21222

3 Hours / 70 Marks   Seat No. ⬚⬚⬚⬚⬚⬚⬚⬚

15 minutes extra for each hour

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

(7) Preferably write the answers in sequential order.

Marks

1.   **Attempt any FIVE of the following:**   **10**

a) State the aim of estimating.

b) Enlist the various costing methods.

c) Define cost based pricing.

d) Differentiate between fixed cost and variable cost.

e) State any four methods of calculating depreciation.

f) Define 'Balance Sheet'.

g) State the meaning of N.P.V.

Marks

2. Attempt any THREE of the following: **12**

  a) Differentiate between estimating and costing. (Any four points)

  b) Explain cost based pricing.

  c) State any four applications of breakeven analysis.

  d) Enlist the techniques of cost control. Explain any one.

  e) Find the time required to drill 4 holes in a cast iron flange each of 2 cm depth, if the hole diameter is 2 cm. Assume cutting speed as 21.9 m/min and feed rate as 0.02 cm/rev.

3. Attempt any THREE of the following: **12**

  a) Define cutting speed. List various factors affecting cutting speed.

  b) Enlist the various major cost saving areas in a factory. Explain any one.

  c) Estimate the total time taken to turn a 10 cm long, 2.5 cm diameter M.S. rod to a diameter of 2.3 cm in a single cut. Assuming cutting speed to be 25 m/min, feed to be 0.1 mm/rev and the mounting time in a self centering 3 jaw chuck to be 40 seconds. Neglect time taken for setting up tool etc.

  d) Explain discounted cash flow (DCF) method.

4. Attempt any THREE of the following: **12**

  a) Define 'Value Analysis'. State its any two objectives.

  b) Enlist any four advantages of 'Replacement Analysis'.

  c) Calculate he optimum pouring time for a casting whose mass is 20 kg and having an average section thickness of 15 mm. The material of the casting is grey cast iron. Take he fluidity of iron as 25 inches.

  d) State the formula to calculate heat generated in resistance welding with meaning of each term.

Marks

5. **Attempt any <u>TWO</u> of the following:** **12**

a) Enlist the factors considered for pricing. (Any six)

b) Explain how standardization helps in

   (i) economy of design and

   (ii) increasing returns in a factory

c) The difference between the compound and simple interest on a certain sum of 12% per annum for 2 years is 90. Calculate the value of the amount at the end of 3 years if compounded annually.

6. **Attempt any <u>TWO</u> of the following:** **12**

a) The following information relating to a company is given to you. Sales - Rs. 400,000, Fixed cost Rs. 180,000, Variable cost - Rs. 250,000. Find how much value of sales must be increased for the company to break even

b) A lathe is purchased for Rs. 8,000 and the assumed life is 10 years and scrap value Rs. 2,000. If the depreciation is charged by Diminishing Balance Method calculate the percentage by which value of the lathe is reducing every year, and depreciation fund after 2 years.

c) Two 50 cm long M.S. plates of 1 mm thickness are to be welded by a lap joint with the help of 6 mm electrode Calculate the cost of welding if,

   (i) Current used 250 amp

   (ii) Voltage = 30 V

   (iii) Welding speed = 10 m/hr

   (iv) Electrode used 0.4 kg/m of welding

   (v) Labour charges Rs. 1.00/hr

   (vi) Electric charges Rs. 0.20/KWh

   (vii) Cost of electrode Rs. 45.00/Kg

   (viii) Efficiency of machine = 60%

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