describe the urban design theories introduced by Christopher Alexander.

OR

VII. Explain briefly figure Ground theory, Linkage theory and Place theory.

VIII. Discuss about various urban renewal policies, its scope and procedure.

OR

IX. Describe briefly on the financing agencies and their functions in successful implementation of urban design projects.

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B.Arch. Degree VII Semester Examination November 2019**AR 1703 HOUSING
(2014 Scheme)**

Time : 3 Hours

Maximum Marks : 100

**PART A
(Answer ALL questions)**

(8 × 5 = 40)

I. Write short notes on the following:

- (a) Housing stock and shortage
- (b) Urbanization in Kerala
- (c) Characteristics of rural housing
- (d) One lakh houses scheme in Kerala
- (e) Urban rental housing
- (f) Aided self-help housing
- (g) Role of LIC in housing finance

PART B

(4 × 15 = 60)

II. "Decent shelter for all continues to be a dream of India". Comment.

ORIII. Discuss the features of housing programmes introduced under 11th and 12th Five Year Plans.

IV. Review the various approaches adopted in India for improving the quality of life in slums.

OR

V. Elaborate the objectives, approach and expected outcomes of Pradhan Mantri Awas Yojana (Urban and Gramin), introduced by the Government of India in 2015.

VI. Discuss the salient features of National Urban Housing and Habitat Policy 2007.

OR

VII. Which are the major NGOs working in Kerala? Elaborate on their contribution to the housing sector.

VIII. Elaborate on various mechanisms for housing finance in India. What is the role of NHB in formal housing finance systems?

OR

IX. What are the challenges in accessing formal housing finance? How the housing financing agencies are facilitating house loans to various economic categories of households?

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B.Arch. Degree VII Semester Examination November 2019

AR 1704 INTERIOR DESIGN (2014 Scheme)

- Instructions:**
- One drawing sheet is of approximate A1 size and two rough tracing butter sheets must be supplied
 - Answer all questions in part A and any one question in full in part B. Drawing should be dimensioned as per standards, labelled in good lettering and rendered appropriately
 - Importance will be given to drafting quality, accuracy of drawing and for conformity with standard design and drafting principles
 - Drawing may be rendered as per architectural standards

Time: 4 Hours

Maximum Marks: 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. Write short notes on:
- Principles of growth in organizing spaces in architecture, two and three dimensionally
 - Texture in interior design
 - Function of verticals in interior design
 - Hospital beds
 - Quality of dining space
 - Maintaining interior plants in public buildings
 - Mental impact of basic colours in human minds, in interiors
 - Mat system of floor patterns in Japanese interiors

PART B

(1 × 60 = 60)

- II. Design an architecture student's bed cum study.
He is in the 8th semester B.Tech in a college in city having a hot humid climate and heavy rainfall at times. Design a bed cum study for him. A lot of semi open spaces for model making and painting need to be provided which is his hobby. He is also interested in rock music.
He has acquired many magazines and books. He has a number of drawing sheets, old models and portfolios.
At the rear end of the room, he has a semi open space and open yard edged with hedges and trees and flower beds.
Basic requirements:
- A bed
 - Writing table and book shelf
 - Roll pack, rolled sheets, pen, pencil, etc. and provide display spaces for pin ups
 - Easel board and stool, drafting board and stool
 - Clothes storage – washed, unwashed
 - Musical instruments
 - Shoe rack

(P.T.O.)

Quality of spaces

- Lots of natural wind and light, floor seats, mats, rugs for friends
 - Lots of storage for bed sheets + pillows
- Bedroom space 18-20 sqm
Semi open spaces or verandah 12-15 sqm
Dining + toilet 9-10 sqm

It is a part of the main house where his mother, father and brother are living.

Drawings required.

- | | |
|---|------|
| (a) Plans with furniture layout | (20) |
| (b) Sectional elevation in scale 1:50 | (10) |
| (c) Essential views | (10) |
| (d) Detailed furniture design of any two items of your choice | (20) |

OR

III. Design a hotel lobby mural of size 6 m × 10 m based on SARPAKAVU concept in 2.5 D presentation. Explain the theme, elements incorporated, colour scheme and scale implied.

- | | |
|------------------------------------|------|
| (a) Plan locating the mural | (10) |
| (b) Elevation and section in 1:100 | (25) |
| (c) A view in colour is essential | (25) |

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B.Arch. Degree VII Semester Examination November 2019**AR 1705 DESIGN ASPECTS OF EARTH QUAKE RESISTANT STRUCTURES***(2014 Scheme)*

Time: 3 Hours

Maximum Marks: 100

PART A(Answer *ALL* questions)

(8 × 5 = 40)

- I. (a) What is shear wall? Describe its purpose in multi-storeyed building.
(b) Write short note on mode shape and fundamental frequency.
(c) Enumerate equivalent static method of analysis.
(d) Describe briefly time history method of analysis.
(e) What is ductility factor? List the factors affecting ductility.
(f) What are the necessary criteria to be followed while designing stirrups for beams as per IS 13920?
(g) Describe with a neat sketch the concept of base isolation.
(h) What are the major advantage and disadvantage of base isolation?

PART B

(4 × 15 = 60)

- II. Describe the different types of lateral load resisting systems as per IS 1893.
OR
- III. Differentiate damped spring mass system and un-damped spring mass system. Also give the basic equation of the above.
- IV. Describe response spectrum method of analysis. Mention the difference between response spectrum method and time history method analysis.
OR
- V. Explain in detail the various design forces for building in seismic region.
- VI. Describe the concept of ductile detailing and the factors which affect the ductility of structure in detail.
OR
- VII. Explain with neat sketch, ductile detailing of column as per IS 1390.
- VIII. Explain the feasibility of seismic isolators in present day scenario of Kerala.
OR
- IX. What are the basic elements of seismic base isolation? Explain any three types of isolators with neat sketch.

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B.Arch. Degree VII Semester Examination November 2019

AR 1706 (a) SUSTAINABLE ARCHITECTURE (2014 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. Write short notes on:
- Carrying capacity
 - Bruntland report
 - Recyclable building materials
 - Renewable sources of energy
 - BREEAM
 - GRIHA
 - Urban ecology
 - Sustainable communities – the practical aspects

PART B

(4 × 15 = 60)

- II. Write an essay elaborating the relevance or irrelevance of the Bruntland report with respect to the current global political scenario based on climate change.
- OR
- III. Elaborate upon the ethics of sustainability and the prescribed methods that can be adapted to sustainable development; if these must be followed.
- IV. How can Biomimicry help in reducing energy consumption and thus help promote sustainable living?
- OR
- V. Explain the various steps involved in the life cycle analysis of a construction project. How does embodied energy factor into the analysis.
- VI. According to LEED, what are the factors that determine the level of green rating awarded to any building?
- OR
- VII. Write a detailed report on any green building, highlighting its green features. How are these features different from ecofriendly or sustainable practices?
- VIII. How does the onset of the heat island effect affect the biodiversity and human life of an urban settlement?
- OR
- IX. What are the social and economic dimensions of sustainability? How do they vary in between a sustainable community and urban centre?

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B.Arch. Degree VII Semester Examination November 2019**AR 1706 (b) COST EFFECTIVE TECHNOLOGY**
(2014 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A
(Answer *ALL* questions)

(8 × 5 = 40)

- I. Write short notes on the following:
- Cost effective technology
 - Stabilized soil blocks
 - Lato blocks
 - Straw bale construction
 - Brick arch foundation
 - Ferrocement slab
 - Longivity bamboo construction
 - Maintenance cost

PART B

(4 × 15 = 60)

- II. What are the various aspects that have to be considered in the planning stage of construction of a building? Explain them in detail.
- OR**
- III. Explain the various cost reduction techniques that can be applied in the construction of walls.
- IV. Explain the various applications of local materials in construction process. Discuss the advantages and disadvantages.
- OR**
- V. Explain in detail functions of CBRI & SERC.
- VI. Discuss any two cost effective technology which can be adopted for flood affected areas in Kerala.
- OR**
- VII. Discuss the advantages and disadvantages of precast construction technology.
- VIII. Discuss the various measures that have to be considered in reducing the cost of superstructure.
- OR**
- IX. Analyse the local adaptation of the innovative technologies in terms of initial investment, maintenance cost and longevity of buildings.

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B.Arch. Degree VII Semester Examination November 2019**AR 1707 (a) RESEARCH METHODOLOGY AND STATISTICS
(2014 Scheme)**

Time: 3 Hours

Maximum Marks: 100

**PART A
(Answer ALL questions)**

(8 × 5 = 40)

- I. Write short notes on the following:
- Literature Search
 - Research Databases
 - Probability
 - Hypothesis
 - Technical Writing
 - IMRaD
 - Behavioural Research
 - Interviews

PART B

(4 × 15 = 60)

- II. What are the aims and structure of a literature review?
OR
- III. Detail the various components/parts of a research proposal.
- IV. How is inferential statistics used in social sciences research?
OR
- V. What is a non-parametric method? With an example show its application in research.
- VI. Elaborate on factors considered while writing a research paper.
OR
- VII. What are the various parts and structure of a dissertation report?
- VIII. What is physical research? How is it conducted? Elaborate with an example.
OR
- IX. What is field survey and how is it conducted during architectural research?

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B.Arch. Degree VII Semester Examination November 2019

AR 1707 (d) VERNACULAR ARCHITECTURE (2014 Scheme)

(Illustrate all answers with sketches wherever necessary)

Time: 3 Hours

Maximum Marks: 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. Write short notes on the following:
- Humanitarian architecture.
 - Rural and urban vernacular architecture.
 - Dating analysis of vernacular architecture.
 - Bamboo as a building material.
 - Documentation of vernacular buildings.
 - Listing of historic structures.
 - Contemporary vernacular architecture.
 - Differentiate between traditional architecture and vernacular architecture .

PART B

(4 × 15 = 60)

- II. Discuss the sustainability aspect of vernacular architecture. Cite examples to establish the same.
- OR**
- III. Describe how different regional aspects influence in shaping vernacular architecture of a place.
- IV. Discuss how the availability of material influenced the vernacular architecture of a region, citing two regional examples.
- OR**
- V. Enumerate three qualities of vernacular building materials. Explain each of them with the help of suitable examples and illustrations.
- VI. What is the need for documentation and study of vernacular buildings? List the basics of recording architectural buildings.
- OR**
- VII. Explain how the technological advancement redefined the process of architectural documentation. Discuss in detail the criteria to be adopted for selection of vernacular buildings for documentation.
- VIII. Describe the evolution, morphology and growth of a vernacular town.
- OR**
- IX. Describe the Climatic impact on Vernacular Architecture of Kerala.