

Register No:

Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FRESHER ODD (SEMESTER 1) B.TECH. DEGREE EXAMINATION (R), NOVEMBER 2024**Civil Engineering
(2024 SCHEME)****Course Code : 24EST1005-B****Course Name : Basics of Mechanical Engineering and
Introduction to Civil Engineering****Max. Marks : 60****Duration:2.5 Hours****PART I: MECHANICAL ENGINEERING***Part I to be answered in pages 1 to 15***PART A***(Answer all questions. Each question carries 3 marks)*

1. How evaporator helps in refrigeration process?
2. Explain casting process.
3. Define Factor of Safety.
4. Explain the purpose of gear box.

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

5. Explain the working principle of Centrifugal pump with neat sketch. 6

OR

6. What are the components of air conditioning system? Explain the working with block diagram. 6

MODULE II

7. With a neat block diagram, explain the main parts and functioning of a CNC machine. 6

OR

8. With appropriate diagrams, explain the following lathe operations: (i) Turning (ii) Facing 6

MODULE III

9. What are the main components of composite? Discuss its functionality. 6

OR

10. Define the term aerodynamics and explain significance of aerofoils. 6

PART II: CIVIL ENGINEERING*Part II to be answered in pages 16 to 30***PART A***(Answer all questions. Each question carries 3 marks)*

11. Explain how environmental engineering promote sustainability.
12. Enumerate the two general principles considered for the survey of a land.
13. Describe the role of AI in Building Automation Systems (BAS).

14. Enlist the benefits of obtaining a platinum rating in a green building certification.

PART B

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

MODULE IV

15. Explain the role of the National Building Code (NBC) in construction projects. 6

OR

16. Describe the relevance of civil engineering in modern society. 6

MODULE V

17. Describe the key features of bituminous waterproofing membranes. 6

OR

18. Enumerate different types of cement and explain its uses. 6

MODULE VI

19. Examine various water management techniques used in sustainable buildings and explain how these techniques help in conserving water resources and reducing operational costs. 6

OR

20. Describe three ways in which building automation system can help reduce a building's environmental impact. 6
