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B.Arch. Degree VII Semester Supplementary Examination July 2023**AR 1702 URBAN DESIGN***(2014 Scheme)*

Time: 3 Hours

Maximum Marks: 100

PART A(Answer *ALL* questions)

(8 × 5 = 40)

- I. Write short notes on the following:
- Urban form and pattern.
 - Scope of urban design.
 - Urban scale and massing.
 - Quality of urban enclosure.
 - Skyline Studies in Urban Design.
 - Christopher Alexander.
 - Scope of Urban Renewal.
 - Road form and hierarchy.

PART B

(4 × 15 = 60)

- II. Elaborate briefly on the evolution of Urban design as a discipline.
- OR**
- III. Explain the relevance of urban design in the fast urbanizing world.
- IV. What are the Behavioural aspects in Urban design? Explain using various theories on Human behaviour in public spaces.
- OR**
- V. Describe briefly imageability and legibility and analyze concepts of the book "The Image of the city" by Kevin Lynch using your city as an example.
- VI. Discuss briefly various Urban design surveying methods and techniques.
- OR**
- VII. Write briefly on the following three basic theories in Urban design:
- Figure- Ground theory.
 - Linkage Theory.
 - Place Theory.
- VIII. Define Urban Conservation. What are the optimum Urban Conservation? Write briefly using the case of any heritage conservation project.
- 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 Supplementary Examination July 2023

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:
- Housing initiatives under 6th Five Year Plan.
 - Impact of urbanisation on Housing.
 - Five features of rural housing.
 - Categorisation of Slums.
 - PMAY.
 - Objectives of National Housing Policy.
 - RERA.
 - HUDCO.

PART B

(4 × 15 = 60)

- II. Explain in detail the demand side issues in Housing.
OR
- III. Highlight on the salient features of five year plans with respect to housing.
- IV. Explain Rural housing with two good examples in India.
OR
- V. Elaborate on slum improvement programmes in India with examples.
- VI. Elaborate on the concept of Self-help Groups with examples.
OR
- VII. Explain the salient features of National Housing Policy.
- VIII. What are the problems in Housing finance in our country?
OR
- IX. Briefly explain how financial institutions help in housing loan requirements?

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B.Arch. Degree VII Semester Supplementary Examination July 2023**AR 1705 DESIGN ASPECTS OF EARTHQUAKE RESISTANT STRUCTURES
(2014 Scheme)**

Time: 3 Hours

Maximum Marks: 100

**PART A
(Answer ALL questions)**

(8 × 5 = 40)

- I. (a) Explain flow of inertia forces in a building during earthquake.
(b) Formulate the basic equation of base excited dynamic system.
(c) State the advantages and disadvantages of Mode superposition technique.
(d) Explain design horizontal earthquake load based on IS 1893.
(e) Write note on Lap Splicing in flexural members as per IS 13920.
(f) Explain Element and Structural Ductility.
(g) Compare the performance of isolated and fixed base structure during earthquake.
(h) Write note on Elastomeric base isolation system.

PART B

(4 × 15 = 60)

- II. What are the architectural features to be adopted and to be avoided to make buildings resistant against earthquake?
OR
- III. How does lateral load resisting system work? Provide the details of lateral force resisting systems approved by the code IS 1893(Part1) with neat sketches.
- IV. Briefly explain the dynamic time history analysis of structures subjected to seismic action and discuss its significance.
OR
- V. Explain the procedure to obtain the design seismic forces in a multi-storeyed framed structure using Seismic Coefficient Method as per IS 1893.
- VI. During Turkey-Syria Earthquake, occurred on 6th Feb 2023, some buildings including the building of Union of Engineers and Architects remain unaffected without any damage in the middle of the ruined city of Turkey. Does it show that properly designed and detailed RC Building is capable of resisting earthquake? Comment based on ductile detailing concept.

OR**(P.T.O.)**

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- VII. Briefly discuss the provisions of IS 13920 for ductile detailing of RC columns under the following heads:
- (i) Cross section proportioning and minimum grades of reinforcing steel and concrete
 - (ii) Longitudinal reinforcement
 - (iii) Transverse reinforcement
 - (iv) Development/anchorage length requirements.
- Use neat sketches.

- VIII. Can seismic isolation be a rational solution to be used in vulnerable buildings to minimize structural and non-structural damages? Explain it based on: (i) Concept (ii) Suitability (iii) Application of base isolation technique.

OR

- IX. Write down the procedure for installing Base Isolators on building under construction and on existing buildings with the help of neat sketches.

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B.Arch. Degree VII Semester Supplementary Examination July 2023**AR 1706 (b) COST EFFECTIVE TECHNOLOGY (ELECTIVE I)**
(2014 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A
(Answer *ALL* questions)

(8 × 5 = 40)

- I. Write short notes on the following:
- Compare filler slab with conventional RCC slab.
 - Cost effectiveness in building construction.
 - Application of industrial wastes in construction industry.
 - Advantages and disadvantages of mud construction.
 - CBRI and SERC.
 - Prefabrication.
 - Ferro cement slabs.
 - COSTFORD.

PART B

(4 × 15 = 60)

- II. Discuss the various aspects to be considered during the planning of a building to reduce total cost.
- OR**
- III. Explain the various cost reduction techniques that can be applied to reduce the construction cost of superstructure of buildings.
- IV. Write short notes on the following:
- Concrete blocks
 - Sand lime bricks
 - Stabilized soil blocks
 - Lato blocks
 - Straw bale construction
- OR**
- V. Explain in detail various energy efficient construction techniques developed by CBRI and SERC.
- VI. Discuss the relevance of improving of traditional technology.
- OR**
- VII. Discuss the relevance of innovative technology/alternate technology.
- VIII. Discuss the sustainability of alternate building materials.
- OR**
- IX. Analyze the initial investment, maintenance cost and longevity of buildings of the local adaptation of the innovative technologies.

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B.Arch. Degree VII Semester Supplementary Examination July 2023

AR 1707(a) RESEARCH METHODOLOGY AND STATISTICS (ELECTIVE II) (2014 Scheme)

Time: 3 Hours

Maximum Marks: 100

PART A (Answer ALL questions)

(8 × 5 = 40)

- I. (a) Explain the criteria for good research.
- (b) Explain the main steps in a research process.
- (c) Write a short note on probability.
- (d) Explain descriptive statistics.
- (e) What are the factors to be considered for a good presentation?
- (f) Explain the steps involved in writing a research report.
- (g) Explain the types of interviews.
- (h) Explain the relevance of field survey.

PART B

(4 × 15 = 60)

- II. Write a short note on research paradigms. (15)
- OR**
- III. Explain Research paradigms in qualitative research in detail. (15)
- IV. (a) Explain the different types of inferential statistics. (8)
- (b) Explain discrete and Continuous variables. (7)
- OR**
- V. What is hypothesis and null hypothesis? Explain the procedure for testing hypothesis. (15)
- VI. Explain the layout structure of research report. (15)
- OR**
- VII. Explain the need of abstract in research report and what are the contents to be fulfilled while framing an abstract? (15)
- VIII. (a) Explain the difference between un-obstructive and obstructive measurement. (9)
- (b) Define the terms: (6)
 - (i) Nominal Scale.
 - (ii) Ordinal Scale.
 - (iii) Semantic differential Scale.
- OR**
- IX. Explain the data collection methods. (15)
