

17403

14115

3 Hours / 100 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.

Marks

1. a) **Attempt any SIX of the following :** **12**
- (i) Describe any two forging defects with their remedies.
 - (ii) State the significance of “Bolster plate and Backup plate.”
 - (iii) Define brazing and enlist any two applications.
 - (iv) List all equipments required for gas welding.
 - (v) List any four factors governing selection of finishing process.
 - (vi) State the meanings of G90, G91, M05 and M06, ISO codes.
 - (vii) State two advantages and two dis-advantages of C.N.C. machines.
 - (viii) State any four forgeable materials.
- b) **Attempt any TWO of the following :** **8**
- (i) State any four operations carried out in forging process and describe fullering with neat sketch.

P.T.O.

- (ii) State two advantages and two dis-advantages of closed die forging process.
- (iii) Describe the forging sequence for production of connecting rod.

2. Attempt any FOUR of the following : 16

- a) State any four limitations of forging process.
- b) Describe forging sequence for spanner.
- c) Describe punching operation with neat sketch.
- d) Describe slitting and lancing operations.
- e) State any four advantages of hydraulic press.
- f) Define “Press work” and list any four automotive components produced by press work.

3. Attempt any FOUR of the following : 16

- a) Describe “plain washer” making process using combination die.
- b) Sketch and name any four types of welds.
- c) Describe a joining process with which a carbide tip can be joined to tool shank.
- d) Distinguish Arc and Resistance welding process.
(Atleast 4 points)
- e) State role of fluxes and filler metals in joining processes and state two examples of each.
- f) Describe working of progressive die with neat sketch.

4. Attempt any FOUR of the following : 16

- a) Describe any two types of flames and state their applications.
- b) Describe honing and state it's two applications.
- c) Describe tumbling process and state it's two applications.
- d) Compare electroplating with metal spraying.
- e) Describe incremental co-ordinate system.
- f) Classify CNC machines.

16

5. Attempt any FOUR of the following :

- a) Distinguish between NC and CNC machines.
- b) State salient features of open-loop and closed-loop system (Atleast two of each)
- c) Classify tools used on turning centre and V.M.C. on the basis of materials and construction.
- d) Describe any two reference positions used on CNC machines.
- e) Describe meaning of each of the constituent of block format.
- f) State applications of following processes. (Any one application of each)
 - (i) Abrasive blast cleaning
 - (ii) Galvanizing
 - (iii) Burnishing
 - (iv) Acid pickling

6. Attempt any TWO of the following :

16

- a) Write a part program for following component. Assume suitable data if required Ref. Figure No. 1.

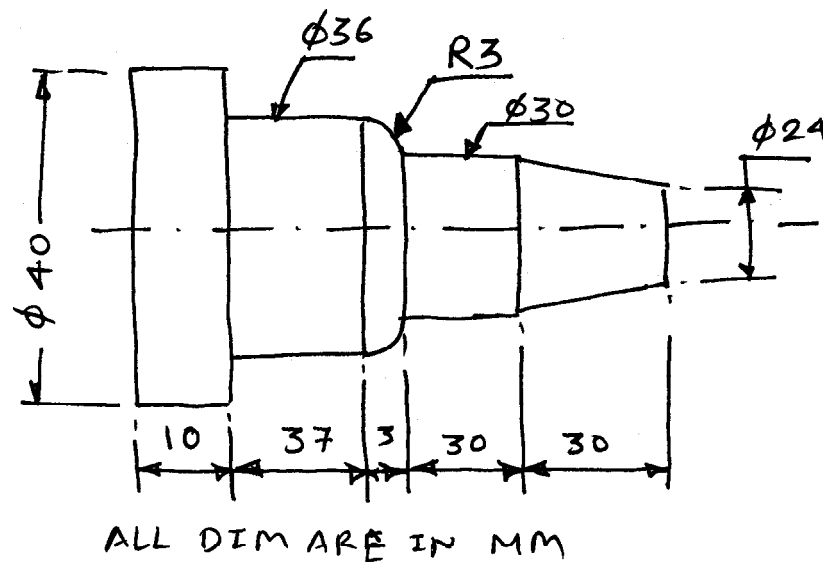
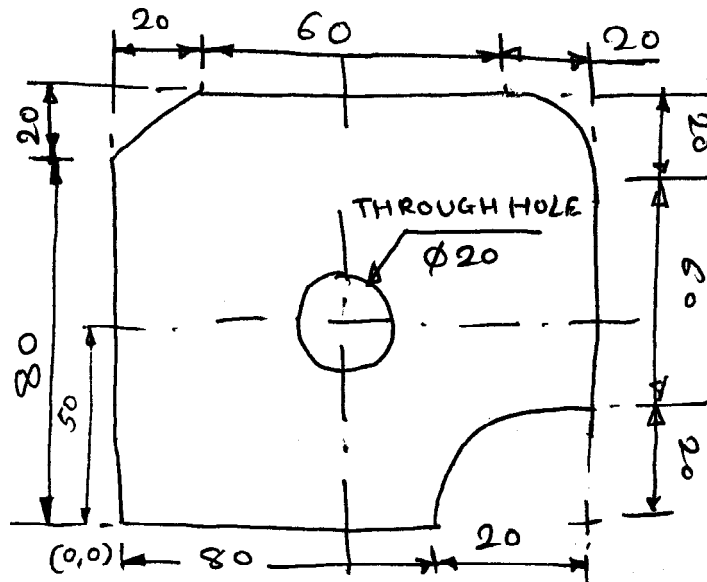


Fig. No. 1

P.T.O.

- b) Write a part program for following component Ref. Figure No. 2. Assume suitable data if required.



Assume plate
thickness 50 mm.

ALL DIM ARE IN
MM

Fig. No. 2

- c) Describe with neat sketch - perforating, notching, embossing and coining process.
