

**B.E., DEGREE EXAMINATIONS MAY/JUNE 2013**

Seventh Semester

**MECHANICAL ENGINEERING**

MEC132: Process Planning and Cost Estimation

**Time: Three Hours**

**Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10x1=10 Marks)**

1. Computer Aided Process Planning is used for
  - a) Improved Productivity
  - b) Lower Production cost
  - c) Consistency
  - d) All the above
2. In this type of production the quantity and variety of products manufactured is less
  - a) Job production
  - b) Mass Production
  - c) batch Production
  - d) All the above
3. \_\_\_\_\_time required for setting and fixing the jobs and tools on the machine
  - a) machining time
  - b) setup time
  - c) Operation time
  - d) all the above
4. Ergonomics implies 'Fitting the job to the \_\_\_\_\_'.
  - a) Worker
  - b) Machine
  - c) Store
  - d) Correct Position
5. Reduction in value of an asset is called \_\_\_\_\_
  - a) Depreciation
  - b) Appreciation
  - c) Approval
  - d) Endorsement
6. Market price is the sum of selling price and \_\_\_\_\_
  - a) Total Cost
  - b) Profit
  - c) Expenses
  - d) Discount
7. \_\_\_\_\_include oils, general tools, greases, sand papers, coolants, cotton waste etc
  - a) Indirect Material Cost
  - b) Direct Material Cost
  - c) Indirect Expenses
  - d) Direct Expenses
8. Estimation is done
  - a) Before the Component Manufacture
  - b) After the Component is manufactured
  - c) During the Component Manufacture
  - d) At any time of the Component Manufacture
9. Cost of workers operating lathes, milling machines or welders, or assemblers in assembly shop.
  - a) Indirect Labour Cost
  - b) Direct Labour Cost
  - c) Indirect Expenses
  - d) Direct Expenses



24. a) Explain different methods of estimating  
(OR)  
b) Discuss on ladder of cost

25. a) An isometric view of a workpiece is shown in fig.25.1. What will be the weight of the material required to produce it. The density of the material is  $2.681 \text{ g/cm}^3$ . Find also the material cost if its rate is Rs.13.60 per kg. All dimensions are in mm. (14)

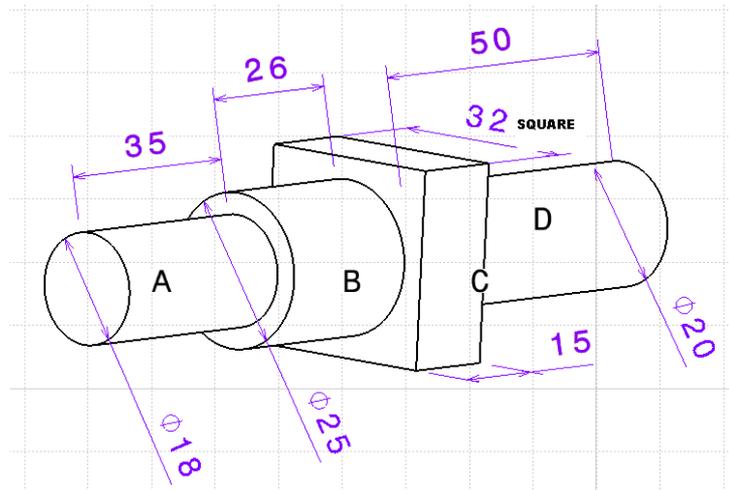


Fig. 25.1 Shaft

(OR)

- b) Find out the production cost per crank shaft for a 4-stroke oil engine from the following data:

Charges for forging per shaft	=	Rs.0.25
Wrought iron used per week at Rs.1/kg	=	3 tonnes
Wages of 4 operators	=	Rs.24/day
Cartage / day	=	Rs.25
Depreciation of machines and tools	=	Rs.500 per month
Wages of 4 helpers	=	Rs.3 per day each
Salary of Supervisor	=	Rs.500 per month
Packing charges for 12 shafts	=	Rs.3.00
Electric Charges	=	Rs.300 per month
Salary of manager and maintenance staff	=	Rs.1400 per month

If 1500 crank shafts are produced per month and factory runs 26 days a month, what should be the selling price of each shaft so as to earn a profit of 20% of the factory cost?

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