

**B. TECH.**  
**(SEM V) THEORY EXAMINATION 2022-23**  
**COMPUTER INTEGRATED MANUFACTURING**

**Time: 3 Hours****Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.

**SECTION A**

**1. Attempt all questions in brief.****2x10 = 20**

- (a) What are the essential needs of CIM?
- (b) Differentiate between analytic surfaces and synthetic surfaces
- (c) What do you mean by BLOBBY OBJECTS?
- (d) Explain the term HALF SPACES
- (e) Differentiate G and M codes.
- (f) Discuss is the purpose of canned cycles?
- (g) State the main objectives of FMS.
- (h) What are the objectives of MRP system?
- (i) Define the term stereo lithography.
- (j) Define the meaning Tessellation?

**SECTION B**

**2. Attempt any three of the following:****10x3 = 30**

- (a) Explain the five levels of automation
- (b) Illustrate the concept of B-rep approach of solid modelling with example
- (c) List any five important factors to be considered while designing guide ways
- (d) Explain with neat sketch AS/RS system used in FMS
- (e) Examine with a neat sketch the working principle of fused deposition modelling process

**SECTION C**

**3. Attempt any one part of the following:****10x1 = 10**

- (a) List any ten strategies for automation and production systems
- (b) Compare between fixed, programmable and flexible automation system

**4. Attempt any one part of the following:****10 x1 = 10**

- (a) Using Bresenham's line algorithm, calculate the pixel positions along the line between end points (15, 8) and (28,16).
- (b) Classify and compare continuities in curve modeling

**5. Attempt any *one* part of the following: 10x1 = 10**

- (a) Sketch and explain the general configuration of Direct Numerical Control (DNC) system
- (b) List any five advantages of automatic tool changer (ATC).

**6. Attempt any *one* part of the following: 10x1 = 10**

- (a) Explain the classification and coding system in Group Technology
- (b) With block diagram, explain developing a retrieval type of computer aided process planning and generative type of computer aided process planning

**7. Attempt any *one* part of the following: 10x1 = 10**

- (a) Compare SCARA Robot configuration with other configurations
- (b) Examine the Classification of the different types of rapid prototyping techniques. Explain the Stereo lithography techniques with neat sketch

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