

17403

21415

3 Hours / 100 Marks

Seat No.

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- 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) Name any four forgeable materials.
 - (ii) Draw blanking operation with label.
 - (iii) Give classification of welding.
 - (iv) Enlist types of resistance welding.
 - (v) List any four surface cleaning processes.
 - (vi) Define CNC and NC machines.
 - (vii) State canned cycle.
 - (viii) Define forgeability.
- b) **Attempt any TWO of the following:** **8**
- (i) State advantages and limitation of forging processes.
 - (ii) Explain with neat sketch open die and close die forging.
 - (iii) Describe forging sequence for connecting rod with neat sketch.

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- 2. Attempt any FOUR of the following:** **16**
- a) Give classification of forging processes.
 - b) Explain any two forging defects and state its remedies.
 - c) Describe fly press with neat sketch.
 - d) Enlist any four die accessories and explain use of pilots.
 - e) Explain progressive die with neat sketch.
 - f) Draw and identify parts of standard die set.
- 3. Attempt any FOUR of the following:** **16**
- a) Distinguish between compound die and combination die.
 - b) State types of gas welding flames and enlist their application.
 - c) Describe TIG welding process with neat sketch.
 - d) Explain seam welding.
 - e) Compare arc welding with resistance welding.
 - f) Enlist the materials used in press work for automobile application.
- 4. Attempt any FOUR of the following:** **16**
- a) Explain working principle of gas welding.
 - b) Explain electrolytic cleaning process.
 - c) Explain lapping process with neat sketch.
 - d) Differentiate between galvanising and electroplating process.
 - e) State absolute and incremental co-ordinate system with sketch.
 - f) Give classification of CNC.

5. Attempt any FOUR of the following:

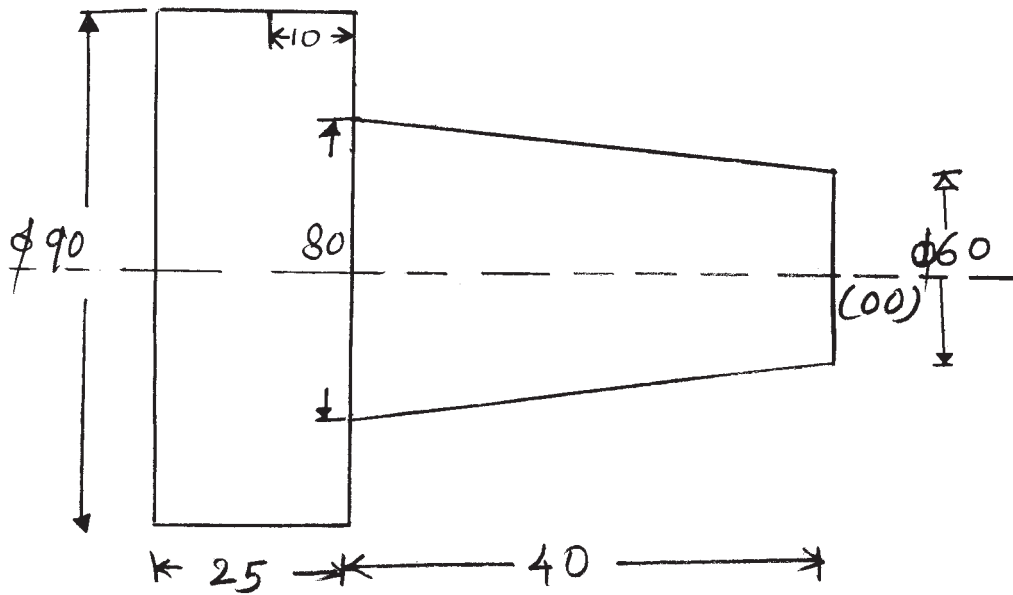
16

- Give advantages of CNC over NC machine.
- Explain working principle of CNC machine.
- Explain types of tools used on turning center and VMC.
- State function of following ISO codes. G00, G02, M02, M30.
- Give procedure for developing part program.
- Explain honing process with application.

6. Attempt any TWO of the following:

16

- Write part program for following component. Also give co-ordinate system.

Fig. No. 1

- b) Write point to point part program for following plate having 10 mm. thickness and drilling holes of 10 mm. diameter.

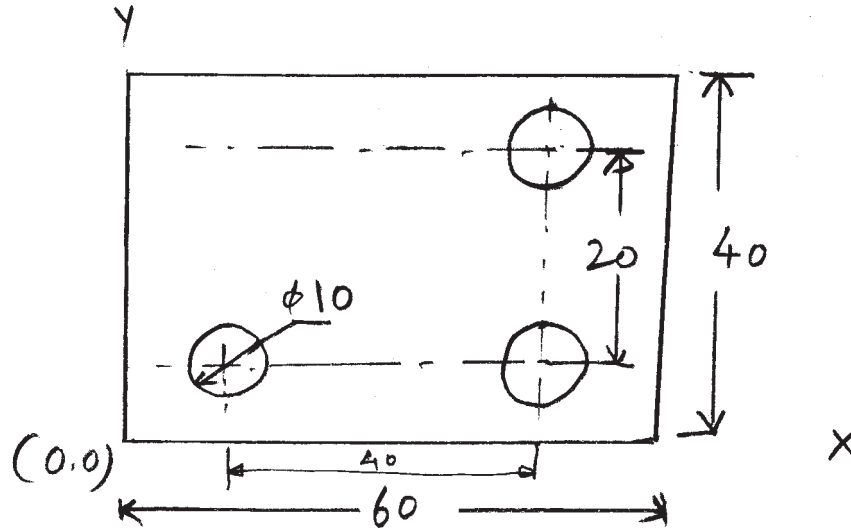


Fig. No. 2

- c) Explain any four press operation with neat sketch.
