22662

23242

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

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

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

Marks

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

a) State importance of estimating.

b) Differentiate estimating and costing.

c) Stat cost based pricing method.

d) Explain elements of cost.

e) Define depreciation.

f) State formula for 'Pouring time' in casting.

g) State meaning of N.P.V.

Marks

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

a) Define :

i) Prime cost

ii) Factory cost

b) Describe steps in estimation procedure.

c) State aims of costing.

d) Explain competition based pricing and customer based pricing.

e) A fixed asset is purchased on 1 January 2020. Information relating to the asset is as follows :

Cost of acquisition = Rs. 1,50,000/-

Residential value at the time of acquisition = Rs. 15000/-

Useful life estimated = 10 years.

Calculate depreciation expense for the year ending 31st December 2020.

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

a) Apply standardization principles for manufacturing of mobile phone charging pin.

b) Differentiate between value analysis and value engineering.

c) Describe the estimation process for pattern dimensions in casting process.

d) Write down formula to calculate time required for cutting in turning operation on lathe and also state meaning of each parameter.

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

a) Apply cost reduction techniques for manufacturing of motor cycle.

b) Explain steps in calculating machining time for turning operation on lathe.

c) Casting of 100 mm × 200 mm × 150 mm with central through hole of ϕ 50 is to be made in steel using wooden pattern. Considering shrinkage allowance for steel is 20 mm/mg. Calculate pattern dimensions.

d) Enlist advantages of 'Replacement Analysis'.

Marks

5. Attempt any TWO of the following: **12**

a) Write down procedure of costing.

b) Two workmen engages on a forging hammer, complete 20 connecting rods, each weighing 4 kg. The workmen are paid at the rate of Rs. 100 and Rs. 60 per day and material cost is Rs. 20 per kg. If 140% of direct labour is charges to compensate for both factory overheads and administrative expenses, what will be per unit cost of production of these units.

c) Calculate the melting efficiency in case of arc welding of steel with a potential of 20 V and current of 200 A. The travel speed is 5 mm/sc and cross-sectional area of the joint is 20 mm^2. Heat required to melt steel may be taken as 10 J/mm^3 and the heat transfer efficiency as 0.85.

6. Attempt any TWO of the following: **12**

a) Prepare a cost sheet for period ended on 31st March 2013.

Opening stock of raw material = 12500/-

Purchase of raw material = 136000/-

Closing stock of raw material = 8500/-

Direct wages = 54000/-

Direct expenses = 12000/-

Factory overheads = 100% of direct wages

Office and administrative overheads = 20% of factory cost

Selling and distribution overheads = 26000/-

Cost of opening stock of finished goods = 12000/-

Cost of closing stock of finished goods = 15000/-

Profit on cost = 20%.

b) Describe reasons of replacement of equipment with justification.

c) XYZ company is considering investing in a project that required an initial investment of 1,00,000/- for some machinery. There will be net inflow of 20,000/- for first two years, 10,000/- in 3rd and 4th year and 30,000/- in fifth year. Finally the machine has a salvage value of 25,000/-. Calculate ARR.