

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII EXAMINATION – WINTER 2025

Subject Code:3172016

Date:28-11-2025

Subject Name:Process Planning and Cost Estimation

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) | What is Break even Analysis. Explain with graph | 03 |
| | (b) | Define 'tool approach' and 'tool over travel.' | 04 |
| | (c) | List out the types of computer aided process planning. Explain any one of them in detail. | 07 |
| Q.2 | (a) | The fixed cost of the firm is Rs. 1,50,000 and the variable cost is Rs. 10 per unit produced. The selling Price per unit is Rs. 25. Calculate the break-even quantity. | 03 |
| | (b) | List out the different component of costs. & what are the factory expenses. | 04 |
| | (c) | List out the various methods used for allocation of overheads and explain any two in details. | 07 |
| OR | | | |
| | (c) | What is the scope of process planning? | 07 |
| Q.3 | (a) | Differentiate between costing and estimation. | 03 |
| | (b) | What are the basic difference between Detection Strategy and Prevention strategy | 04 |
| | (c) | Describe various approaches to process planning. | 07 |
| OR | | | |
| Q.3 | (a) | Briefly discuss about indirect material cost. | 03 |
| | (b) | List the pre-requisite information needed for process planning. | 04 |
| | (c) | How to develop manufacturing logic and knowledge? Explain in details. | 07 |
| Q.4 | (a) | Discuss in detail ERP. | 03 |
| | (b) | Give the formula for estimation of machining time for drilling. | 04 |
| | (c) | Describe various approaches to process planning. | 07 |
| OR | | | |
| Q.4 | (a) | What are the factors in tooling selection constraints? | 03 |
| | (b) | Explain the three basic functions of jig and fixture. | 04 |
| | (c) | Explain allowances in estimation. | 07 |
| Q.5 | (a) | Define tear down time in detail. | 03 |
| | (b) | Define: Machining time & Prime cost | 04 |
| | (c) | What is time study? Explain briefly its benefits. | 07 |
| OR | | | |
| Q.5 | (a) | Write down classifications of polymeric Materials. | 03 |
| | (b) | Briefly discuss about estimation of welding shop. | 04 |
| | (c) | Discuss the sources of data for cost estimation & list the basic steps in cost estimation. | 07 |
