Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 52744

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Eighth Semester

Civil Engineering

CE 6016 – PREFABRICATED STRUCTURES

(Regulation 2013)

(Common to PTCE 6016 — Prefabricated Structures for B.E. Part-Time – Seventh Semester – Civil Engineering – Regulation 2014)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the Different types of Modular Grids.
2. Write the factors which affect the loading conditions in demoulding and transport of components.
3. How are precast floors classified?
4. Explain about box type construction.
5. What are the disadvantages of disuniting of structures?
6. Why should we give allowance for joint deformation?
7. What is strong column weak beam concept?
8. Draw a joint connecting wall panel with a frame.
9. Define Degree of Progressivity.
10. Illustrate the methods of avoiding disproportionate collapse.

PART B — (5 × 13 = 65 marks)

11. (a) What are the different types of Structural Systems used in Prefabricated Structures? Explain.

Or

(b) Explain in detail about the concept of modular coordination and state its significance in prefabricated structures.

12. (a) Describe in detail about large panel construction with neat sketches.

Or

(b) Discuss about behavior of columns in prefabricated structures.

13. (a) Explain in detail about the suitable design of cross section based on efficiency of material.

Or

(b) Enumerate the salient points considered while designing a joint and also discuss the importance of joint flexibility.

14. (a) Explain any two types of beam column joints in prefabricated structures with neat sketches.

Or

(b) What is the requirement of ideal structural joints? Explain different joint of structures.

15. (a) What are the methods to avoid the progressive collapse? Explain each briefly.

Or

(b) Mention in detail the codal provision for considering the effect of cyclones.

PART C — (1 × 15 = 15 marks)

16. (a) (i) Describe the manufacturing process of wall panels. (6)

(ii) With the Flow chart explain the manufacturing process of roof and floor slabs. (9)

Or

(b) Explain the procedure for calculating equivalent design loads when the structure is subjected to earthquake loading.

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