

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- V (New) EXAMINATION – WINTER 2019****Subject Code: 2150206****Date: 21/11/2019****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.

**MARKS**

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|------------|--|-----------|
| <b>Q.1</b> | (a) Define forging process and its use in Automobile.  | <b>03</b> |
|            | (b) Explain sand casting process.  | <b>04</b> |
|            | (c) Describe investment casting with a neat sketch.  | <b>07</b> |
| <b>Q.2</b> | (a) Give the Classification of Welding processes   | <b>03</b> |
|            | (b) Explain extrusion process with neat sketch.  | <b>04</b> |
|            | (c) Describe Resistance welding in context to car manufacturing.   | <b>07</b> |
| <b>OR</b>  |  |           |
|            | (c) Explain TIG Welding process with suitable example.   | <b>07</b> |
| <b>Q.3</b> | (a) Define: Cope, Drag and Flask in terms of Casting process.  | <b>03</b> |
|            | (b) Illustrate Casting Defects.  | <b>04</b> |
|            | (c) Describe 3-2-1 locating principle with suitable sketch.  | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.3</b> | (a) Define Jig, Fixture and Degree of Freedom.   | <b>03</b> |
|            | (b) Illustrate Box jig and Template jig.   | <b>04</b> |
|            | (c) Define Drill bushes? Describe different types of drill bushes with a neat sketch.                          | <b>07</b> |
| <b>Q.4</b> | (a) Explain working principle of Ultrasonic machine.   | <b>03</b> |
|            | (b) Differentiate between Dielectric Fluid and Electrolyte fluid used in Non-conventional Machining processes. | <b>04</b> |
|            | (c) Illustrate EDM machine with suitable sketch along with its advantages and application.                     | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.4</b> | (a) Write suitable applications of TIG, MIG and submerged arc welding.   | <b>03</b> |
|            | (b) Give difference between riveting, welding, soldering and brazing.  | <b>04</b> |
|            | (c) Explain in details about Casting Allowances with its sketch.   | <b>07</b> |
| <b>Q.5</b> | (a) List out applications of Spot welding and Seam welding   | <b>03</b> |
|            | (b) Describe Hot Chamber with a suitable example.  | <b>04</b> |
|            | (c) Explain CUPOLA Furnace with a neat sketch.   | <b>07</b> |
| <b>OR</b>  |  |           |
| <b>Q.5</b> | (a) Define: Pattern, Core, Electrode polarity.   | <b>03</b> |
|            | (b) Illustrate the types of Clamps used in Jigs and Fixtures.  | <b>04</b> |
|            | (c) Describe any three Super finishing process with suitable example.  | <b>07</b> |

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