

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V(NEW) EXAMINATION – SUMMER 2022****Subject Code:3151912****Date:09/06/2022****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
<b>Q.1</b> (a) Define Manufacturing processes and enlist various manufacturing processes.	<b>03</b>
(b) Discuss the factors that need to be considered for selecting the manufacturing processes.	<b>04</b>
(c) Explain hot working and cold working process. State advantage and disadvantages of the processes.	<b>07</b>
<b>Q.2</b> (a) State the purpose of coating on an arc welding electrode.	<b>03</b>
(b) Explain the common welding defects by stating their causes and their remedies.	<b>04</b>
(c) Explain the working principles of Oxy-acetylene gas welding and gas cutting processes. Also differentiate between nozzles used for Oxy-acetylene gas welding and gas cutting process, using sketch.	<b>07</b>
<b>OR</b>	
(c) Explain the working principle of Resistance welding. Differentiate between Spot and Seam Welding processes.	<b>07</b>
<b>Q.3</b> (a) Why a down sprue is made tapered in a gating system ?	<b>03</b>
(b) Explain various types of pattern allowances with a neat sketch.	<b>04</b>
(c) What is gating system? what are its function? state types of gate with its advantages.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Explain Cupola furnace with a neat sketch.	<b>03</b>
(b) What is pattern? List different patterns and explain each with a schematic diagram.	<b>04</b>
(c) Describe the Shell mould casting process in terms of steps involved, its advantages and disadvantages with the help of a neat sketch.	<b>07</b>
<b>Q.4</b> (a) Define Ingot, Bloom and Billet.	<b>03</b>
(b) Distinguish between wire drawing and tube drawing with neat sketches.	<b>04</b>
(c) Distinguish between thermoforming process and extrusion process for plastics.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Explain in brief Strain Hardening.	<b>03</b>
(b) Distinguish between TIG and MIG welding processes.	<b>04</b>

- (c) Enlist types of super finishing processes. Discuss the selection criteria for appropriate super finishing process. **07**
- Q.5** (a) Define Forward slip, Backward slip and Neutral point for Rolling process. **03**
- (b) Explain calendaring process. **04**
- (c) Explain Injection moulding process for plastic, by stating its principle of operation, advantages, limitation and applications. **07**
- OR**
- Q.5** (a) With a neat sketch explain the piercing and blanking processes. **03**
- (b) State the significance of the superfinishing process. **04**
- (c) Explain Burnishing process with a neat sketch. **07**

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