

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V(New) • EXAMINATION – WINTER 2016

Subject Code:2150206

Date:22/11/2016

Subject Name:Automotive manufacturing

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	Short Questions	14
	1 Differentiate between jigs & fixtures.	
	2 Why hot working & cold working process are necessary for metal	
	3 Write the function of riser & runner in casting.	
	4 Name various types of metal forming processes.	
	5 Write the uses of USM process.	
	6 What are the various methods of bending.	
	7 What is the difference between brazing and soldering.	
	8 List the common pattern materials.	
	9 Write the principle of clamping.	
	10 Give the advantages of sheet metal working process.	
	11 Define coining & embossing.	
	12 How does seam welding is differ from spot welding.	
	13 What do you mean by super finishing process.	
	14 Why is the necessity of sand testing.	
Q.2	(a) Define extrusion and explain the types of extrusion process.	03
	(b) Discuss various types of allowances provided in casting & why.	04
	(c) Explain with neat sketch TIG welding & write its applications.	07
	OR	
	(c) Discuss SAW process with neat diagram & write its merits & demerits.	07
Q.3	(a) Write the types of jigs & fixtures used in locating & clamping.	03
	(b) Define drill bushes and explain with neat sketch any one type of drill bushes.	04
	(c) Explain with neat sketch LBM & write its advantages, limitations & product applications.	07
	OR	
Q.3	(a) Why are a number of passes required to roll a steel bar.	03
	(b) Discuss design of casting.	04
	(c) Explain construction, working principle & uses of manual metal arc welding process.	07
Q.4	(a) Define: (a) Deep Drawing (b) Bending (c) Stretch forming	03
	(b) Compare the similarities & difference between ECM & EDM.	04
	(c) Describe the operational features and layout of cupola furnace.	07
	OR	
Q.4	(a) Define forgeability and on what factor does it depends.	03
	(b) Explain various types of casting defects & its remedy also.	04
	(c) Discuss the manufacturing of seamless pipe & tubing with neat sketch.	07
Q.5	(a) Differentiate between hot working & cold working process.	03
	(b) Give the classification & applications of each gas welding process.	04

- (c) Explain working principle of investment casting process with neat sketch & write its uses in automotive manufacturing. **07**

OR

- Q.5** (a) Discuss types of defects in welding. **03**
(b) Write a brief note on: (a) Permeability test (b) Fineness test **04**
(c) Discuss any one type of super finishing process with neat diagram & why it is versatile in advanced manufacturing process. **07**
