

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- IV EXAMINATION – SUMMER 2020

Subject Code: 2141908

Date: 04/11/2020

Subject Name: Manufacturing Processes -II

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a) Give broad classification of various manufacturing processes. **03**
 - (b) Explain different types of cores used in casting process. **04**
 - (c) What is pattern? List different types of materials used for pattern making. Explain the characteristic of any three of them. **07**
- Q.2**
- (a) Explain draft allowances in casting. **03**
 - (b) Explain the different types of flame used in gas welding process. **04**
 - (c) Discuss the defects, causes and remedies of casting defects. **07**
- OR**
- (c) Explain the working principle, advantage and limitation of electron beam welding process with neat sketch. **07**
- Q.3**
- (a) Differentiate between soldering and brazing process. **03**
 - (b) Discuss the function of inert gas. Enlist types of inert gas. **04**
 - (c) Explain the working principle of Resistance welding. Differentiate between Spot and Seam Welding processes. **07**
- OR**
- Q.3**
- (a) Explain the following terms: **03**
1. Strain hardening 2. Recrystallization
 - (b) Discuss the advantage and limitations of hot and cold working. **04**
 - (c) Describe and specify the merits of different kinds of rolling mills. **07**
- Q.4**
- (a) How is seamless tubing pierced? **03**
 - (b) Write short note on embossing. **04**
 - (c) Describe the piercing and blanking processes. Also explain the terms: Ingot, slab, bloom and billet. **07**
- OR**
- Q.4**
- (a) Why testing of foundry sand is necessary? What are the common tests performed on foundry sands? **03**
 - (b) State difference between direct and indirect extrusion with sketch. **04**
 - (c) How do you AC and DC compare for arc welding? What do you understand by the term polarity and what is the advantage and disadvantage of having different polarities? **07**

- Q.5** (a) What are plastics? What raw materials are used to produce plastic compounds? **03**
- (b) Explain with neat sketch injection moulding process. **04**
- (c) Explain with neat sketch compression moulding process. **07**

OR

- Q.5** (a) What is a ceramic? State the applications of ceramic matrix composites. **03**
- (b) Enlist various ceramic structures and explain any one in detail. **04**
- (c) Draw the various glass structure explain properties and application of glass manufacturing. **07**

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