22439

12425

03 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

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

Marks

1. Attempt any FIVE of the following: **10**

a) List any four materials to make forgings.

b) Give classification of presses.

c) State function of the stops in press work.

d) State any four automobile components where brazing can be applied.

e) Enlist four factors affecting selection of clearing processes.

f) State four advantages of CNC machines over conventional machines.

g) Sketch axis orientation for CNC lathe.

Marks

2. Attempt any THREE of the following: **12**

a) Select suitable forging sequence for making connecting rod.

b) Explain washer making process using compound die.

c) Describe TIG welding process with neat sketch.

d) Explain absolute co-ordinate system with suitable example.

3. Attempt any THREE of the following: **12**

a) Classify forging processes.

b) Sketch standard die set and label all the parts.

c) Describe working of progressive die in press work.

d) Explain oxy acetylene welding process.

4. Attempt any THREE of the following: **12**

a) Explain any four hand tools used in forging process with neat sketch.

b) State use of filler and flux materials in welding.

c) Explain seam welding process.

d) Explain electroplating operation for surface coating.

e) Differentiate between NC and CNC machines.

5. Attempt any TWO of the following: **12**

a) Sketch and describe following press operations:

i) Notching

ii) Piercing

iii) Bending

b) Explain lapping and honing operations with their applications.

c) State the significance of following ISO codes in CNC.

i) G01

ii) G03

iii) G90

iv) M00

v) M08

vi) M01

Marks

6. Attempt any TWO of the following: **12**

a) Prepare the part program for given work piece Figure No. 1 on CNC lathe machine using ISO codes. Assume suitable data.

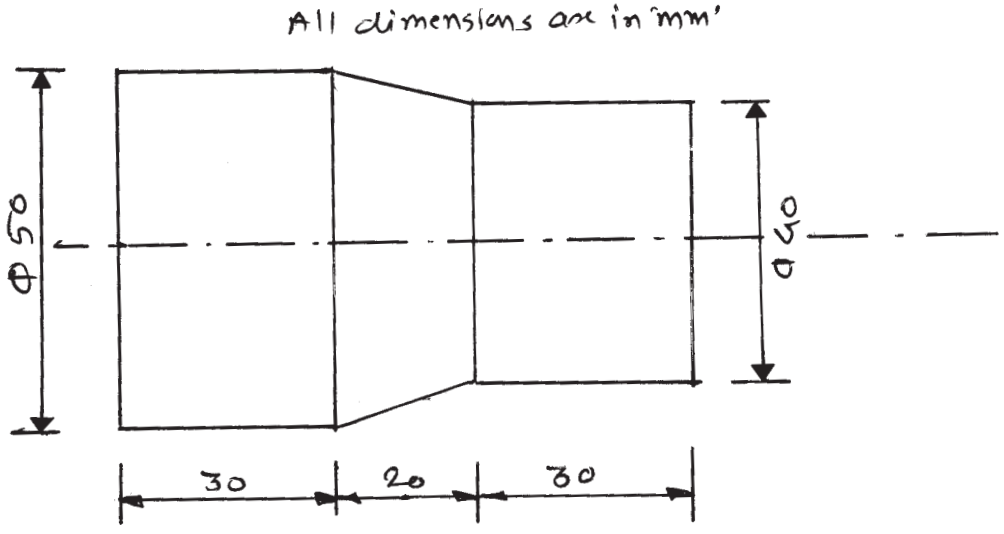

Fig. No. 1

b) Prepare the part program for drilling operations on given plate Figure No. 2 with thickness 20 mm on VMC using ISO codes. Assume suitable data.

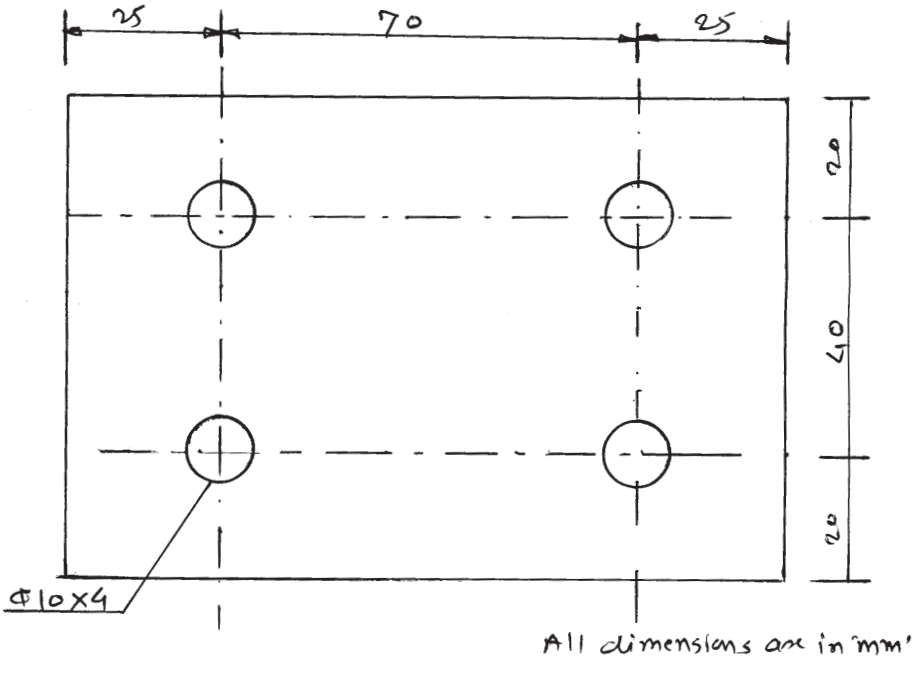

Fig. No. 2

P.T.O.

Marks

c) Prepare part program for given work piece Figure No. 3 VMC using ISO codes. Assume suitable data.

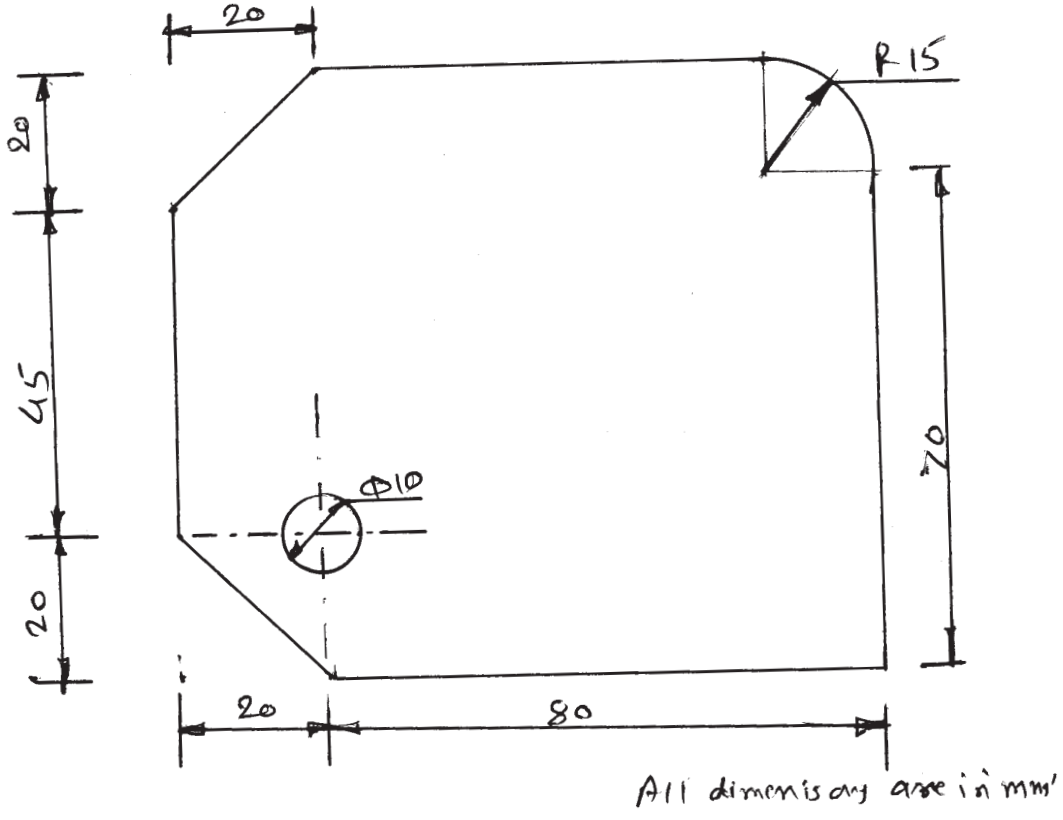

Fig. No. 3