17403

11718

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) 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) Define forgeability and name any two forgeable materials.

(ii) List the parts of standard die set.

(iii) Explain working principle of gas welding.

(iv) Explain piercing operation.

(v) State objectives of surface cleaning.

(vi) Write CNC program format with meaning of each term.

(vii) State machine reference point for CNC.

(viii) Name forging defects.

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

(i) Explain drop forging.

(ii) Explain simple die with neat sketch.

(iii) Describe forging sequence for production of spanner.

Marks

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

a) Describe forging sequence for crank shaft.

b) Classify forging, state fullering.

c) State terminology used in presses.

d) Explain fly press with neat sketch.

e) Explain material used in press work for automobile application.

f) Enlist die accessories and state function of knock out.

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

a) Explain compound die with sketch.

b) Name types of gas flame with application.

c) With neat sketch explain MIG welding.

d) Describe working principle of arc welding.

e) Describe resistance welding with neat sketch.

f) Explain with sketch pilots and its types.

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

a) Compare soldering with brazing.

b) State blasting and tumbling.

c) Explain honing with neat sketch.

d) Compare galvanizing with electroplating.

e) State advantages of CNC over NC.

f) Compare absolute with incremental coordinate system (four points).

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

a) Explain working principle of CNC machine.

b) Explain close loop and open loop system with sketch.

c) State canned cycle and subroutines.

d) State procedure for developing part program.

e) State function of preparatory and miscellaneous code with two example each.

f) Give application of lapping, honing, buffing and burnishing.

Marks

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

a) Enlist press operations (any eight). Explain lancing and piercing.

b) Write a part program by absolute mode to reduce diameter of bar from 34 mm to 26 mm. (Refer Fig. No. 1)

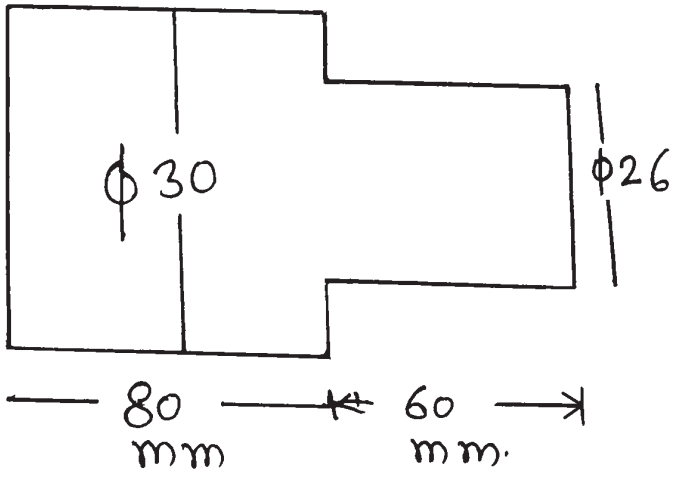

Fig. No. 1

c) Prepare a program to drill two holes shown in Fig. No. 2. Plate thickness is 10 mm. Use incremental mode.

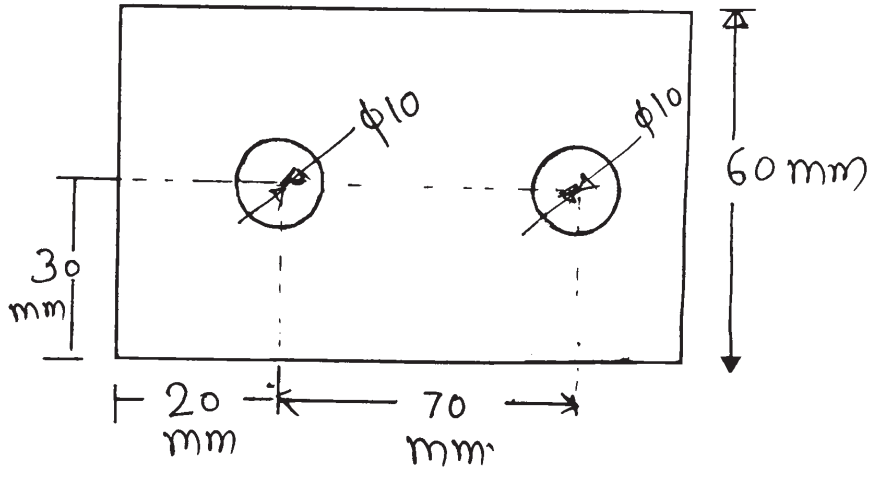

Fig. No. 2