

[Total No. of Questions - 8] [Total No. of Printed Pages - 2]
(2125)

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M. Tech 1st Semester Examination

Computer Aided Design & Manufacturing (NS)

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 (20).

1. What do you mean by CAD/CAM hardware? State the applications of hardware system in CAD/CAM as well as the working principle of mainframe based systems. (20)
2. Define the central processing unit. Discuss the various operating units of CPU. Also give the functioning of the Program Counter, Instruction register, Memory address register, Accumulator, Status register, and Arithmetic and Logic unit. (20)
3. State the working principle of graphics display devices. Also explain the direct view storage tube, directed beam refresh tube and raster scan display. (20)
4. State the purpose of graphics standards. Elaborate the GKS and CORE, IGES, VDI and VDM, CGI and CGM graphics standards. (20)
5. Explain the concept of the three basic Boolean operations used in solid modeling. Give neat sketches showing effect of these operators on any two basic primitives. (20)

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6. A line is defined by its end points (2, 3, 1) and (6, 4, 5). Express it in matrix notation. Determine the concatenation of the following transformation in succession on this line. (20)
7. Discuss the Wire-frame, C-rep and B-rep techniques of the solid modeling. (20)
8. Describe following NC part programming:
 - (a) Manual Part programming.
 - (b) Computer assisted part programming.
 - (c) Programming with APT.
 - (d) NC Part programming using CAD/CAM Technology. (20)