Printed Pages—3   **TME702**

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0401   **Roll No.** [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

B. Tech.

(SEM. VII) THEORY EXAMINATION 2011-12

COMPUTER AIDED MANUFACTURING (CAM)

Time : 3 Hours   *Total Marks : 100*

Note :–Attempt **all** questions.

1. Attempt any **four** parts of the following questions : **(4×5=20)**

    (a) Differentiate between CNC and DNC system.

    (b) Explain the dimensioning system used in NC machine.

    (c) Describe open loop and closed loop system used in NC machines.

    (d) What are the advantages of NC machines over conventional machines ?

    (e) What is adaptive control system ? Explain briefly.

    (f) Write short note on the various tape formats.

2. Attempt any **two** parts of the following questions : **(2×10=20)**

    (a) Explain the computer assisted part programming in detail and also explain the working of post processor.

    (b) Enlist and explain various motion statements in APT.

(c) Write manual NC part program to drill holes in a plate of thickness 10 mm as shown in Fig (1). Speed = 540 rpm and feed rate is 1 mm/min.
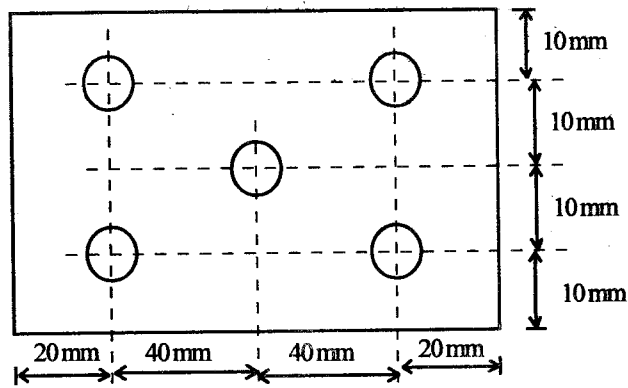

Fig.1

3. Attempt any **two** parts of the following questions : **(2×10=20)**

   (a) State the working principle and applications of :

      (i) Digital to analog convertor

      (ii) Stepper motor.

   (b) Explain with the help of a diagram, the principle and working of circular interpolator.

   (c) Discuss the construction and working principle of LVDT.

4. Attempt any **two** parts of the following questions : **(2×10=20)**

   (a) What is group technology ? How is it useful in FMS ?

   (b) Explain the CAPP briefly.

   (c) What is CIM ? Mention various elements of CIM.

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5. Attempt any **two** parts of the following questions : **(2×10=20)**

    (a) Compare between NC machines vs robots. Also briefly write types and generations of robots with applications.

    (b) What is artificial intelligence ? Discuss various elements of artificial intelligence.

    (c) What is a robot ? How is it classified based on manipulator ?