Scheme - I

Sample Question Paper

Program Name   : **Diploma in Production Engineering / Production Technology**

Program Code   : **PG / PT**

Semester   : **Fourth**

Course Title   : **Advanced Machining Processes**

22448

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

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 applications of ' Wire cut discharge Machining'

   b) Name the axis of CNC machines

   c) State the advantages of Electro Chemical Machining

   d) State the functions of Surface finishing processes

   e) Name the G code for "Hold the job" and "Circular interpolation clockwise"

   f) List the major elements of SPM

   g) Name the M code for "Coolant ON " and" Tool Change"

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

   a) Differentiate between EDM and ECM

   b) Explain Absolute coordinate system In brief

   c) Explain with neat sketch the magnetic work holding Device in CNC machines

   d) Name different ATC devices used in CNC machines

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

   a) Explain the function of Di-electric Fluid in Electro Discharge Machining? Name the common Di-electric Fluid used in the process.

   b) Draw the layout of 'Electro Discharge Machining Process?

   c) Differentiate between absolute and incremental coordinate system

   d) Enlist safety procedures to be followed while working on CNC

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

   a) Explain with sketch " Contouring path Motion Control System

   b) Explain with neat sketch 'Abrasive Jet Machining'

   c) Explain the term preparatory functions and miscellaneous functions in the context of CNC programming

   d) Explain with neat sketch 'Super finishing" Process

e) Differentiate between lapping and Honing process

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

  a) Write part program for a job as shown in Fig. No. 1. Take only finish cut. Spindle speed is 1200 rpm and feed rate is 150 mm/rev. Assume suitable machining data, if necessary.
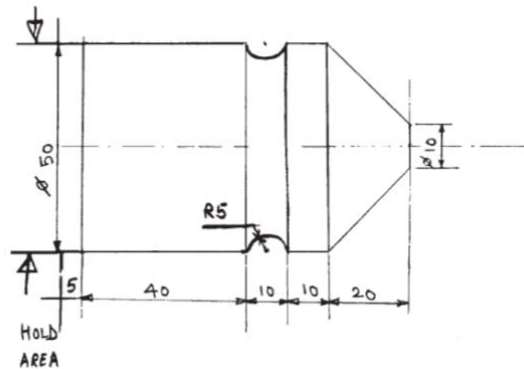

Fig No 1

  b) Explain with neat sketch Disc type Tool magazine with neat sketch

  c) Write the procedure of production of Hexagonal bolt on capstan and Turret lathe with neat sketch

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

  a) Prepare a part program for machining component as shown in Figure 2 Use following data: cutting speed : 1200 rpm, feed : 60 mm/min, thickness of component 3 mm, Tool reference position is 4 mm above the surface of the work piece. Assume suitable data if any. Neglect cutter radius compensation
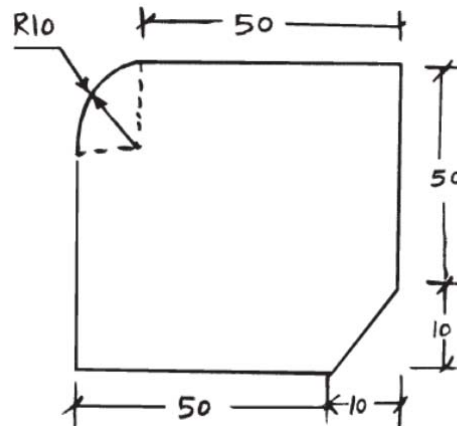

Figure 2

  b) Explain in brief " Honing process" with neat sketch

  c) Draw the constructional feature of 'Turret head Indexing Mechanism'

Scheme - I

Sample Test Paper - I

Program Name : **Diploma in Production Engineering / Production Technology**

Program Code : **PG / PT**

Semester : **Fourth**

Course Title : **Advanced Machining Processes**

22448

Marks : **20** **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 the working principle of Laser Beam Machining
   b. List any two applications of ' Wire cut discharge Machining'
   c. State the procedure of axis identification in CNC machines
   d. List different motion control system used in CNC machines
   e. Name the M code for "Coolant ON" and "End of programme"
   f. State the significance of Canned Cycle

Q.2 Attempt any THREE. (12 Marks)

   a. Differentiate between EDM and ECM
   b. Explain with neat sketch 'Abrasive Jet Machining
   c. Classify CNC machines
   d. Explain Absolute coordinate system In brief
   e. Explain the term preparatory functions and miscellaneous functions in the context of CNC programming.
   f. Prepare a part program to machine the work piece shown in figure on CNC lathe
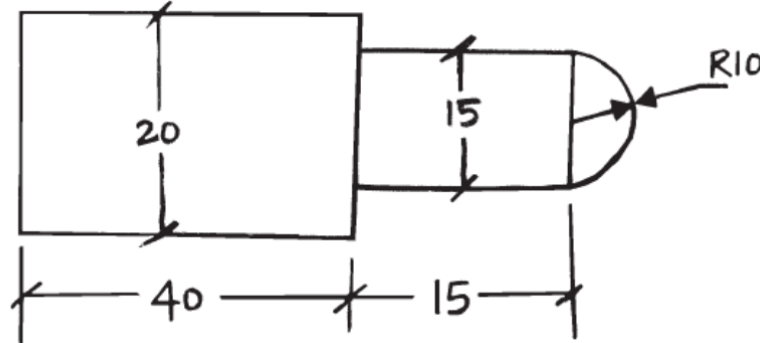
Scheme - I

Sample Test Paper - II

Program Name : **Diploma in Production Engineering / Production Technology**

Program Code : **PG / PT**

Semester : **Fourth**

Course Title : **Advanced Machining Processes**

Marks : **20**

22448

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. List different types of Inserts are used for CNC Milling machines

   b. State the function of Tool Magazines.

   c. State the functions of Surface finishing processes.

   d. Name different Super finishing process.

   e. List the major elements of SPM.

   f. Name the different operations carried out on capstan and turret lathe.

Q.2 Attempt any THREE. 12Marks

   a. Explain Tool Pre-setting procedure in CNC Milling machine

   b. Explain with neat sketch Disc type Tool magazine with neat sketch

   c. Differentiate between buffing and burnishing process

   d. Explain buffing process in brief

   e. Write the procedure of production of Hexagonal bo;t on capstan and Turret lathe with neat sketch

   f. Draw the constructional feature of 'Turret head Indexing Mechanism'