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Question Paper Code : X10707

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020 AND
APRIL/MAY 2021

Sixth/Seventh Semester

Mechatronics Engineering

ME 8691 – COMPUTER AIDED DESIGN AND MANUFACTURING

(Common to Mechanical Engineering)

(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. Plot the various stages of Product Life Cycle.
2. What is meant by Clipping ?
3. Give any two characteristics of B-spline curves.
4. Name the two basic approaches followed in solid modeling.
5. What is meant by CAD data exchange ? Mention its importance.
6. What is application of IGES ?
7. What is the difference between incremental and absolute system ?
8. What is meant by G00,M30 in CNC part programming ?
9. What is the weakness of PFA ?
10. How does FMS classified based on number of machines ?



11. a) What is Design Process ? Explain briefly the steps involved in design process.

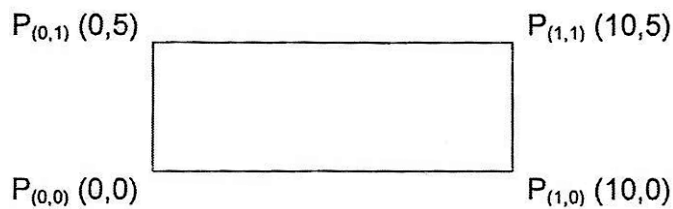
(OR)

- b) Explain line drawing algorithms.

12. a) Derive the equation for Hermite Cubic spline curve.

(OR)

- b) Find the equation of the Bezier surface with four corner points as shown in figure and also find midpoint of surface.



13. a) Explain about Graphics Kernel System (GKS).

(OR)

- b) Write short notes on Drawing Exchange Format (DXF) standard.

14. a) Explain the working and construction features of CNC with neat sketch.

(OR)

- b) What is canned cycle ? Explain any two drilling canned cycles with their syntax.

15. a) Define GT ? Explain OPITZ coding system for GT.

(OR)

- b) Explain the different flexibilities in FMS.

16. a) A rectangle with co-ordinate A(2,3), B(2, 5), C(6, 5) and D(6, 3) is reflected along line whose equation is $y = 2x + 4$, and sheared by 2 units in x direction and 2 units in y direction. Find the new co-ordinates of the object.

(OR)

- b) Derive the equation for Bezier Curve. Find the equation of a Bezier curve which is defined by the four points as $P_0(2, 2, 0)$, $P_1(2, 3, 0)$, $P_2(3, 3, 0)$ and $P_3(3, 1, 0)$ also find the points on the curve for $u = 0, \frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1$.