

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 2150206****Date: 22/06/2023****Subject Name: Automotive manufacturing****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.

|            |                                                                                                                     | <b>MARKS</b> |
|------------|---------------------------------------------------------------------------------------------------------------------|--------------|
| <b>Q.1</b> | <b>(a)</b> What are the differences between jigs and fixtures?                                                      | <b>03</b>    |
|            | <b>(b)</b> Explain Honning process in detail.                                                                       | <b>04</b>    |
|            | <b>(c)</b> What is welding defect? List the types of welding defects and explain Each in brief.                     | <b>07</b>    |
| <b>Q.2</b> | <b>(a)</b> Write down difference between Hot Rolling & Cold Rolling.                                                | <b>03</b>    |
|            | <b>(b)</b> Explain different types of flame obtained in oxy-acetylene gas welding process.                          | <b>04</b>    |
|            | <b>(c)</b> Describe different types of Pattern Allowance used in Casting.                                           | <b>07</b>    |
|            | <b>OR</b>                                                                                                           |              |
|            | <b>(c)</b> Explain CUPOLA furnace with neat sketch.                                                                 | <b>07</b>    |
| <b>Q.3</b> | <b>(a)</b> Explain the types of clamps                                                                              | <b>03</b>    |
|            | <b>(b)</b> Explain Punching & Blanking process.                                                                     | <b>04</b>    |
|            | <b>(c)</b> Explain Submerged Arc Welding with its advantages, disadvantages and applications.                       | <b>07</b>    |
|            | <b>OR</b>                                                                                                           |              |
| <b>Q.3</b> | <b>(a)</b> Write down uses of Flux in Welding.                                                                      | <b>03</b>    |
|            | <b>(b)</b> Explain Extrusion Process in brief.                                                                      | <b>04</b>    |
|            | <b>(c)</b> Explain Laser Beam Machining process with neat sketch.                                                   | <b>07</b>    |
| <b>Q.4</b> | <b>(a)</b> What is stretch forming? Explain in brief.                                                               | <b>03</b>    |
|            | <b>(b)</b> Explain Spinning process.                                                                                | <b>04</b>    |
|            | <b>(c)</b> Explain with neat sketch and application in automobile components the investment casting process.        | <b>07</b>    |
|            | <b>OR</b>                                                                                                           |              |
| <b>Q.4</b> | <b>(a)</b> Differentiate between Die Electric fluid and Electrolyte fluid used in Advanced Manufacturing processes. | <b>03</b>    |
|            | <b>(b)</b> Write functions of Runner & Riser used in Casting                                                        | <b>04</b>    |
|            | <b>(c)</b> Explain different types of Rolling mills used in Rolling process.                                        | <b>07</b>    |
| <b>Q.5</b> | <b>(a)</b> Explain principle of Location.                                                                           | <b>03</b>    |
|            | <b>(b)</b> Describe Hot Chamber with a suitable example.                                                            | <b>04</b>    |
|            | <b>(c)</b> Describe any three Super finishing process with suitable example.                                        | <b>07</b>    |
|            | <b>OR</b>                                                                                                           |              |
| <b>Q.5</b> | <b>(a)</b> Distinguish between a progressive and a combination die.                                                 | <b>03</b>    |
|            | <b>(b)</b> Give difference between riveting, welding, soldering and welding.                                        | <b>04</b>    |
|            | <b>(c)</b> Explain USM process for manufacturing of automobile parts.                                               | <b>07</b>    |

\*\*\*\*\*