

17403

16117

3 Hours / 100 Marks

Seat No.

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

Marks

1. a) **Attempt any SIX of the following:** **12**
- (i) Enlist any four forgeable materials.
 - (ii) Give classification of presses.
 - (iii) State the working principle of gas welding.
 - (iv) Define soldering. Give one application of soldering.
 - (v) List any four surface finishing processes.
 - (vi) State the meaning of G 90, G 91.
 - (vii) Enlist the two advantages and two disadvantages of CNC machine.
 - (viii) Define forgeability.
- b) **Attempt any TWO of the following:** **8**
- (i) Describe the forging sequence for production of spanners.
 - (ii) Enlist any four advantages and disadvantages of forging process.
 - (iii) Explain drop forging with neat sketch.

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- 2. Attempt any FOUR of the following:** **16**
- a) Write down the forging sequence for manufacturing crank shaft.
 - b) Give classification of forging process.
 - c) Describe the fly press with neat sketch.
 - d) Explain the following press operation:
 - (i) punching
 - (ii) drawing
 - e) Describe simple die with neat sketch.
 - f) List the material used in press work for automobile components parts with example.
- 3. Attempt any FOUR of the following:** **16**
- a) Describe the working of progressive die with neat sketch.
 - b) Give the classification of welding process.
 - c) Explain seam welding process with the help of neat sketch.
 - d) Name various types of flames used in gas welding. Explain any one type of flame with sketch.
 - e) Explain TIG welding process with sketch.
 - f) State the types of poilots and state its use.
- 4. Attempt any FOUR of the following:** **16**
- a) Compare arc welding with resistance welding.
 - b) Explain lapping processes with neat sketch.
 - c) Describe electrolytic cleaning process.
 - d) Explain the galvanizing process and give its two applications.
 - e) Differentiate between CNC and NC machine.
 - f) Enlist any four disadvantages of NC machine.

5. Attempt any FOUR of the following:

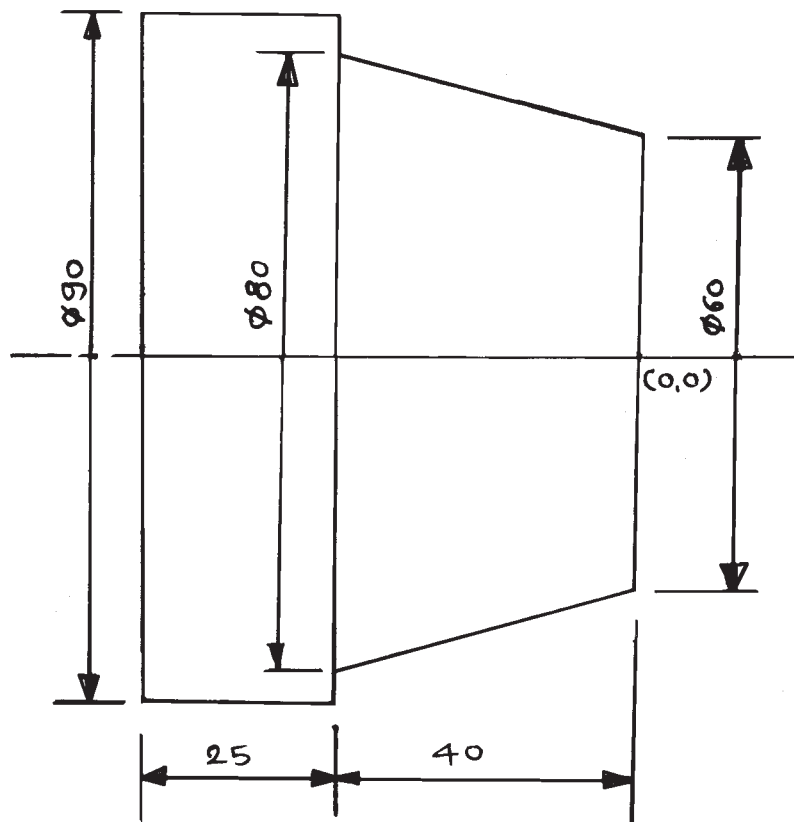
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- Give the classification of CNC machine.
- Explain the working principle of CNC machine.
- Describe closed loop control CNC system.
- State function of following ISO code G00, G02, M02, M30.
- Give procedure for developing the part programming.
- State the buffering process with their applications.

6. Attempt any TWO of the following:

16

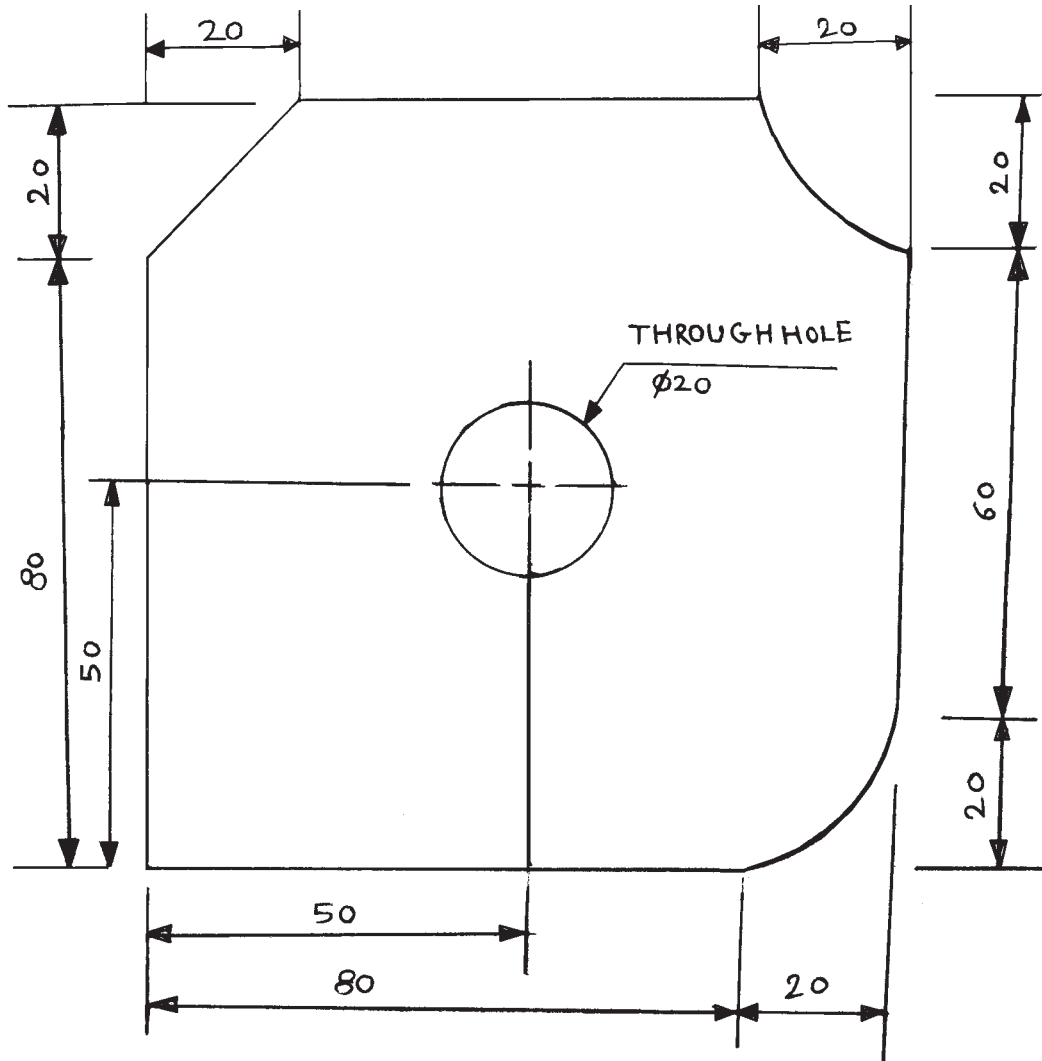
- Write part programming for following components. Refer Fig. No. 1. Also gives the co-ordinate system.



All dimensions are in mm

Fig. No. 1

- b) Write part programming for following components. Refer Fig. No. 2. Assume suitable data if required.



ASSUME PLATE Thickness as 50MM.

ALL DIM ARE IN MM.

Fig. No. 2

- c) Explain the parts of a standard die set with neat sketch. Write function of any four parts.
