

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER M.TECH DEGREE EXAMINATION (Regular), JULY 2022**GEOMECHANICS AND STRUCTURES****(2021 Scheme)****Course Code: 21GS205-B****Course Name: Marine Geotechnical Engineering****Max. Marks: 60****Duration: 3 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. What is the scope of Marine Geotechnical Engineering?
2. Explain pressuremeter test with a neat sketch.
3. How are gravity structures classified?
4. What are jack up platforms?
5. What are the temporary foundation elements supporting a jacket?
6. What are the 3 criteria to be satisfied by offshore pile and pile structures?
7. What is a seabed anchor?
8. What are the primary objectives in designing a pipeline system?

PART B*(Answer one full question from each module, each question carries 6 marks)***MODULE I**

9. Classify marine sediments based on its origin as well as its size. (6)

OR

10. Explain the structure of Marine soils. (6)

MODULE II

11. Explain in detail the geophysical tests involved in marine soil exploration (6)

OR

12. Explain in detail about some of the deep sampling devices used in marine geotechnical engineering. (6)

MODULE III

13. Comment about Instrumentation in gravity structures. (6)

OR

14. What are the possible failure mechanisms in gravity structures? (6)

MODULE IV

15. How is the stability computation in jackup platforms done? (6)

OR

16. What are the geotechnical problems related to jackups? (6)

MODULE V

17. Explain Reese-Matlock method. (6)

OR

18. What are the types of offshore piles? (6)

MODULE VI

19. What are the design considerations involved in a seabed anchor? (6)

OR

20. Write a note on the load capacity of anchors. (6)
