G 490 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

Sixth Semester

Branch : Mechanical Engineering/Automobile Engineering

COMPUTER AIDED DESIGN AND MANUFACTURING (M,U)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*
All questions carry equal marks.

1. (a) Explain the output devices in CAD. **(10 marks)**

   (b) Discuss the methods of Engineering analysis. **(10 marks)**

Or

2. (a) Explain the procedure for automation of drafting. **(10 marks)**

   (b) With a block diagram, explain the working of a CIM system. **(10 marks)**

3. (a) Differentiate between open-loop and closed loop NC control systems. List its advantages over NC. Explain any two applications of CNC. **(10 marks)**

   (b) Compare : Contouring, Straight cut and Point-to-point systems. **(10 marks)**

Or

4. (a) What is distributed numerical control ? Discuss its advantages. **(10 marks)**

   (b) Write a note on classification of NC machine tools. Explain their driving devices too. **(10 marks)**

5. (a) Compare : Fixed block format, Tab sequential format and word address format. **(10 marks)**

   (b) Give examples for geometry commands, motion commands and post-processor commands in APT. **(10 marks)**

Or

Turn over

6. (a) Write a part program to drill a hole and generate internal threads on it (Assume s[illegible] dimensions). (10 marks)

   (b) With a suitable example, explain programming with interactive graphics. (10 marks)

7. (a) Explain the differences between variant and generative methods of process planning. (10 marks)

   (b) Briefly discuss the Opitz method of coding of parts. (10 marks)

Or

8. (a) Explain the softwares used for CAPP. Discuss their features. (10 marks)

   (b) Discuss the advantages of computer assisted process planning over manual process planning. (10 marks)

9. (a) Explain the 'degree of freedom' of an Industrial robot. What are the motions of the wrist of a robot ? (10 marks)

   (b) Discuss the procedure to estimate weight carrying capacity of a robot. (10 marks)

Or

10. (a) Discuss the application of an Industrial robot to material handling. (10 marks)

    (b) Explain the method of Kinematic analysis of an Industrial robot. Discuss the softwares used for this purpose. (10 marks)

[5 × 20 = 100 marks]