Scheme - I

Sample Question Paper

Program Name   : **Diploma in Automobile Engineering**

Program Code   : **AE**

Semester   : **Fourth**

Course Title   : **Automobile Manufacturing Processes**

Marks   : **70**   Time: 3 Hrs.

22439

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) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.   **10 Marks**

    a) List any four materials to make forgings.

    b) List any four automobile parts made from press working operations.

    c) State function of the Pilot in press work.

    d) Sketch any two weld joints.

    e) List any four surface cleaning processes.

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

    g) State the significance of G code in CNC programming.

Q.2) Attempt any THREE of the following.   **12 Marks**

    a) Classify forging process.

    b) Sketch the fly press and label all the parts.

    c) Explain Metal inert gas Arc welding (GMAW) process.

    d) Explain Absolute co-ordinate system with an example.

Q.3) Attempt any THREE of the following.   **12 Marks**

    a) Select suitable forging sequence for making connecting rod.

    b) Sketch standard Die-set and label all the parts.

    c) Explain washer making process using compound dies in press work.

    d) Explain brazing process.

Q.4) Attempt any THREE of the following.   **12 Marks**

    a) Select suitable forging sequence for making crankshaft.

    b) Explain three flames produced in gas welding process.

    c) Explain seam welding process.

    d) Explain electroplating process.

    e) Draw axes with proper notations for turning centre and VMC.

**Q.5) Attempt any TWO of the following.**   **12 Marks**

    a) Explain with sketch any three press working operations.

    b) Explain Lapping and Honing operations with the applications.

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

   (a) G00 (b) G01 (c) G02 (d) M03 (e) M04 and (f) M06

**Q.6) Attempt any TWO of the following.**   **12 Marks**

    a) Prepare the part program for the given workpiece on Turning Centre (CNC lathe) using ISO codes. Assume suitable data.

ø40   Ø 30

20   80   40

All dimensions are in mm
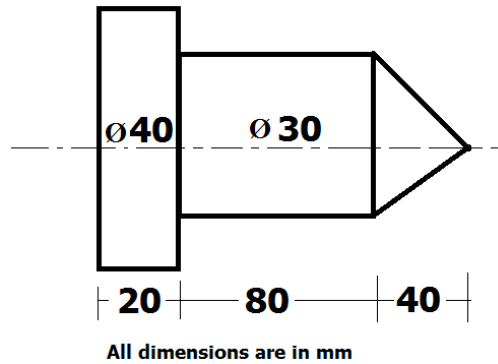
    b) Prepare the part program for only drilling operations on the given plate with dimensions (120 X120 X50) mm on VMC using ISO codes. Assume suitable data.

20   80   20

20

Ø10 X 4

80

20

All dimensions are in mm
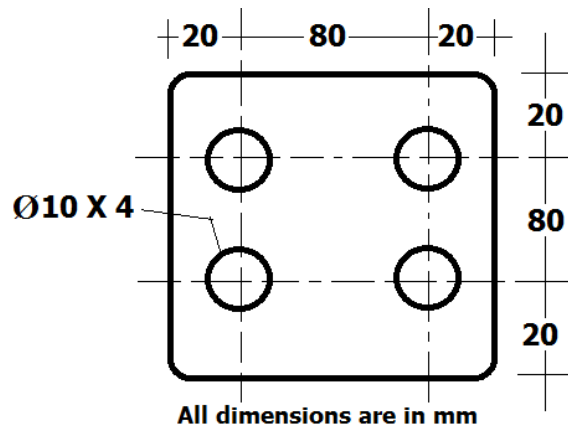
c) Prepare the part program for the given workpiece on VMC using ISO codes. Assume suitable data.
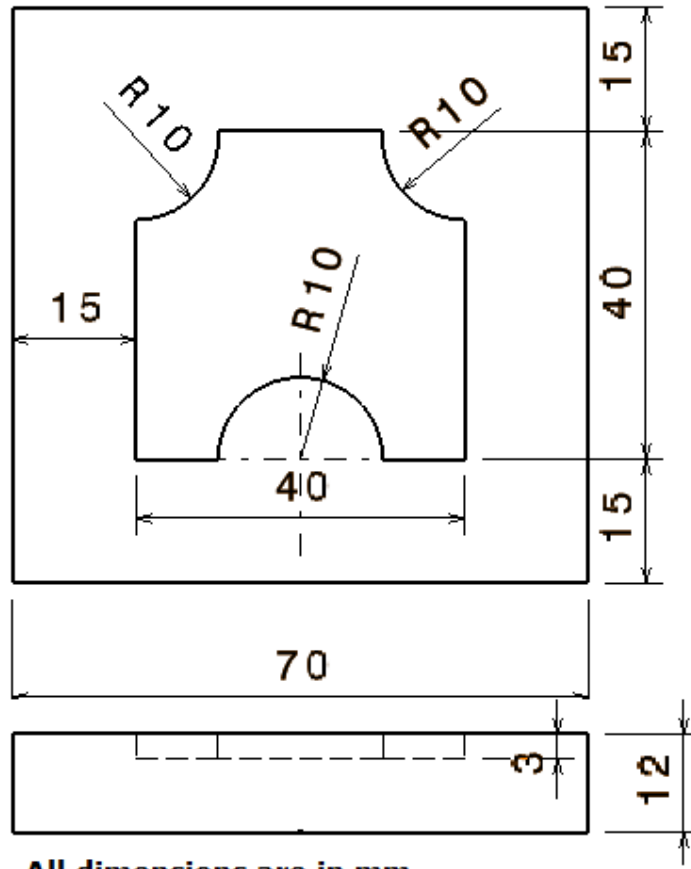
All dimensions are in mm

Scheme - I

Sample Test Paper - I

Program Name   : **Diploma in Automobile Engineering**

Program Code   : **AE**

Semester   : **Fourth**

Course Title   : **Automobile Manufacturing Processes**

Marks   : **20**

$\boxed{\textbf{22439}}$

Time: 1 Hour.

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) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.   **08 Marks**

     a) Define forging.

     b) List four materials used in press work.

     c) List any two limitations of forging process.

     d) Draw blanking operation with label.

     e) Give classification of presses.

     f) List any four applications of forging process.

Q.2 Attempt any THREE.   **12 Marks**

     a) Draw simple labelled sketches showing forging sequence for manufacturing connecting rod.

     b) Differentiate between compound die and combination die.

     c) Describe fly press with neat sketch.

     d) Explain any four hand tools used in forging processes with neat sketch.

Scheme - I

Sample Test Paper - II

Program Name	: **Diploma in Automobile Engineering**
Program Code	: **AE**
Semester	: **Fourth**
Course Title	: **Automobile Manufacturing Processes**
Marks	: **20**

22439

Time: 1 Hour.

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) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR. **08 Marks**

    a) State four advantages of welding process.

    b) List any two needs of surface treatment process.

    c) List any four advantages of CNC Machines.

    d) State meaning of following functions of programming codes - 1) G90 2) G94

    e) Enlist types of resistance welding.

    f) List any four surface finishing processes.

Q.2 Attempt any THREE. **12 Marks**

    a) Differentiate between NC and CNC machines

    b) Describe TIG welding process with neat sketch.

    c) Explain lapping process with neat sketch.

    d) Explain working principle of CNC machine using block diagram.