

Faculty of Engineering & Technology

Seventh Semester B.E. (Mech.)/Seventh Sem. B.E.

P.T. (Mech.) Examination

COMPUTER INTEGRATED MANUFACTURING
SYSTEM

Elective—II

Sections— A & B

Time : Three Hours] [Maximum Marks : 80
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INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
- (2) Answer **THREE** questions from Section A and **THREE** questions from Section B.
- (3) Due credit will be given to neatness and adequate dimensions.
- (4) Assume suitable data wherever necessary.
- (5) Illustrate your answers wherever necessary with the help of neat sketches.
- (6) Use of non-programmable calculator is permitted.

SECTION—A

1. (a) Define automation, give its types and state the various reasons for automation. rtmnuonline.com 7
- (b) Define CIM and explain the necessity of it in Present Industrial Scenario. 6

2. (a) Explain the role of CAE in product Design and Development. rtmnuonline.com 7
- (b) Discuss the basic structure of 'CAD' system along with its advantages and applications. 6
3. (a) What is FMS ? When it is to be implemented ? Discuss the various criterias to be satisfied by FMS. 8
- (b) With the help of neat sketch explain the basic components of NC. 5
4. (a) Write a manual part programme to turn a mild steel bar having dia. 40 mm upto 32 mm over a length of 20 mm. (Take Depth of Cut = 1 mm, speed = 600 RPM, Feed = 0.1 mm/rev.) 8
- (b) Give the basic classification of material handling equipments. rtmnuonline.com 5
5. Write short notes on (any *three*) :
 - (i) Robot applications
 - (ii) CMM
 - (iii) AGVS
 - (iv) DNC. 14

SECTION—B

6. (a) What is CAPP ? Explain the Retrieval type of CAPP. rtmnuonline.com 6

- (b) Define GT. Discuss the various Attributes and Structures used in GT. **rtmnuonline.com** 7
7. (a) With the help of neat sketch explain the various phases of Shop floor control. 7
- (b) Explain Computer-Aided Quality Control alongwith its objectives and integration of CAQC with CAD/CAM. 6
8. (a) What is simulation ? Explain the various types of simulation approaches. 8
- (b) What is interfacing ? Discuss the requirement of interfacing in Manufacturing. 5
9. (a) Explain in detail the various steps involved in preparation of MPS. **rtmnuonline.com** 7
- (b) What is capacity requirement planning ? Discuss short term and long term capacity planning adjustments. 6
10. Write short notes on (any **three**) :
- (i) Inventory Management
- (ii) Bill of Material
- (iii) Application of Simulation
- (iv) Job Costing **rtmnuonline.com**
- (v) Composite Part Concept. 14