Register No.: ..... Name: .....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER M.TECH DEGREE EXAMINATION (R,S), MAY 2024

GEOMECHANICS AND STRUCTURES

(2021 Scheme)

Course Code: 21GS206-C

Course Name: Modern Construction Practices

Max. Marks: 60 **Duration: 3 Hours**

PART A

(Answer all questions. Each question carries 3 marks)

1. Differentiate between crawler-type and wheel-type tractors based on their functions.
2. Why do we need dewatering at construction sites?
3. Differentiate between container nesting ratio and container space utilization.
4. Explain shoring for deep excavation.
5. Describe vacuum dewatered flooring.
6. Describe concrete paving technologies.
7. Describe the features of ropeways used for aerial transportation of materials.
8. Explain panel systems used in the erection of tall buildings.

PART B

(Answer one full question from each module, each question carries 6 marks)

MODULE I

9. Classify and explain various dredging equipment. (6)

OR

10. Differentiate between scrapers and graders. List their major applications. (6)

MODULE II

11. Sketch parts of a derrick crane and explain the function in detail. (6)

OR

12. Explain the advantages of well-point system of dewatering. (6)

MODULE III

13. Differentiate between jaw crusher and gyratory crusher. (6)

OR

14. Discuss the advantages and disadvantages of using belt conveyors for transporting concrete. (6)

MODULE IV

15. Explain the challenges in underwater construction. Describe the construction of a cofferdam. (6)

OR

16. Differentiate between the construction of diaphragm walls using successive panel method and alternate panel method. (6)

MODULE V

17. Write short notes on concrete paving methods. (6)

OR

18. Summarize the advantages of vacuum dewatering method of concrete flooring. (6)

MODULE VI

19. Explain the erection techniques employed in tall building construction with lightweight components. (6)

OR

20. Discuss the advantages and disadvantages of slip-form construction. (6)

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