# Computer Aided Manufacturing (EME031)

1. What is the need to automation for growing the country like India? Explain briefly.

2. Define a system? Make neat sketches and explain open and close loop systems.

3. What are the manufacturing systems and how are they distinguishing from production systems?

4. List out the advantages and disadvantages of NC systems. Under what circumstances use of NC would be preferred?

5. What is the difference between absolute positioning and incremental positioning?

6. To prepare the program for 4holes on a part as shown in the figure. Complete the sequence and coordinates to represent the movement of an NC drilling machine table. The drill diameter is 10mm and the Z position is zero at 90 mm above the table surface.(F= 150 ,S= 1000)
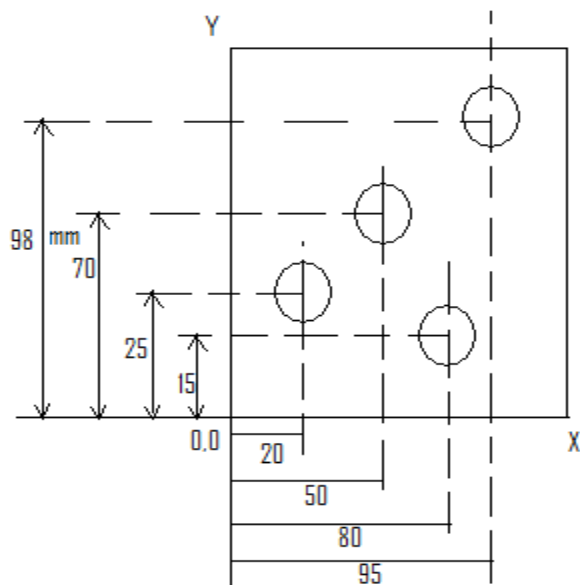

7.What is the principle of interpolators and explain briefly?

8.how is CNC distinguished from conventional NC ?

9. What is a system? The difference between a closed loop control system and an open control system?

10.What is the difference between point-to-point and continuous path control in a motion control system ?

11. What do you mean by word format? Explain briefly.

12.Explain the basic differences between NC and CNC machines?

13.List out the advantages and disadvantages of NC systems. Under what circumstances use of NC would be preferred?

14.List the advantages of computer aided part programming. What factors must be consider in the selection of a programming systems? Discuss.
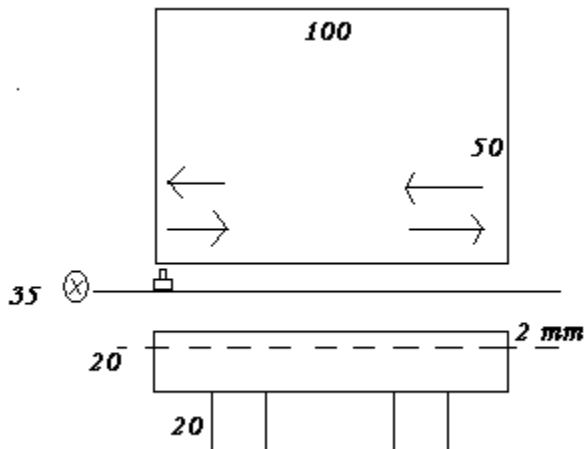
15.Write the NC part programming in word address format for drilling the three holes in the given figure?
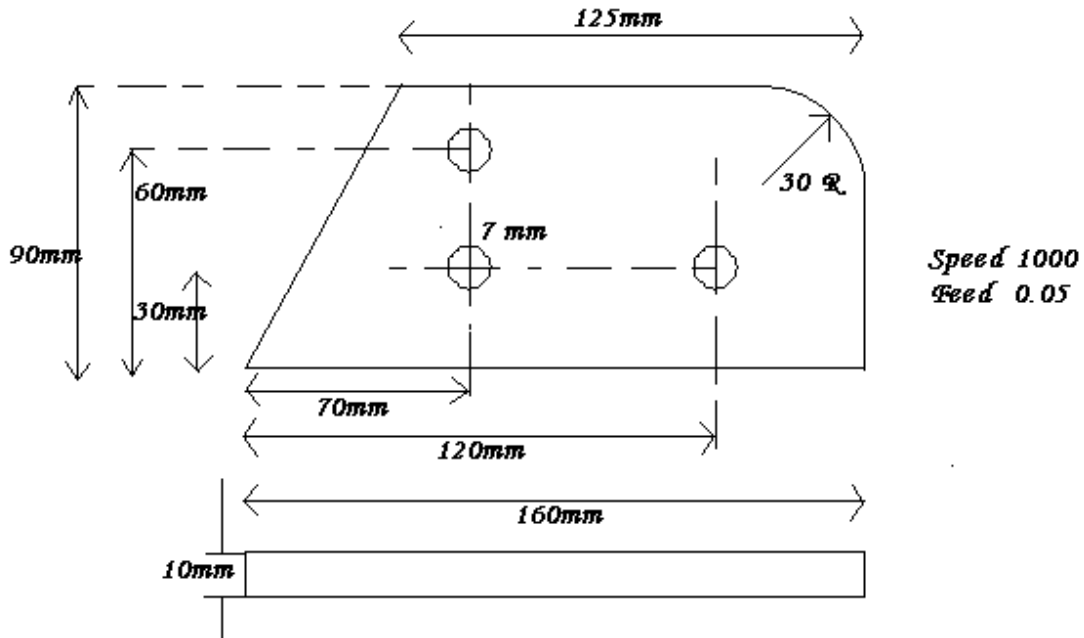
OR
16.What is APT ? Explain four basic types of statements in the APT language?

17.For plain milling operation, a workpiece of 100mm x 50 x 20 has to be machined, on the top surfaces with an end cutter of 20 mm dia. Take depth of cut 5 mm. Feed = 100

18.Write a short note on the following:
   (a) Lean production
   (b) Macro statement
   (c) Improving accuracy

19. Explain about digital differential analyzers'?

20. Write a short note on
   A.DC Motor
   B.Stepping Motor
   C.Adaptive control

21. Briefly describe the three phases of the analog-to-digital conversion process?

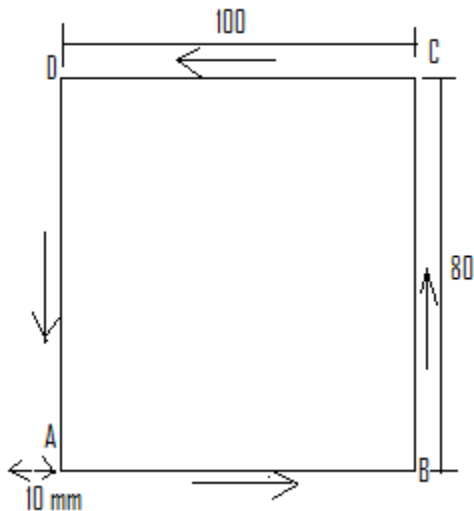**22.** Define what is group –Technology. Enumerate its benefits and disadvantages.

23. Differentiate between cellular manufacturing and flexible manufacturing. Indicate their areas of application

24. Write a short note on
   1. Linear interpolator
   2. Counting devices

25. Briefly describe about the digital to analog conversion process?
1.Part programme of milling operation (straight line) tool position = 10mm above the job in z direction and (-) 10 mm in the X direction. F = 200

26. Briefly explains about part programming with APT and what are the basic types of statement in the APT language?

27. Write short notes on
   1. APT Geometry statements.
   2. APT Motion commands.
28. Briefly explain about the contouring motions?
29. Make the difference between postprocessor and auxiliary statement?

30. Write the APT motion commands to profile mill the outside edges of our (any) sample work part?

31. Define what is group –Technology. Enumerate its benefits and disadvantages.
32.Differentiate between cellular manufacturing and flexible manufacturing. Indicate their areas of application.
33.Briefly explains about the concept of Mechatronics and MEMS.