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Question Paper Code: 49810

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Mechanical Engineering

14UME910- PROCESS PLANNING AND COST ESTIMATION

(Regulation 2014)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- In time study, the rating factor is applied to determine
 - Standard time of a job
 - Merit rating of the worker
 - Fixation of incentive rate
 - Normal time of a worker
- Which techniques are commonly used in work measurement
 - Time study
 - Work sampling
 - Pre-determined Motion Time System (PMTS)
 - All of the above
- Which one of the following chart gives simultaneously information about the progress of work and machine loading?
 - Process chart
 - Machine load chart
 - Man-machine chart
 - Gantt chart
- In Batch Production, the products are made in -----
 - Small batches and in Less variety
 - Small batches and in Large variety
 - Large batches and in Large variety
 - None of the above
- What does the symbol 'o' imply in work study
 - Operation
 - Inspection
 - Delay
 - Transport

6. Direct labour cost includes
 - (a) supervisors
 - (b) Foreman
 - (c) storekeeper
 - (d) Direct worker on Machines
7. Standard Time is equal to
 - (a) Normal Time + Allowances
 - (b) Observed time x Rating factor
 - (c) Normal Time + Rating factor
 - (d) None of the above
8. If one wanted to double the volume of an investment casting turbine blade from 4 to 8 cubic centimeters, what would be the increase in cost?
 - (a) 2.5 times
 - (b) 1.5times
 - (c) 2 times
 - (d) 3.5 times
9. The work study is done by means of
 - (a) Planning chart
 - (b) Process chart
 - (c) Stop watch
 - (d) Travel chart
10. Set-up time includes the time taken to :
 - (a) Study the component drawing
 - (b) Draw tools from tool crib
 - (c) Install and adjust the tools, jigs and fixtures on the machine
 - (d) All of the above

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Define Ergonomics; Come out with its objectives and applications. (8)
12. Explain the two approaches commonly used in CAPP system bringing out their advantages and limitations (8)
13. List down step by step procedure for estimating the direct material cost. (8)
14. List the data requirements and sources of information for cost estimation. (8)
15. 150 components, as shown in Fig. 1 are to be made by upsetting a f 20 mm bar. (8)
 Calculate the net weight, gross weight and length of f 20 mm bar required. The density of material may be taken as 7.86 gms/cc. (All dimensions are in mm)

