

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3154108****Date:15/12/2021****Subject Name:Process Planning and Cost Estimation****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
Q.1	(a) Define process planning.	03
	(b) What are the factors to be considered during the the selection of a process?	04
	(c) Explain with neat sketch various methods of process planning.	07
Q.2	(a) Classify the three basic function of jig and process.	03
	(b) Distinguish between cost estimation and cost accounting.	04
	(c) Explain the steps in process selection with suitable example.	07
OR		
Q.3	(c) Explain basic procedural steps in conducting work study.	07
	(a) What are the objectives of work study ?	03
	(b) List the information required for process planning.	04
	(c) Discuss about factors to be considered in the selection of jig and fixtures for cost reduction?	07
OR		
Q.3	(a) What is machining time?	03
	(b) What is meant by statistical quality control and list seven statistical tools of quality that are used in quality control?	04
	(c) Explain the with the help of neat sketches. 1.Flow process chart.(man) 2.Flow process chart(material)	07
Q.4	(a) Define cutting speed. List various factor affecting speed.	03
	(b) Describe the basic method employed for the selection of cutting tools.	04
	(c) State and explain various losses which are to be considered in a foundry shop	07
OR		
Q.4	(a) State the procedure to select cost optimal process?	03
	(b) What is the relation between tolerance and surface finish?	04
	(c) Find the factory cost of a component made form solid steel bar 6 cm long and 2 cm in diameter. The machining operations require 1.5 hours .assume the following data.	07

- a) Density of mild steel is 8 gm/cm³
- b) cost of mild steel is Rs.2 /kg
- c) Labour charges are Rs.1/hour.
- d) Overhead charges are 50% of direct labour cost.

- Q.5**
- (a) What is fatigue allowance? **03**
 - (b) Explain function of estimating. **04**
 - (c) Write notes on selection of cost for optimal processes. write notes on economics of process planning. **07**

OR

- Q.5**
- (a) What do you meant by realistic estimate? **03**
 - (b) List various methods of costing. Explain any one. **04**
 - (c) What is inspection? write briefly about the different methods of inspections followed in industries. **07**
