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Question Paper Code: U1103

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Professional Elective

Civil Engineering

21CEV103-PREFABRICATED STRUCTURES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which are the limitations of modular coordination in precast element CO1 - U
 - (i) Alteration
 - (ii) Forming the joint

(a) only (ii) (b) both (i),(ii) (c) Both (a) & (b) (d) None
2. Brick infill wall acts as a shear wall CO1 - U

(a) True (b) False (c) Both (a) & (b) (d) None
3. CBRI stands for CO1 - U

(a) Central Building Repair Institute (b) Central Building Research Institute
(c) Central Building Road Institute (d) Central Building Rural Institute
4. Which of the following stress affects the Transportation? CO1 - U

(a) Stripping stress (b) Dynamic stress (c) Erection stress (d) Lifting stress
5. In places where transportation of large members is difficult what kind of fabrication is preferred? CO1 - U

(a) Plant prefabrication (b) Site fabrication
(c) Standardization (d) Prefabricate systems
6. What is disuniting of Structure? CO1 - U

(a) Dividing into panels (b) Organizing the panels
(c) Erecting the panels (d) Making into smaller members

7. Construction joints are provided in Prefabricated Structures. CO1 - U
 (a) True (b) False (c) Both (a) & (b) (d) None
8. Function of Joints in Precast structure is CO1 - U
 (a) To connect various Pre cast elements (b) To relieve the stresses due to temperature
 (c) To relieve the stresses due to shrinkage (d) All of the above
9. _____ By using post tensioning we can achieve type of connections CO1 - U
 (a) Moment resisting (b) Pinned (c) Both (a) & (b) (d) None
10. How many methods are generally used to avoid the disproportionate collapse in a building? CO1 - U
 (a) One (b) Two (c) Three (d) Four

PART – B (5 x 2= 10 Marks)

11. What is the need for pre fabricates structures? CO1 - U
12. Give the classification of floor slabs. CO1 - U
13. Write short notes on dimensional tolerance CO1 - U
14. Write the use of expansion Joint CO1 - U
15. What is meant by ductility? CO1 - U

PART – C (5 x 16= 80 Marks)

16. (a) Which prefabricated systems fall into which categories? CO1 - U (16)
 Or
 (b) Discuss the need for prefabrication in construction industry. Also state merits and Demerits of Prefabricated structures. CO1 - U (16)
17. (a) Differentiate the behavior of frame in precast structure CO1 - U (16)
 Or
 (b) What is the construction behavior of the floor and roof slabs, as well as the precast structure? CO1 - U (16)
18. (a) Explain the steps involved in the design of column based efficiency of material used? CO2 - App (16)
 Or
 (b) Examine the need for dismantling prefabricated constructions and the safety measures implemented in the process. CO2 - App (16)
19. (a) Describe the design process for the expansion joint? CO1 - U (16)

Or

(b) Describe the Joints for various structural linkages? CO1 - U (16)

20. (a) Describe with neat sketches the organization of a prefabrication plant for manufacture of small element CO1 - U (16)

Or

(b) Describe in detail the significance of preventing progressive collapse and the codal arrangements for it? CO1 - U (16)

