

Total No. of Printed Pages:01

**SUBJECT CODE NO:- H-5014**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (OLD) (Sem-VIII)**  
**T. D. S.- VIII**

[Time: Three Hours]

[Max.Marks:75]

Please check whether you have got the right question paper.

- N.B
- i. Solve any five questions from following.
  - ii. Assume suitable data, if necessary.
  - iii. Use of non-programmable calculator and IS- 456 is permitted.
- Q.1 Design a RC slab of a room measuring 5 m×6 m. the thickness of the wall is 230 mm. the live load on the slab is  $2.5 \text{ KN/m}^2$  and floor finish of  $1 \text{ KN/m}^2$ . Concrete grade used is M20 and steel Fe 415. The slab is simply supported at all the four edges with corners free to lift. 15
- Q.2 Design the reinforcement for a reinforced concrete beam 300 mm wide and 400 mm deep of grade M 20 to resist an ultimate moment of 150 KN. M using mild steel bars of grade Fe 250. 15
- Q.3 Design a dog – legged stair case for a building in which the vertical distance between the floor is 3.5m. the stair hall measures  $2.5 \text{ m} \times 5 \text{ m}$ . the live load may be taken as  $2.5 \text{ KN/m}^2$ . Use M20 and Fe 415. 15
- Q.4 Write short notes on (any Four): 15
- a. Types of footing
  - b. Stepwise procedure of T beam
  - c. Types of loads
  - d. Stepwise procedure of combined footing
  - e. Limit state of collapse
- Q.5 Design a short RC column to carry an axial load of 1500 KN. The size of the column should not be greater than 500 mm. uses M 25 and Fe 415. 15
- Q.6 Design an isolated footing for a column 500 mm×500 mm, transmitting an axial load of 1200 KN. The column is reinforced with 8 bars of 20 mm diameter. The SBC of soil is  $120 \text{ KN/m}^2$ . Use M20 concrete and Fe 415 steel. 15
- Q.7
- a. Write the design procedure of underground water tank. 10
  - b. What are the different design methods used for RCC structures. 05

Total No. of Printed Pages:02

**SUBJECT CODE NO:- H-5007**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VIII)**  
**A. B. C. M. -VIII**  
**[OLD]**

[Time: Four Hours]

[Max. Marks:100]

Please check whether you have got the right question paper.

N.B.:

- 1) Solve any two questions from Section-A and any two from Section-B.
- 2) Answers to Section A must be solved on drawing sheets only. Answers to Section-B can be solved on Answer Book.
- 3) Assume suitable data.
- 4) Draw neat sketches wherever necessary.

**Section -A**

- Q.1 A workshop shed with roof lighting arrangement is to be constructed for automotive company. 32  
 The size of workshop is 12m×60m. Draw the following.
- 1) Plan and section of the shed.
  - 2) Draw the details of trusses.
  - 3) Fixing details for Glass , Gutter Ridge.
- Q.2 A commercial building with offices on upper three floor is to be provided with curtain wall for 32  
 upper floors with following data:
- a) Length of front wall 20m
  - b) Curtain wall for upper three floors.
  - c) floor to floor height is 3.6m
- Draw the following:
- a) Draw the plan, Elevation of section of wall
  - b) Important fixing details.
- Q.3 A temporary stage of 15m × 10m and height 2.0m is to be provided for political programme. 32  
 Draw the following.
- a) Draw the plan and section
  - b) Show all important details.

## Section- B

- Q.4 Explain how earthquake forces act on building and suggest remedial precaution to overcome for the building safety. 18
- Q.5 Explain cavity wall, its advantages and precautions while construction. 18
- Q.6 Explain with sketches. 18
- a) Shoring
  - b) Underpinning.

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**SUBJECT CODE NO:- H-5020**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Rev) (Sem-VII)**  
**P.P. -I**

**[Time: Three Hours]****[Max. Marks:100]**

Please check whether you have got the right question paper.

N.B.: 1) Q. No. 1 from Sec 'A' and Q. No.5 from Sec 'B' are compulsory. Out of the remaining three questions from each Section, solve any Two.

2) Figures to the right indicate full marks.

**Section 'A'**

- |     |                                                                                                                                                                                                                                                                         |    |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | a) What is a Tender and state its necessity.                                                                                                                                                                                                                            | 08 |
|     | b) You have been asked to invite percentage rate Tenders by the chairman, of an Educational Trust for the construction of a school building estimated to cost Rs. Two Crores. The completion time is 18 months. Write the format of the Tender Notice with all details. | 16 |
| Q.2 | What is mobilization fund and state its characteristics?                                                                                                                                                                                                                | 13 |
| Q.3 | What is the importance of basic rates of controlled materials like cement, steel and structural steel in a contract document/ Tender?                                                                                                                                   | 13 |
| Q.4 | Quantum Meruit can form one of the mode of determining the reasonable fees of the Architect when his services are terminated after partial services. How the fees are decided at that stage?                                                                            | 13 |

**Section 'B'**

- |     |                                                                                                                             |    |
|-----|-----------------------------------------------------------------------------------------------------------------------------|----|
| Q.5 | Write short notes on any FOUR.                                                                                              | 24 |
|     | 1) Two Part Tendering                                                                                                       |    |
|     | 2) Appendix in a Tender Document.                                                                                           |    |
|     | 3) Force Majeure                                                                                                            |    |
|     | 4) Architectural Copyright                                                                                                  |    |
|     | 5) Architect and client                                                                                                     |    |
|     | 6) Structure of an Architect's office                                                                                       |    |
| Q.6 | What are the clients' responsibilities after the appointment of an Architect?                                               | 13 |
| Q.7 | What are the 3 grounds on which the owner can determine the contract?                                                       | 13 |
| Q.8 | What are the implications if the executed quantities of an item are more than the Tendered Quantities to the extent of 40%. | 13 |

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**SUBJECT CODE NO:- H-5021**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VIII)**  
**L.D- II**  
**(Old)**

[Time: Three Hours]

[Max. Marks: 75]

N.B Please check whether you have got the right question paper.  
 i) Q.1 is compulsory.  
 ii) Solve any THREE questions out of the remaining questions.  
 iii) Draw sketches whenever necessary.

- |     |                                                                                                                                                                                                   |    |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Write short notes on any FIVE.                                                                                                                                                                    | 30 |
|     | a) Visual landscape<br>b) grading of earthwork<br>c) Rock garden<br>d) Site-structure relationship<br>e) Water garden<br>f) Aesthetic & functional qualities of plants.<br>g) Wild Life sanctuary |    |
| Q.2 | Elaborate upon the importance, need and changing role of squares and piazzas in landscape planning / design of urban areas . Give suitable examples.                                              | 15 |
| Q.3 | Describe in brief the environmental destruction causes by human being over the ages and it's consequences with remedial measures.                                                                 | 15 |
| Q.4 | Write an essay on "site planning " focusing on development of site by exploiting natural forms.                                                                                                   | 15 |
| Q.5 | Discuss in detail the concept of "Integration of Building & Landscape" with suitable examples and sketches.                                                                                       | 15 |
| Q.6 | What do you understand by "National Park" ? Explain in brief types and features of National Parks. - Give suitable examples.                                                                      | 15 |

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**SUBJECT CODE NO:- H-5025**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VII)**  
**B.B.C.P**  
**(Revised)**

**[Time:Three Hours]****[Max.Marks:100]**

Please check whether you have got the right question paper.

N.B

1. Q.No.1 from section 'A' is compulsory.
2. Solve any two questions out of the remaining from section A
3. Solve any two questions out of the remaining from section B

## Section A

- |     |                                                                                                                                                         |    |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Explain the Administrative Process and Norms related to Land subdivision of 5 Acres of land in Aurangabad Municipal Corporation area on 24 m wide Road. | 20 |
| Q.2 | What are the requirements of following parts of Building as per DCR rules? (any two)<br>a) Habitable Room<br>b) Kitchen<br>c) W.C & Bath                | 20 |
| Q.3 | Describe the general principals of Natural & Artificial light and ventilation for a Public Building.                                                    | 20 |
| Q.4 | Explain the fire protection Norms for fire Exit ways and Building material used in Theatre.                                                             | 20 |

## Section B

- |     |                                                                                                                                                                                                    |    |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.5 | Write a note on Norms for Vehicular areas of commercial complex with respect to following aspects.<br>a) Means of Access<br>b) Parking spaces<br>c) Turning radius &<br>d) Access to service areas | 20 |
| Q.6 | What are the different classification of Building? Explain their permissible uses.                                                                                                                 | 20 |
| Q.7 | Write short notes on (any two)<br>a) F.S.I<br>b) Types of densities<br>c) Norms for use of open spaces                                                                                             | 20 |
| Q.8 | Explain the Norms for use of Basement area with respect to different aspects.                                                                                                                      | 20 |

Total No. of Printed Pages: 1

**SUBJECT CODE NO:- H-5026**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VIII)**  
**PP-II**  
**[OLD]**

[Time: Three Hours]

[Max.Marks:75]

Please check whether you have got the right question paper.

- N.B
- 1) Q. No.1 & Q. No.5 are compulsory.
  - i) Solve any two questions from remaining questions from section A & B
- Section A
- Q.1 Find out the valuation of a property situated at a junction of two roads. The plot admeasures 540 20 sq. m and the residential building thereon of first class construction having RCC framed structure. It has ground plus one floor. The data available is as follows:
- i) Ground floor ( 180 sq. m) YR of construction 1980
  - ii) First floor (150 sq.m) YR of construction 1990
  - iii) Replacement cost.
    - a) Ground Floor – 11, 000 / sq. m
    - b) First Floor – 10, 500 / sq. m
  - iv) Market value of plot 18,000/- sq. m
  - v) Total life of building 80 years.
  - vi) Salvage value – 10%
- Q.2 Describe the main purpose of valuation 10
- Q.3 Explain what is “Freehold Tenure” and “Lease hold Tenure” 10
- Q.4 What are the Factors which determine the life of a building? 10
- Section B
- Q.5 Describe cost, price and value and state their essential characteristics. 15
- Q.6 Describe the conduct of an Arbitrational Proceeding. 10
- Q.7 Write short notes on any two 10
- a) Market Value
  - b) Rental Method of Valuation
  - c) Annual Repairs.
- Q.8 Write short notes on any two 10
- a) Collection and management charges
  - b) Expected matters in arbitration
  - c) Obsolescence



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**SUBJECT CODE NO:- H-5031**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VIII)**  
**URP-II**  
**[OLD]**

[Time: Three Hours]

[Max.Marks: 75]

Please check whether you have got the right question paper.

- N.B
1. Solve any FIVE questions from the following.
- |     |                                                                                                                                                  |    |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Why Regional planning is important in Indian context?                                                                                            | 15 |
| Q.2 | Write the importance of public participation in planning.                                                                                        | 15 |
| Q.3 | Write short notes on any (Three)<br>1. Concept of a region<br>2. Types of road junctions<br>3. Volume of traffic<br>4. Zoning<br>5. Right of way | 15 |
| Q.4 | Explain the process of preparation of Development plan.                                                                                          | 15 |
| Q.5 | Write note on the Neighborhood concept with its features in sketch.                                                                              | 15 |
| Q.6 | Write about the standard used layout & subdivision of land.                                                                                      | 15 |



Total No. of Printed Pages:2

**SUBJECT CODE NO:- H-5036**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VII)**  
**ABCM-VII**  
**(OLD)**

**[Time: Four Hours]**

**[Max.Marks:100]**

Please check whether you have got the right question paper.

N.B

- i. Attempt any two questions from the section A and any three questions from Section B.
- ii. Use drawing sheet for section A and answer sheet for section B.
- iii. Assume suitable data wherever necessary.
- iv. Use sketches wherever necessary. To be solved on answer sheet.

**Section A**

**Q.1** A factory shade admeasuring  $24m \times 36m$  is to be design with a R.C.C. portal frame with shade height of 5m. 35

Draw the following to suitable scale.

- i) Draw key plan showing spacing of portal frame (layout) and section.
- ii) Foundation details.
- iii) Enlarged detail showing reinforcement and fixing details at roof-covering with material specification.
- iv) Name various structural members and state their purposes.

**Q.2** A multipurpose hall admeasuring  $20m \times 35m$  .is to be designed with flat slab. The height of the hall is 3.65m up to beam bottom. 35  
 Use suitable scale.

- i) Draw plan and section.
- ii) Enlarged detail showing all the reinforcement and construction details.

**Q.3** A financial institute wants to design and construct a safe deposit vault in the basement floor of the building. The size of the vault is  $12m \times 18m$  with the height 3.3 m. 35

- a) Draw plan, elevation and section at suitable scale.
- b) All important constructional details in enlarged scale.

## Section B

- Q.5 Describe with sketches different pre-fabricated elements used in the industrial buildings. 10
- Q.6 Explain with sketches the importance of expansion joints in building. 10
- Q.7 Explain in detail the advantage of pre-stressed concrete system along with the construction details of the same. 10
- Q.8 Explain with sketches the designing of barrel vault. Also state the advantages. 10

Total No. of Printed Pages:01

**SUBJECT CODE NO:- H-5041**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VIII)**  
**TDS-VII**  
**(OLD)**

[Time: Three Hours]

[Max.Marks:75]

Please check whether you have got the right question paper.

N.B:

- i. Solve any two questions from section A and Three questions from section B.
- ii. Assume suitable data, if necessary.
- iii. Use of non – programmable calculator, IS- 800 and steel table is permitted.

**Section A**

- |     |                                                                              |     |
|-----|------------------------------------------------------------------------------|-----|
| Q.1 | a) What are the advantages and disadvantages of steel over RCC?              | 7.5 |
|     | b) Explain the stress strain curve for mild steel.                           | 7.5 |
| Q.2 | a) State the assumptions in the theory of riveted joints.                    | 7.5 |
|     | b) Explain different types of rolled steel section used in steel structures. | 7.5 |
| Q.3 | a) Explain in detail the strength of riveted joints.                         | 7.5 |
|     | b) What are the merits and demerits of riveted connections?                  | 7.5 |

**Section B**

- |     |                                                                               |    |
|-----|-------------------------------------------------------------------------------|----|
| Q.4 | a) Explain the different components of a Industrial truss with neat sketch.   | 10 |
|     | b) Enlist the types of weld defects and explain with neat sketch.             | 05 |
| Q.5 | a) Explain the procedure of Axially loaded compression member.                | 10 |
|     | b) How will you find the economical spacing of components of built up column? | 05 |
| Q.6 | a) Explain lacing and battening system with neat sketch.                      | 10 |
|     | b) Define the permissible and working stresses.                               | 05 |
| Q.7 | Write short notes (any three) :                                               | 15 |
|     | a) Types of weld                                                              |    |
|     | b) Gauge distance                                                             |    |
|     | c) Deflection of beam                                                         |    |
|     | d) Factors affecting permissible stress in axial compression.                 |    |
|     | e) Restrained and unrestrained Beams.                                         |    |

Total No. of Printed Pages:1

**SUBJECT CODE NO:- H-5046**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VII)**  
**L.D-I**  
**(Old)**

**[Time:Three Hours]**

**[Max.Marks:75]**

Please check whether you have got the right question paper.

N.B

1. Q.No.1 is compulsory.
2. Solve any three questions out of the remaining.
3. Draw sketches wherever necessary.

**Section A**

- |     |                                                                                                                                                                                                                                                                                   |    |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Write short notes on any five                                                                                                                                                                                                                                                     | 30 |
|     | <ol style="list-style-type: none"> <li>a) Chinese gardens</li> <li>b) Horticulture landscape</li> <li>c) Bio-aesthetic planning</li> <li>d) Ancient gardens in India</li> <li>e) Landscaping in Apartment buildings</li> <li>f) Inside out &amp; outside in landscape.</li> </ol> |    |
| Q.2 | Write an essay on “Profession of Landscape Architecture” in India. Its scope and importance. Name 3 imported landscape architects and their works.                                                                                                                                | 15 |
| Q.3 | Define “Herbarium”. Explain its importance for students and professionals in the field of architecture.                                                                                                                                                                           | 15 |
| Q.4 | Suggest 5 flowering plants in India suitable for residential landscape. Write their botanical names and explain physical and aesthetic characteristic features.                                                                                                                   | 15 |
| Q.5 | Write in detail the aesthetic principles of landscape design with suitable sketches and examples.                                                                                                                                                                                 | 15 |

Total No. of Printed Pages:2

**SUBJECT CODE NO:- H-5050**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Rev) (Sem-VII)**  
**ABCM. VII**

[Time: Four Hours]

[Max.Marks:100]

Please check whether you have got the right question paper.

N.B

1. Solve section A on drawing sheet & section – B on answer sheets.
2. Solve any two questions from section A & any two questions from section – B
3. Draw neat sketches wherever required

**Section -A**

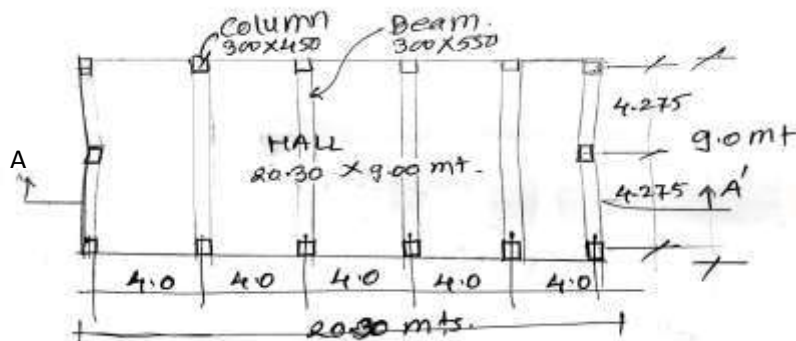
Q.1 A three storied Hotel building with a big meeting hall is to be constructed as following specifications

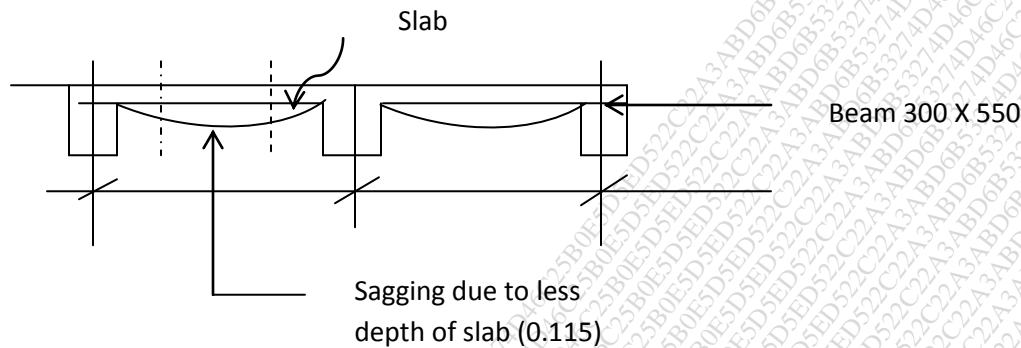
35

- Size of a Hall – 19.84 X 8.54 mts [
- Column size – 300mm X 450 mm
- Column placed @ - 4.0m c/c
- Size of Beam – 300 X 550 mm
- one way slab is casted
- Floor to floor height – 3.60mt

The depth of slab as per structural engineer was given as 150mm, but at the time of casting it is casted 115mm and the problem occurs like structural failure – sagging of slab & formation of cracks along the beam @ L/5 distance of the slab give suggestions with respect to retrofitting to save the building from falling.

You can use any material of construction / repairing





Drawing requirements-

- 1) Key plan & section
- 2) Detailed plan & detail section of the proposal solution
- 3) Some joinery details with specifications

Q.2 A building (Hall ) with R.C.C slab is to be constructed with the size 9.0mt X 18.0 mt between the 35 two existing buildings of which one is R.C.C structure with columns placed @ 3.6 mt c/c with the footing size is 1.2 X 1.2 mt and other is load bearing structure with proper footing.

The building is in gaonthan area. The distance between two existing building is 9.0 mt X 18.0mt.

Give the details of R.C.C footing column , beam & slab [general reinforcement details of each RCC member ]

Drawing Requirements –

1. Detail plan of existing buildings with section
2. Detail sections of building to be constructed
3. Details of foundation & slab

Q.3 Draw neat sketches of any four 35

- i) Details of fixing of Aluminium composite panels on a façade of commercial building
- ii) Details of water bodies
- iii) Green roof
- iv) Fixing and working of an air extractor for an industrial shed
- v) Living walls

### Section – B

Q.4 What are recycled building materials? Explain with its advantages? 15

Q.5 Describe the procedure for laying of Tremix flooring for an industrial factory. 15

Q.6 Write short notes on (any two) 15

- i) Earth Bag construction
- ii) Fly ash
- iii) Earth sheltered constructions



Total No. of Printed Pages:1

**SUBJECT CODE NO:- H-5051**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch. (Sem-VII)**  
**P.P-I**  
**(OLD)**

**[Time:Three Hours]****[Max. Marks: 75]**

Please check whether you have got the right question paper.

- N.B
- 1) Question No.1 & 5 are compulsory; out of remaining three questions from each section solve any two.
  - 2) Answers to the two sections must be solved in the same answer sheet.
  - 3) Figure to the right indicate full marks.

**Section A**

- |     |                                                                                                                                    |    |
|-----|------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Prepare a tender notice for the construction of a Hospital Building, estimated cost Rs210 Lakhs. Mention all the important points. | 20 |
| Q.2 | Write short notes on any two<br>a) Earnest Money Deposit.<br>b) Interim Certificate.<br>c) Liquidated damages.                     | 10 |
| Q.3 | How can the Architect enforce quality control in a building project?                                                               | 10 |
| Q.4 | Describe termination of a contractor by owner.                                                                                     | 10 |

**Section B**

- |     |                                                                                                  |    |
|-----|--------------------------------------------------------------------------------------------------|----|
| Q.5 | Explain the salient features of Architect's Act of 1972.                                         | 15 |
| Q.6 | When and how can an Architect start his own office?                                              | 10 |
| Q.7 | Explain: Registration of Architect.                                                              | 10 |
| Q.8 | Write short Notes on any two:<br>a) Bar-Chart.<br>b) Architect's Instructions.<br>c) Time-Limit. | 10 |



Total No. of Printed Pages:1

**SUBJECT CODE NO:- H-5053**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VII)**  
**T. D. S. VI**  
**(Revised)**

[Time: Three Hours]

[Max.Marks: 100]

- N.B Please check whether you have got the right question paper.
- i) Attempt any four question
- ii) Use of IS-code 456 is allowed
- Q.1 a) Differentiate between one way & two way slab 10
- b) Design a slab over a room of size  $4 \times 5.5m$  in size, use M<sub>15</sub> grade of concrete & mild steel reinforcement 15
- Q.2 a) Explain classification & types of prestressing 10
- b) Explain necessity of high grade of concrete & steel in prestressing 08
- c) State & explain materials for prestress concrete members 07
- Q.3 a) Write in brief about single curvature & Double curvature shells 10
- b) Advantages & disadvantages of shell roofs 08
- c) Explain synclastic shells with example 07
- Q.4 a) Define prefabrication of state the principles of prefabrication 10
- b) Explain the materials used for prefabricated buildings 08
- c) Characteristics of material used for prefabrication 07
- Q.5 Write short notes on (any five) 25
- a) Cable structures
- b) Cable stayed bridges
- c) Losses in prestressing
- d) Limit state method
- e) Working stress method
- f) Anticlastic shells

Total No. of Printed Pages:1

**SUBJECT CODE NO:- H-5054**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (Sem-VII)**  
**URP-I**  
**(OLD)**

**[Time : Three Hours]****[Max.Marks:75]**

Please check whether you have got the right question paper.

N.B

1. Attempt any five questions from the following.
2. Draw sketches whenever necessary.
3. Figures to the right indicates full marks.

- |     |                                                                                                                                                                                                                         |    |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Q.1 | Write a detailed note on the factors causing evolution & growth of any human settlement. Give suitable example.                                                                                                         | 15 |
| Q.2 | Define & differentiate between 'Norm's & Standards', also explain the relative importance of both.                                                                                                                      | 15 |
| Q.3 | Write short notes (any three) <ol style="list-style-type: none"> <li>i) Various disciplines involved in planning</li> <li>ii) Levels of planning</li> <li>iii) Height zoning</li> <li>iv) Need of D.C-Rules.</li> </ol> | 15 |
| Q.4 | What are different levels of planning? Explain any two levels in detail.                                                                                                                                                | 15 |
| Q.5 | Write in detail of transportation surveys & its uses and importance in planning for a urban as well as regional context.                                                                                                | 15 |
| Q.6 | What are different techniques used for surveys for planning.                                                                                                                                                            | 15 |

Total No. of Printed Pages:01

**SUBJECT CODE NO:- H-5056**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Fourth Year Arch (OLD) (Sem-VII)**  
**ESS-IV**

[Time: Three Hours]

[Max.Marks:75]

- N.B Please check whether you have got the right question paper.
1. Attempt any five questions.
  2. All questions carry equal marks.
  3. Use separate answer-book for each section.
  4. Assume suitable data wherever required.
  5. Use sketches wherever necessary.
- Q.1 Describe various types of electrical wiring systems especially in Auditoriums and explain any two of them in detail. 15
- Q.2 Explain with neat sketches (any three) 15
- 1) Lighting for an Automobile Show-Room
  - 2) Lightning Scheme for Out-Door Exhibition Lounge
  - 3) Neon Tubes/ Lamps
  - 4) Portable Extinguishers
- Q.3 Explain various fire groups and extinguishers used for them in detail. Also explain provision of Smoke detectors in a building. 15
- Q.4 Explain with sketches different types of vertical transportation systems in a building. 15
- Q.5 Explain the need of Ramps in public utility building. What are the necessary provisions made in NBC for Ramps for universal design? 15
- Q.6 Write a detailed note on installation of lifts in a building. What are structural requirements for the provision of lifts in a building? 15
- Q.7 Write short notes on the following (any three) 15
- 1) Conveyors
  - 2) Horizontal transportation
  - 3) Fire Hydrants
  - 4) Causes and spread of fire

Total No. of Printed Pages:2

**SUBJECT CODE NO:- H-5001**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**F. Y. Arch (Sem-II)**  
**A. B. C. M. -II**  
**[Revised]**

**[Time: Four Hours]****[Max.Marks:100]**

N.B

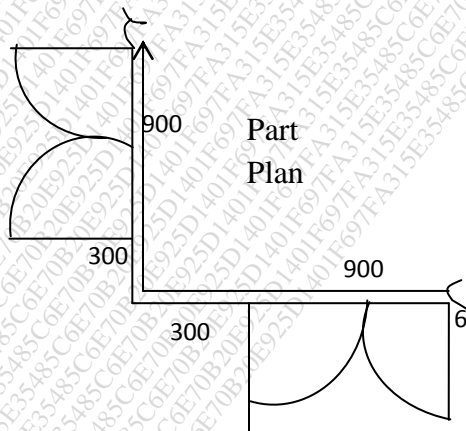
Please check whether you have got the right question paper.

- i) Solve any Two questions from Sec. 'A' and any THREE from Sec. B.
- ii) Answer to Sec. 'A' must be solved on drawing sheets only and answers to Sec. 'B' may be solved on answer sheets.
- iii) Assume suitable data wherever possible and mention it clearly.
- iv) Figures to the right indicate full marks.

**Section 'A'**

**Q.1** A hall with internal dimensions of 9.00 M X 6.00 M is to be provided with a King Post Roof Truss. The height of the hall below the Tie Beam of the Truss is 4.50 M. upto the top of the floor. (Plinth level). The king Post Trusses are placed at 3.00 Mts. Centre to centre. The walls are 350 mm thick. The height of plinth is 600 mm above ground level. A door 1.5 mtr. wide is fixed on one side along the length of the hall with windows in each bay.

- |                                |                                                                                                                                              |    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----|
| A)                             | Draw plan, elevation and section of the hall. (Key plan) (Scale 1:50)                                                                        | 08 |
| B) Draw large scale details of |                                                                                                                                              |    |
| i)                             | Part plan of the roof truss showing the position of roof truss, common rafters, wall plate, ridge piece etc. with t.w. boarding (scale 1:20) | 09 |
| ii)                            | The detail elevation of King Post Roof Truss with different members including all the dimensions (scale 1:20)                                | 10 |
| iii)                           | Joint between Principal rafter and Tie Beam (Scale 1:4)                                                                                      | 08 |

**Q.2**

A corner t.w. fully glazed window is to be provided for a living room of a bungalow. The

dimensions of the living Room are 6.00 M  $\times$  4.50 Mts. The sketch of the window is shown in the figure. At the corner, these will be fixed glass of 300 mm on each side. The dimensions of the shutters are 450 mm each. The frame size is 80mm  $\times$  60mm. The height of the window is 1.50 Mts. And is fixed 600 mm above floor level. The r.c.c. chajja is provided as a sun shade for the window ( 600mm wide). The walls 230 mm thk brick walls.

- A) Draw plan, elevation and section of window (scale 1:10) 11
- B) Draw large scale details of
- i) Joint between t.w. corner post and the t.w. sills of the window (Scale 1:2) 08
  - ii) Fixing of glass at the corner on either side (Scale 1:2) 08
  - iii) Fixing of glazing bar and the t.w. style of openable shutter. 08

- Q.3 Draw neat sketches of any four from the following
- a) Joint between the Queen Post, Tie Beam and strut. 09
  - b) Joint between Ridge piece, common rafter, principal Rafter of a King Post Roof Truss. 09
  - c) Sketch of a collar Roof. 08
  - d) A glazed louvred window for a toilet block (Section only) 09
  - e) Sliding door mechanism at the top and bottom. 05

### Section B

- Q.4 Specify the flooring finishes to be used for the following spaces 10
- a) Reception lobby of a five star hotel.
  - b) Flooring for a luxurious bungalow (Living Room)
  - c) Dado of a bath Room
  - d) Floor finish for a Godown
- Q.5 What are the different ingredients of reinforced cement concrete and their qualities. What is the proportion of concrete for R.C.C. work? 10
- Q.6 Write short notes on any THREE
- a) Indian Patent Stone 04
  - b) Light weight concrete 03
  - c) Neeru finished cement plaster 03
  - d) Different Types of cement pointing 03
- Q.7 What is Guniting and describe the method of guniting. 10