

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2023

MECHANICAL ENGINEERING

(2020 SCHEME)

Course Code : 20MET204

Course Name: Manufacturing Process

Max. Marks : 100

Duration: 3 Hours

PART A

(Answer all questions. Each question carries 3 marks)

1. What are cores and core prints, and how are they used in casting?
2. What is risering and what are the different types of risers?
3. How can heat treatment improve the properties of a welded joint?
4. Explain Friction Welding process with neat sketch.
5. List the types of rolling mills used in the rolling process.
6. Explain the difference between hot rolling and cold rolling?
7. Explain open die forging. How is it different from closed die forging?
8. Discuss the common defects that can occur in the forging process.
9. List any three locating devices.
10. Write short note on trimming operation.

PART B

(Answer one full question from each module, each question carries 14 marks)

MODULE I

11. Explain the common casting defects (14)

OR

12. Explain shell molding, and what are its advantages over other casting processes (14)

MODULE II

13. How does the Shielded Metal Arc Welding process work, and what are its advantages and disadvantages? (14)

OR

14. With neat figures, Explain the working of electron beam welding. What are its advantages and disadvantages? (14)

MODULE III

15. Explain thread rolling and ring rolling processes with neat diagrams (14)

OR

16. Describe Tresca and Von-mises criteria that govern plastic deformation in metal forming processes (14)

MODULE IV

17. With neat figures, explain wire drawing, rod drawing and tube drawing process. (14)

OR

18. Explain the process of deep drawing and how does it differ from other metal forming processes? (14)

MODULE V

19. Explain in detail any one tension operation and compression operation in metal forming. (14)

OR

20. Explain the working of progressive, and compound dies in die cutting operations. (14)
