

[Total No. of Questions - 8] [Total No. of Printed Pages - 2]
(2123)

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M. Tech 1st Semester Examination
Computer Aided Design and Manufacturing
PE-105

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : This question paper carries eight questions. Attempt any five questions. All questions carry equal marks.

1. Explain the product life cycle and how it is influenced by CAD/CAM tool? **(20)**
2. State the function of mass storage devices. Classify the various mass storage devices used in CAD/CAM. Also differentiate between sequential access storage and direct access storage. **(20)**
3. Differentiate between:
 - (a) Windowing and clipping.
 - (b) Scaling, Translation and Rotation
 - (c) Hidden line removal and shading **(20)**
4. Explain the various methods used by CAD/CAM systems to create the following wire-frame entities:
 - (a) Point by incremental Cartesian co-ordinates.
 - (b) Line perpendicular to an existing line.
 - (c) Circle from a point and radius.
 - (d) Ellipse from centre along with major and minor axis. **(20)**

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5. Distinguish clearly between NC, CNC, and DNC. Also give the area of application, its limitations and advantages. **(20)**
6. State the working principle of analog graphics input devices. Also state the working of Digitiser, tablet and Joy stick. **(20)**
7. Explain the following:
 - (a) Surface of revolution
 - (b) Ruled surface
 - (c) Tabulated Cylinder
 - (d) Bezier Surface
 - (e) B-Spline Surface. **(20)**
8. Give mathematical representation of following surfaces:
 - (a) plane surface,
 - (b) ruled surface,
 - (c) Bezier surfaces. **(20)**