17557

11920

3 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

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

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

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

Marks

1. Attempt any FIVE : **20**

(a) List some functions of an estimator.

(b) Explain the two methods of valuation of material in store.

(c) Explain machine hour basis method of depreciation.

(d) What is direct labour cost and indirect labour cost ? Explain with examples.

(e) Explain importance of Mensuration.

(f) Write characteristics of process cost accounting.

(g) List the cost elements in the estimation for erection costing and explain any two.

2. Attempt any TWO : **16**

(a) Write procedure of sheet metal shop estimation. State importance and effect of blank layout on estimation.

(b) A machine is purchased for ₹ 1,00,000/- and scrap value estimated as ₹ 20,000/- after 06 years of useful service. Determine depreciation fund in reserve at the end of 4^{th} year basing on the sum of years digits method.

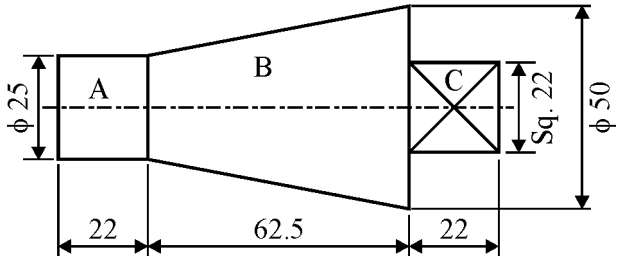
(c) Write factors affecting welding costs and welding cost estimation. How welding cost is calculated ?

3. Attempt any TWO : **16**

(a) What is capacity of power presses ? How is it expressed ?

(b) State importance of estimating and describe estimating procedure.

(c) The elevation of work-piece is shown in figure 1. What will be the weight of the material require to produce it, if the density of the material as 8.2 gm/cc ?

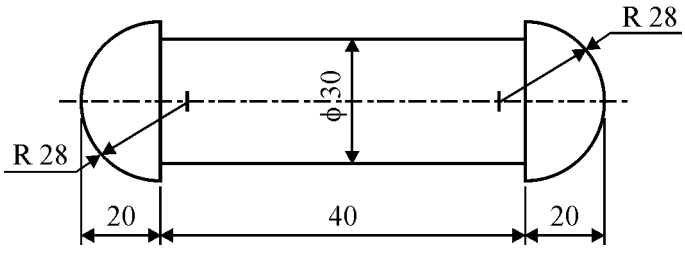


(All dimensions are in mm)

Fig. 1

4. Attempt any TWO : **16**

(a) The elevation of workpiece is shown in fig. 2. Calculate the no. of rivets as per the dimensions shown in fig. 2, which can be manufactured from 4 kg of mild steel ? Assume there is no wastage of material and density of M.S. is 8 gm/cc.



(All dimensions are in mm)

Fig. 2

(b) A manufacturing concern produces a certain product in batches of 100. The direct material cost, direct labour cost and direct expenses per batch of products are ₹ 2,100, ₹ 2,500 and ₹ 2,400 respectively. If 80% of direct labour cost is charged to cover factory overhads, determine the 'factory cost' of each product.

(c) Explain in brief :

(i) Shaping and planning operations giving their time, estimate determination method and formula.

(ii) Machining time calculation for turning operation.

5. Attempt any TWO : **16**

(a) Differentiate between time/day rate system and straight piece work system. Explain combination of day rate and piece work rate system with suitable example.

(b) Find the time required for doing rough grinding of a 160 mm long steel shaft to reduce its diameter from 42 mm to 40 mm in a grinding wheel of 20 mm face width. Assume cutting speed as 16 m/min and depth of cut as 0.25 mm.

(c) Explain a general estimation procedure for a forging operation with respect to the following :

(i) Estimation of net weight of forged component.

(ii) Estimation of losses

(iii) Estimation of time

6. Attempt any FOUR : **16**

(a) Define costing. State it's objective.

(b) Explain the various forging operations to appropriately shape a material by forging.

(c) What is depreciation ? Write its causes.

(d) Write the procedure of job order costing.

(e) Enlist the names and draw different types of welded joints.

(f) Explain erection costing.
