

Register No: .....

Name: .....

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**EIGHTH SEMESTER B.TECH. DEGREE EXAMINATION(R), MAY 2024****Civil Engineering****(2020 SCHEME)****Course Code : 20CET452****Course Name : Construction Methods and Equipment****Max. Marks : 100****Duration:3 Hours****Scientific calculator and statistical table is allowed in the examination hall.****PART A***(Answer all questions. Each question carries 3 marks)*

1. Explain the concept of precast segmental launching in bridge construction.
2. Explain the principle behind vacuum dewatering of concrete flooring.
3. Classify and describe different types of sheet piles based on material.
4. Explain the process of dewatering excavation using well points.
5. Describe the components and working principle of scraper.
6. Describe different types of trucks used in earth moving operations.
7. Describe any two types of screeners.
8. Compare weigh batching and volumetric batching.
9. Describe any three erection equipment used in construction.
10. Explain the purpose of using pumps in construction. What are different types of pumps used ?

**PART B***(Answer one full question from each module, each question carries 14 marks)***MODULE I**

11. a) Define dome. List down the sequence of dome construction. 4  
b) Enlist different types of domes. Explain how they differ in construction and appearance. 10

**OR**

12. Explain the slipform construction technique used in building construction. Describe the process, equipment involved, and typical applications of slipforming. 14

**MODULE II**

13. a) Explain the process of sinking of well foundation. 6  
b) With help of neat sketch describe various components of a well foundation. 8

**OR**

14. a) Given a construction project in soil with high silt content, recommend the most suitable type of pile foundation. Justify your answer. 6  
b) Explain various piling techniques used in construction. 8

**MODULE III**

15. a) Explain earthwork in context of civil engineering. List down various equipment used for earthwork operations. 4  
 b) What safety precautions must be followed when operating earth work equipment? 4  
 c) Explain the basic earth work operations involved in construction. 6

**OR**

16. a) Describe the components and working principles of an excavator. Explain any three types of excavator used in construction. 8  
 b) Explain the types of blades used in dozers. 6

**MODULE IV**

17. a) Discuss the advantages of using concrete pumps for pouring concrete. 5  
 b) List the main components of a concrete pump, and describe how they function. 5  
 c) Describe different types of pumps used in concreting. 4

**OR**

18. a) Define feeders in the context of material handling. Discuss the classification of feeders based on their operating principle. 7  
 b) Describe various types of conveyors used for material handling. 7

**MODULE V**

19. a) Describe industrial truck. Discuss how it differ from other types of material handling equipment. 4  
 b) What are the different types of forklifts available? Explain their respective applications in industrial settings. 5  
 c) Define material handling conveyor. Describe its primary functions in construction industry. 5

**OR**

20. Explain the application, advantages and disadvantages of any four types of pile hammers used for driving piles. 14

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