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Question Paper Code : 71795

M.E. DEGREE EXAMINATION, JUNE/JULY 2013.

Elective

Structural Engineering

ST 9262/ST 962/UST 9162 — PREFABRICATED STRUCTURES

(Regulation 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is handling stresses in prefabricated construction?
2. Define Modular Coordination.
3. Write the benefits of using reinforced concrete windows.
4. What are the importance of beam column connection?
5. Mention the types of prefabricated floor slabs.
6. Write the importance of dimensional tolerance.
7. Differentiate partition and load bearing walls.
8. Define sandwich wall panels.
9. Define hypar prefabricated shell.
10. State the importance of corbels in prefabricated buildings.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the four systems involved in disuniting of prefabricated structures.

Or

- (b) Discuss the merits and demerits of prefabricated constructions over monolithic method of constructions.

12. (a) Explain the methods of joining of one way and two way prefabricated slabs in prefabricated constructions with neat sketches.

Or

- (b) Explain the methods of joining of beam to column and column to column in prefabricated constructions with neat sketches.
13. (a) Explain the factors governing the design of expansion joints in precast structures.

Or

- (b) Explain the features of cored and panel types and two-way systems in prefabricated construction.
14. (a) Discuss the applications of the following:
- (i) Sandwich wall panels (6)
 - (ii) Blocks and large panels (5)
 - (iii) Joint sealant. (5)

Or

- (b) Explain the steps involved in the method of approximate design of shear walls.
15. (a) Explain the applications of the following:
- (i) RC roof truss (6)
 - (ii) Wind bracing (5)
 - (iii) Folded plates. (5)

Or

- (b) Explain the steps involved in the method of erection and jointing of single storey industrial shed with crane gantry systems.