

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

P. Pages : 2

Time : Three Hours



NRJ/KW/17/4721

Max. Marks : 80

- 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. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) With the help of CIM wheel, explain various components of CIM. 7
- b) Define Automation and Compare various types of automation on the basis of production volume and product variety. 7

OR

2. a) "Concurrent engineering aims to drastically Cut-down on product development time as well as cost". Critically discuss. 7
- b) Explain the evolution of CIM? Discuss any one CIM software. 7
3. a) Compare and discuss between NC, CNC and DNC. 7
- b) What are the basic components of Numerical control system? Describe them in brief with neat sketch. 7

OR

4. a) With the help of neat sketch explain the basic NC Co-ordinate system. 6
- b) Write a manual part programme to turn a mild steel bar given dimension in the figure. Assume speed = 600 RPM, feed = 0.1 mm/rev. 8

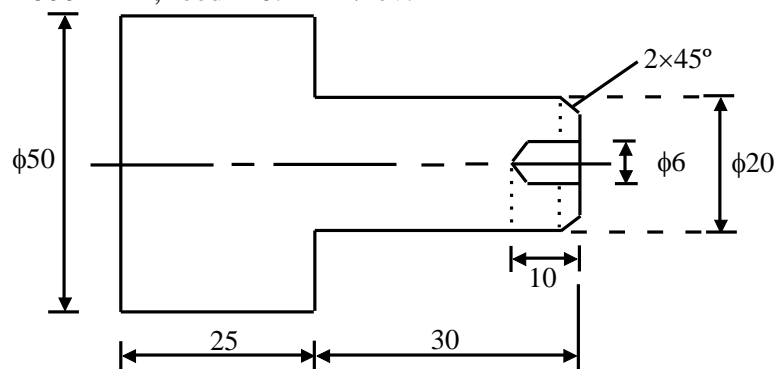


Fig. : 1 (All dimensions are in mm)

5. a) What is the 'Group Technology' concept in modern manufacturing? Discuss the interaction between FMS & GT. 7
- b) Explain and elaborate the various steps involved in production flow analysis. 6

OR

6. a) Explain opitz parts classification & coding system used in GT in detail. 7
- b) Explain in brief the machine cell design and its benefits. 6
7. a) What is FMS? Explain the types of FMS: by number of machines & level of flexibility in brief. 7
- b) Explain the various layout configuration giving their typical application areas. 6

OR

8. a) Discuss in brief FMS components. 7
- b) Explain the different flexibilities obtained in FMS. 6
9. a) What is CAPP? Explain the retrieval and generative CAPP system with benefits. 7
- b) Explain in detail the various steps involved in preparation of MPS (Master Production Schedule). 6

OR

10. a) Discuss in detail the importance of MRP in manufacturing planning. 7
- b) Explain in brief Aggregate production planning. 6
11. a) Explain various shop floor data collection techniques in detail. 7
- b) Define Inventory Control? Discuss the term pull system of production control. 6

OR

12. a) What is CAQC? Explain and list down benefits of it. 6
- b) What is CMM? With the help of neat sketches, Explain the different configuration of CMM. 7
