

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2024

Subject Code:3140204

Date:27-11-2024

Subject Name: Automotive Manufacturing Processes and Technology

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.

MARKS

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|------------|---|-----------|
| Q.1 | (a) Define & classify the manufacturing processes. | 03 |
| | (b) Compare Up Milling & Down Milling operations. | 04 |
| | (c) Explain working principle of Lathe machine with neat sketch. | 07 |
| Q.2 | (a) Compare Planer and Shaper machine. | 03 |
| | (b) Write the advantages and disadvantages of CNC machines. | 04 |
| | (c) Show the various parts of drilling machine in a diagram and state the functions of each part. | 07 |
| OR | | |
| | (c) Explain the working principle of a shaper machine with neat diagram. | 07 |
| Q.3 | (a) Give difference between welding and soldering. | 03 |
| | (b) Describe any three types of patterns used in casting | 04 |
| | (c) Explain various types of forging operations with neat sketch. | 07 |
| OR | | |
| Q.3 | (a) Write functions of riser and runner in casting. | 03 |
| | (b) Describe blanking and piercing in brief. | 04 |
| | (c) Explain Abrasive Jet machining process. | 07 |
| Q.4 | (a) Give detailed classification of welding processes | 03 |
| | (b) Describe blanking and piercing in brief. | 04 |
| | (c) Explain the investment casting process with neat sketches. | 07 |
| OR | | |
| Q.4 | (a) Differentiate between Casting and Forging process. | 03 |
| | (b) Write a short note on hot spinning process. | 04 |
| | (c) Describe Tungsten Inert Gas welding in detail with neat sketch. | 07 |
| Q.5 | (a) Why the Allowances are provided for the making a Pattern? | 03 |
| | (b) What are the advantages of hot working over cold working of metals? | 04 |
| | (c) Explain Centrifugal Casting Process with a neat sketch. | 07 |
| OR | | |
| Q.5 | (a) Define Ingot, Slab and Billet. | 03 |
| | (b) Enlist General Properties of Plastics & explain any two. | 04 |
| | (c) Explain Injection moulding process for Plastic part manufacturing. | 07 |
