Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Automation & Robotics) (2012 & Onwards) (Sem.–6)

COMPUTER INTEGRATED DESIGN AND MANUFACTURING
Subject Code : BTAR-604
M.Code : 71067

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Answer briefly :**

   a) How is CAD related to CAM?

   b) List the functions of a graphics package.

   c) Differentiate between wireframe model and solid model.

   d) Write the matrix for rotation of a point in 3D about y-axis, with an angle α.

   e) List the basic components of NC machine tool.

   f) What is tool radius compensation? What are the codes used for radius compensation in CNC milling machine?

   g) What is flexible tooling?

   h) Differentiate between FMS and CIMS.

   i) List the important functions of a storage system.

   j) What is a feeder? Sketch any one feeder used in an industry.

SECTION-B

2.   Discuss the construction and working of CRT type of display devices.

3.   What are the key requirements of a solid model? Discuss the CSG type of solid representation scheme.

4.   What is a DNC machine? Discuss the different types of DNC systems.

5.   Discuss the following codes used in manual part programming on a CNC lathe machine :

   a)   G71/G70

   b)   G74

   c)   G92

   d)   G76

6.   Discuss the different components of AS/RS system.

SECTION-C

7.   What is AGVS? Discuss the different components of an AGVS.

8.   What is a parametric curve? What are its advantages? Derive the parametric equation of the following entities :

   a)   A line with starting point as P1 and end point as P2.

   b)   Circle with centre as (0, 0) and radius as 'r'.

   c)   Ellipse with centre as (0, 0), major axis as 'a' and minor axis as 'b'

9.   a)   What is CAPP? Can a CAPP system be attached to group technology concept? Discuss.

   b)   Define manufacturing. Discuss the different types of manufacturing systems.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.