

Register No: .....

Name: .....

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FOURTH SEMESTER B.TECH. DEGREE EXAMINATION(R,S), MAY 2024****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. Explain the working principle of vacuum induction melting.
2. List the common defects in casting process.
3. Discuss the common welding defects.
4. Compare upset welding and flash welding.
5. Explain the term camber in rolling.
6. Explain the different types of rolling mills.
7. Discuss the grain flow in forgings compared to that of casting and machining.
8. Discuss the common extrusion defects.
9. Explain the different bending operations with neat sketches.
10. Explain the functions of locators.

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

11. Explain the patterns allowances in casting with neat sketches. 14

**OR**

12. Explain squeeze casting with a neat sketch. List the advantages, limitations and applications. 14

**MODULE II**

13. Explain oxy-acetylene gas welding with a neat sketch. Discuss the chemical reactions and types of flames involved in the process. 14

**OR**

14. Compare EBW and LBW processes with neat sketches. List the advantages and limitations of each method. 14

**MODULE III**

15. Explain the plastic deformation in metals and the stress-strain relationship in metal forming. State and compare Tesca and Von Mises yield criteria. 14

**OR**

16. Explain the principle of rotary tube piercing and tube rolling with neat sketches. 14

**MODULE IV**

17. Explain the deep drawing process with neat sketches. List the common defects observed in the deep drawing process. 14

**OR**

18. Explain the different types of drawing operations with neat sketches. 14

**MODULE V**

19. Explain the different types of clamps used for clamping. 14

**OR**

20. Explain the following shearing operations with neat sketches. 14  
a) Fine blanking, b) Nibbling, c) Shaving, d) Trimming, e) Slitting, f) Lancing

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