

32053 - Process Planning and Cost Estimation

UNIT – I

Part A

1. Define process planning?
2. Write the concept of process planning?
3. What is the information required to do process planning?
4. What are the factors affecting process planning?
5. What are the methods of process planning?
6. Define manual process planning?
7. Define automated process planning?
8. What are the steps in value analysis?
9. When to do use value analysis?

Part B

10. Define generative process planning?
11. Write the advantages of CAPP?
12. Define line balancing?
13. Write the principles of line balancing?
14. Write the need for line balancing?
15. Define value engineering?
16. Write the cost control & cost reduction?
17. Compare between cost control and cost reduction?
18. Define the value analysis?

Part C

1. Write brief explain the process planning procedure?
2. Explain about the make or buy decision using a break even analysis?
3. Explain the steps in value analysis procedure?
4. 2500 components are required for an assembly line. This component is available at the rate of Rs.4/- per piece, in the local market. If the same component is to be manufactured in the factory cost will be Rs.2/- per piece. Decide whether to make or buy.
5. A company is buying one of the components that go into their product at a total purchase cost of 20 per unit. Their annual requirement of the component is 6000 units. One of the shops itself because the variable cost per unit comes to 2 only. It was found that is required sophisticate machines and the accounts department had worked out and estimated the annual fixed cost of Rs.1,40,000/- should the proposal be accepted? Draw the breakeven chart and find the minimum level of annual requirements of the components above which making the component would be profitable.
6. A company is buying a bearing for Rs.30 per unit. The annual requirement is 7000 units. If it is made in the factory itself, the variable cost is Rs.3/- per unit. Additional fixed cost will be Rs.2, 00,000/- for the year. Should the proposal be accepted? Draw the breakeven chart and find the minimum level of annual requirements of the components above which making the component would be profitable.

32053 - Process Planning and Cost Estimation

UNIT – II

Part A & Part B

1. Define process selection?
2. What are the factors involved in process selection?
3. What are the factors affecting process selection?
4. Define machine capacity?
5. Write the analysis of machine capacity?
6. What are the factors influencing choice of machinery?

Part C

1. Explain the process & equipment selection procedure?
2. Write the brief explain about the selection machinery?
3. Explain the operation of planning sheet?
4. Write the determination of man, machine & material requirement process method?

32053 - Process Planning and Cost Estimation

UNIT – III

Part A

1. Write the objectives of work study?
2. Write the concept of work study?
3. What are techniques to reduce work content?
4. Define method study?
5. Write the objectives of method study?
6. Define micro motion study?
7. Write the principles of motion economy?
8. Define therbligs?
9. Draw the symbols of delay, movement, & operation

Part B

10. Define cycle graph?
11. Define the chronograph?
12. Define work measurement?
13. Write the objective of work measurement?
14. Write calculation of standard time?
15. Define ergonomics?
16. Write the objectives of ergonomics?
17. Write the application of ergonomics?

Part C

1. Explain the work study procedure?
2. Write the brief explain about the principles of motion economy?
3. Explain the SIMO chart and kinetogram study?
4. Write the brief explain the time study procedure?
5. Neat diagram and explain about the standard time?
6. Define ergonomics and explain the applications of ergonomics?
7. The observed time from stop watch study of a job is 8 minutes. The rating factor is 98%. Fatigue allowance is 10%; personal allowance is 5%; process allowance is 10% and policy allowance is 15%. Determine the standard time for the job.

32053 - Process Planning and Cost Estimation

UNIT – IV

Part A

1. Define cost estimation?
2. Write the purpose of cost estimation?
3. Write the performance of factor?
4. Define overheads?
5. What are the different methods of apportioning overheads?
6. What are the data required for cost estimating?

Part B

7. Compare between the cost estimation & cost accounting?
8. Define set up time & economic lot size?
9. Explain the tool change time & sharpening time?
10. Explain the inspection (or) checking time?
11. What are the steps making a cost estimate?

Part C

1. Explain about the estimation of cost elements?
2. The following data is obtained for production of the product. Direct material cost per piece Rs. 14/- , direct labour cost per piece Rs.18/- factory overhead is 100% of prime cost, general overhead is 25% of factory cost, profit is 10% of total cost. Estimate the sales price for the product.
3. Draw and explain the components of cost?
4. Calculate the total cost and selling price for a job from the data are direct material is Rs.5500/- manufacturing wages is 3000, factory overheads to manufacturing wages is 100% , non-manufacturing overheads to factory cost is 15% and profit on total cost is 12%

32053 - Process Planning and Cost Estimation

UNIT – V

Part A & Part B

1. What are the elements of metal machining?
2. Define cutting speed?
3. What are the factors depends on cutting speed?
4. Define feed?
5. Define depth of cut?
6. Define facing?
7. Define chamfering?
8. Write the parting off method?
9. Define knurling & forming?
10. Define milling operations?
11. Define effective cutting speed?

Part C

1. A shaping operation is done on a shaper on a plate $600 * 900$ mm, if the cutting speed is 6m/min. the return to cutting time ratio is 1:4 and the speed is 2 mm/stroke. The clearance at each end along the length is 75mm. find the time to complete the job
2. Estimate the machining time required on the shaper to complete one cut on a plate $500 * 900$ mm, if the cutting speed is 6m/min. the return time to cutting time ratio is 1:3 and the feed is 2mm per stroke. The clearance at each end is 70mm. widths wise allowance may be taken as 25mm.
3. A 63.5 mm diameter plain milling cutter having 6 teeth is used to face mill operation on an aluminium block of 180mm long and 30mm wide. The spindle speed is 1500 rpm and the feed is 0.125mm per tooth per revolution. Find the cutting time.
4. A slot 25mm deep is to be cut through a work piece 200 mm long with the help of HSS side and face milling cutter 10 teeth and diameter 150 mm. the cutting speed is 150 m/min and feed is 0.25 mm per tooth. Determine i) table feed in mm/min? ii) Total cutter travel? lii)time required to machine the slot?