22448

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) 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 <u>FIVE</u> of the following:**   **10**

a) List any four applications of AJM machining.

b) List two different element of CNC machine.

c) Recognize need of non conventional machining.

d) Name the methods of surface finishing.

e) Name the axis of CNC machine.

f) List the general elements of SPM.

g) Name the codes for spindle start and coolent on.

Marks

2. Attempt any THREE of the following: 12

a) Differentiate between ECM and EDM.

b) Explain absolute and incremental coordinate system with suitable example.

c) Describe the tool presetting procedure.

d) Explain working of ATC in CNC.

3. Attempt any THREE of the following: 12

a) Explain tiny hole making process for nipple of baby feeder with neat sketch.

b) Explain the functions of dielectric fluid in EDM? Name the common dielectric fluid used in the process.

c) Distinguish between absolute and incremental coordinate system.

d) Explain subroutine with example.

4. Attempt any THREE of the following: 12

a) Explain with neat sketch control system used in CNC drilling machine.

b) Explain with neat sketch wire cut electric discharge machining.

c) Explain with neat sketch construction and working of CNC machine.

d) Explain honing process with neat sketch.

e) Distinguish between lapping and buffing process.

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

a) Write a part program for the following part as shown in Fig. No. 1. Assume suitable machining data. The raw material size is ϕ 35 × 60 mm long.
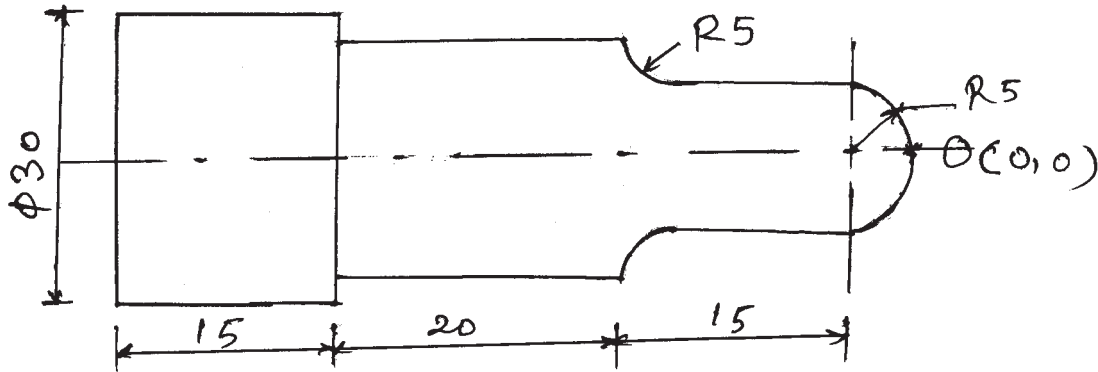

Fig. No. 1.

b) List type of tool magazine and explain any one type tool magazine.

c) Explain bar feeding mechanism of capston lathe with neat sketch.

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

a) Prepare a part program for machining a component as shown in Fig. No. 2. Assume suitable cutting speed and feed. Thickness of component is 4 mm and neglect the cutter radius compensation.
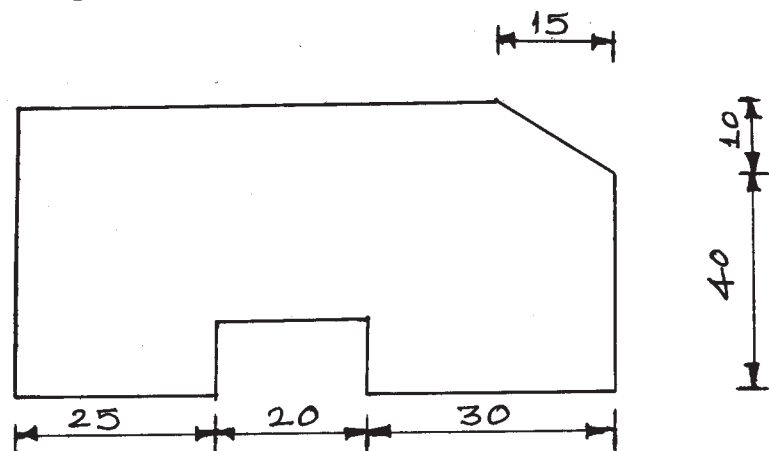

Fig. No. 2.

b) Explain burnishing process in brief with its applications.

c) Explain procedure of manufacturing hexagonal headed bolt on turret lathe with neat sketch.