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

Question Paper Code : Q 2108

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Eighth Semester

Civil Engineering

CE 1027 — PREFABRICATED STRUCTURES

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the different types of modular grids.

2. List out the limitations in transporting the precast elements.

3. What are the different casting techniques?

4. State the functions of the shear wall.

5. What are the factors that affect joint deformation?

6. What is condition that should be satisfied in order that panels are free from cracks?

7. State the precautions taken to avoid effects occurring due to shrinkage, creep and temperature.

8. Give the classification of joints in wall panels.

9. What are the different seismic zones in India? Specify the seismic zone for Chennai City.

10. Distinguish between intensity and magnitude of earthquake.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the significance of standardization in prefabrication.

Or

(b) What are the different types of structural systems used in prefabricated structures? Discuss.

12. (a) Describe the manufacturing process of walls panels.

Or

(b) Explain in detail the different types of floor units.

13. (a) What are the advantages of precast concrete over cast in situ concrete? Discuss in detail.

Or

(b) Discuss the salient points considered while designing a joint. Also discuss the importance of joint flexibility in joint design.

14. (a) Explain the following :

(i) beam to column connection (8)

(ii) column to foundation connection. (8)

Or

(b) Discuss in detail the factors which cause the volume changes in precast concrete.

15. (a) When does progressive collapse occur? What are the steps taken to avoid progressive collapse? Describe in detail.

Or

(b) Discuss the codal provisions to calculate the equivalent design loads when it subjected to cyclone loading.

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