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SUBJECT CODE NO:- H-5029
FACULTY OF SCIENCE AND TECHNOLOGY
T. Y .Arch (Sem V)
A.B.C.M. – V
(Revised)

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

Please check whether you have got the right question paper.

- N.B
1. Answer any two questions Section A and any three from Section B.
 2. Answer to Section A must be solved on drawing sheets only. Answers to Section B must be solved in answer books.
 3. Assume suitable data wherever necessary and mention it clearly.
 4. Figures to the right indicate full marks.

Section A

- Q.1 A Multipurpose hall (size $15m \times 12m \times 3.6m$) has an opening of size 2.1 m wide and 2.4 m in height. Client wants to provide a collapsible gate at the opening of multipurpose hall. Design a Collapsible Gate with all Joinery details and appropriate use and dimension of steel sections / members. 10
- 1) Draw Key plan, elevation and section of hall with Collapsible Gate. 13
 - 2) Detail plan, elevation and detail cross section of Collapsible Gate. 12
 - 3) Joinery details of gate, fixing details of gate to the wall, bottom rail details, locking arrangement.
- Q.2 Design a Steel Portal Frame for a factory shed having internal size as $10m \times 30m$. The height from finished plinth to bottom of beam is 6.0 m. plinth is 1.0m. Design a frame with appropriate dimensions and sections. Portal frames are placed at 5m c/c. 10
- Drawing requirements:
- i) Key-plan, elevation and section of a shed. 07
 - ii) Detail Plan and Detail cross-section of Portal Frame. 11
 - iii) Joinery details at Ridge, column-plinth, Connection details between the members. 12
 - iv) Sketch / view of a Portal Frame. 05
- Q.3 Draw neat and proportionate sketches of the following. Mention suitable data and measurements wherever required. 35
- 1) Tubular truss.
 - 2) Vault Door.
 - 3) Space frame.
 - 4) Steel Staircase.
 - 5) Still grillage foundation.

Section B

- Q.4 What is Fly Ash? Write a detail note on properties and uses of fly ash in building industry. 10
- Q.5 Write short note on: 10
- 1) Sealants.
 - 2) Plastic.
- Q.6 Define forms and use of Bitumen. 10
- Q.7 Write a note on Electrical Insulators with their properties, types and uses in building construction. 10