

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2021****Subject Code:3151912****Date:15/09/2021****Subject Name: Manufacturing Technology****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Explain the following terms related to casting : (i) Shrinkage allowance (ii) Machining allowance	03
	(b) Compare the lapping and honing super finishing processes.	04
	(c) Classify the manufacturing process in detail.	07
Q.2	(a) List the types of pattern and also list the materials from which patterns can be made.	03
	(b) Write the four examples of product manufactured using the casting process and list minimum ten tools used in manual sand casting process.	04
	(c) Explain the casting defects in detail with diagram.	07
OR		
	(c) List the types of moulding sand and explain in detail all the properties of moulding sand to be considered for the casting process.	07
Q.3	(a) Classify the welding process in detail.	03
	(b) Explain the types and importance of polarity in electric arc welding process with diagram.	04
	(c) List the name of solid state welding process and explain in detail explosive welding process with diagram.	07
OR		
Q.3	(a) List the various arc welding process.	03
	(b) Compare the leftward and rightward welding technique with diagram.	04
	(c) Explain in detail electroslag welding process and also write its merits, de-merits?	07
Q.4	(a) Compare the hot working and cold working process and give example of each.	03
	(b) Briefly explain the various methods available for breakdown passes in rolling and write the application of it.	04
	(c) Explain the types of forging defects and write name of four products which are manufactured using the forging process.	07
OR		
Q.4	(a) Write the significance of recrystallisation temperature in metal forming process.	03
	(b) Explain in detail the roll pass sequence.	04
	(c) Classify the press tool operation and explain in detail the shearing operation with neat diagram.	07
Q.5	(a) Explain any three thermosetting plastics with its properties and application.	03
	(b) Explain the principle and working of atomic hydrogen welding with diagram.	04

(c) Explain with neat sketch the injection moulding process. **07**

OR

Q.5 (a) Write the difference between thermosetting and thermoplastics. **03**

(b) Explain the submerged arc welding process with diagram. **04**

(c) Explain in detail about the following process: **07**

(i) Compression moulding (ii) Transfer Moulding
