B.E. (Mechanical Engineering) Eighth Semester (C.B.S.)
Elective-II : Computer Integrated Manufacturing

P. Pages : 2

Time : Three Hours

NRT/KS/19/3665

0711

Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Diagrams and chemical equations should be given whenever necessary.
11. Illustrate your answers whenever necessary with the help of neat sketches.
12. Use of non programmable calculator is permitted.

1. a) Define automation, give its types and state the various reasons for automation. **7**

   b) "CIM is integrating CAD with CAM", critically comment. **6**

OR

2. a) With the help of neat sketch explain the various components of CIM. **7**

   b) "Concurrent engineering aims to reduce the lead time and product cost". Justify. **6**

3. a) What is motion control? Discuss various NC motion control in detail. **7**

   b) Compare and discuss between NC, CNC & DNC. **6**

OR

4. a) Write manual part programme to turn mild steel bar having diameter 42 mm and length 50 mm upto 32 mm over length of 20 mm. (Depth of cut = 1 mm, speed = 600 RPM, Feed = 0.1 mm/rev.) **8**

   b) Explain basic NC coordinate system with neat sketch. **6**

5. a) Define group technology. Discuss various attributes and structures used in GT. **7**

   b) Describe and elaborate the various steps involved in production flow analysis (PFA). **7**

OR

6. a) Enlist the various part coding systems. Explain in detail opitz's part coding system. **7**

   b) Discuss various types of layouts used in GT. **7**

7. a) What is FMS? when it is to be implemented? Discuss the various criteria's to be satisfied by FMS. **8**

b) Explain various types of workstations used in FMS. **5**

OR

8. a) Explain various types of FMS layouts with neat sketch. **7**

b) Explain in detail the computer control functions of FMS. **6**

9. a) Explain CAPP. Why it is needed? Discuss the benefits of it. **7**

b) Explain in detail the various steps involved in preparation of MPS. **6**

OR

10. a) With the help of neat sketch explain the retrieval type of CAPP. **7**

b) Discuss in detail the importance of MRP in manufacturing planning. **6**

11. a) Discuss with suitable sketch the various phases of shop floor control. **7**

b) Explain the various types of mechanical structures used in CMM. **7**

OR

12. a) What is CAQC? Explain and list down benefits of it. **7**

b) Explain various shop floor data collection techniques. **7**

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