17403

16172

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) 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) State any two advantages of forging process.

(ii) Explain blanking operation.

(iii) State the factors on which weldability depends.

(iv) Classify butt welding process.

(v) Name various surface coating processes.

(vi) List the components of NC machines.

(vii) What is the part programming?

(viii) List any four applications of forging process.

b) **Attempt any TWO of the following:** **8**

(i) Give detail classification of forging process.

(ii) What is forgability? On which factors it depends?

(iii) Write forging sequence for spanners.

Marks

2. Attempt any FOUR of the following: **16**

a) Describe briefly hand forging and machine forging.

b) Write down the sequence for manufacturing of crankshaft.

c) Name the different types of presses used in industry. State the working principle of press.

d) Describe fly press with neat sketch.

e) Explain forming and punching operation with neat sketch.

f) Describe briefly any two die accessories.

3. Attempt any FOUR of the following: **16**

a) List various pressed products which are used in automobiles.

b) Draw labelled sketch of MIG welding.

c) List common equipments used for arc welding process.

d) Describe with neat sketch:

(i) spot welding

(ii) seam welding

e) Name the types of dies used in press work. Explain any one with neat sketch.

f) Describe briefly soldering and brazing operation.

4. Attempt any FOUR of the following: **16**

a) Describe in brief the equipments required for oxy-acetylene welding.

b) Explain metal spraying process and give two applications.

c) Explain electrolytic cleaning with neat sketch.

d) List various surface finishing processes. Explain lapping.

e) State the salients features of CNC machines.

f) Differentiate between conventional machines and CNC's.

Marks

5. Attempt any FOUR of the following: **16**

a) What are the factors considered while selecting the components for machining on CNC machines?

b) Explain two types of programming modes in CNC machines.

c) What are the applications of CNC machines?

d) State the functions of G00, G94, M08 and M30 used in CNC part programming.

e) Describe briefly how to develope CNC part programme.

f) Explain buffing process with neat sketch.

6. Attempt any TWO of the following: **16**

a) Write the part programme for the job shown in Fig. No. 1. Assume suitable data for programming.

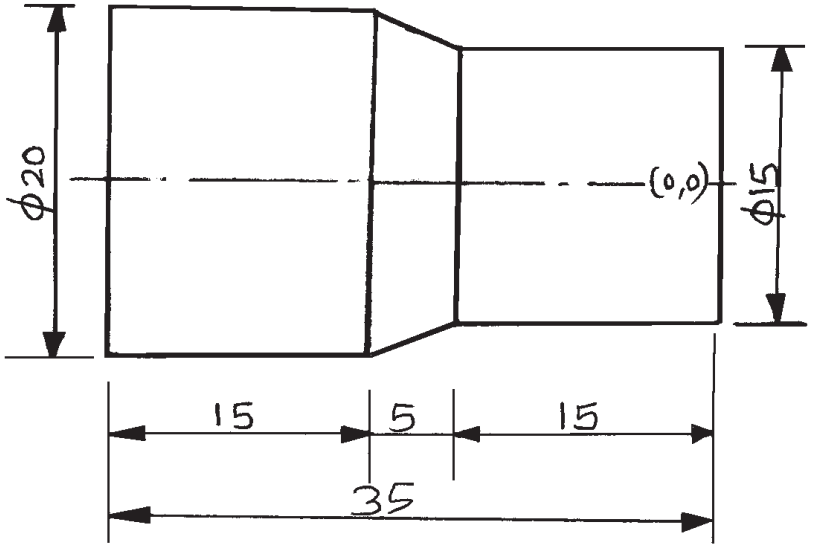

Fig. No. 1

Marks

b) Write the part programme for the following component.

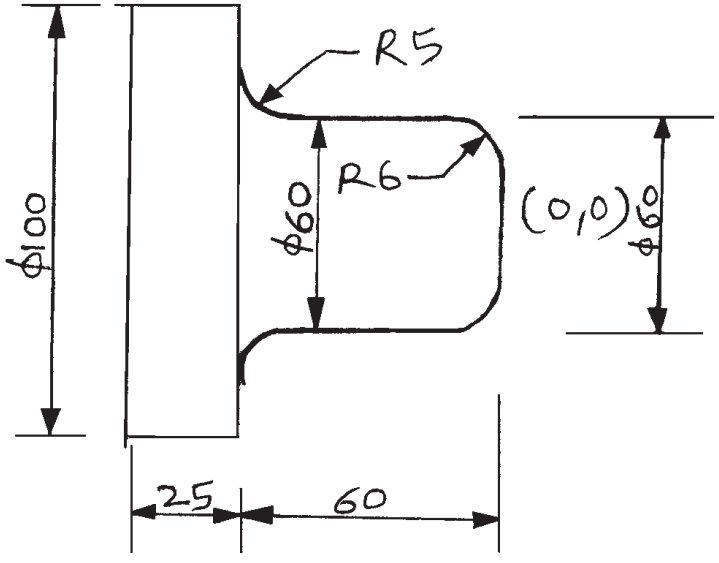

Fig. No. 2

c) What is interpolation? State its types. Explain linear interpolation with neat sketch.