

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3151912****Date:27/12/2021****Subject Name:Manufacturing Technology****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

| | | MARKS |
|------------|---|--------------|
| Q.1 | (a) Write name of different type of oxy-acetylene gas flame and explain any one of it. | 03 |
| | (b) Give broad classification of various manufacturing processes. | 04 |
| | (c) Write difference between Hot rolling and Cold rolling. Explain the terms: Bloom, Billet, Slab, Plate and sheet. | 07 |
| Q.2 | (a) What is Shrinkage allowance and Draft allowance? | 03 |
| | (b) Explain properties of moulding sand. | 04 |
| | (c) Write name of different die-casting methods. Explain any one with fig. | 07 |
| OR | | |
| | (c) Write name of different types of patterns and Explain any three patterns with details. | 07 |
| Q.3 | (a) Write function of electrode coating. | 03 |
| | (b) Explain welding power source characteristic. | 04 |
| | (c) Describe Metal Inert Gas Arc welding also write advantage, Disadvantages and application of MIG Arc welding. | 07 |
| OR | | |
| Q.3 | (a) Explain polarity in arc welding. | 03 |
| | (b) Explain principal of resistance welding with fig. | 04 |
| | (c) Write the name of defects in welded joints. Explain any three with cases and remedies. | 07 |
| Q.4 | (a) Derive relationship between True Stress(σ) and Engineering stress(S). True Strain(ϵ) and Engineering strain(e). | 03 |
| | (b) Differentiate direct and indirect Extrusion process. | 04 |
| | (c) Enlist the various type of presses used in forging. Explain with neat sketch. | 07 |
| OR | | |
| Q.4 | (a) Explain sheet-metal working processes: Shearing, Piercing and Blanking. | 03 |
| | (b) How do you compare forged components with cast components? | 04 |
| | (c) Discuss wire drawing & Tube drawing. | 07 |
| Q.5 | (a) Name the different Thermosetting Resins and Thermoplastic Resins. | 03 |
| | (b) Explain finishing process: 1. Honing 2. Lapping | 04 |
| | (c) Explain injection moulding processes stating its advantages, limitations and application. | 07 |

OR

- Q.5** (a) Differentiate Thermosetting plastics and Thermoplastics. **03**
(b) Write short note on compression molding. **04**
(c) Write short note on the following: **07**
(i) Grinding (ii) Chemical mechanical polishing.
