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Code No.: 32413 AS

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
B.E. (Mech. Engg.) III Year II-Semester Advanced Supplementary Examinations, June/July-2017

CAD/CAM

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1. Differentiate the interpolation and approximation curve.
2. How do you compute a knot in a B Spline curve?
3. Sketch the variation of Hermite shape function against the parameter u ($0 \leq u \leq 1$) of a cubic spline.
4. Enlist five surface entities.
5. Distinguish between fixed canned cycles and variable canned cycles.
6. Mention the situations in which the use of numerical control machines will be the most appropriate ones.
7. Distinguish between a CNC machine and a machining centre.
8. State the interpolation G functions for lathe in a FANUC controller.
9. What is flexible manufacturing system?
10. Enlist the elements of CIMS.

Part-B (5 × 10 = 50 Marks)

11. a) What are the characteristics of Beizer curve? [3]
b) Sketch the Beizer curve with 4 control points A(1,1) B(2,3) C(4,3) D(3,1). Discuss its continuity [7]
12. a) Distinguish between Beizer and B Spline Surfaces [4]
b) Reflect the polygon about the line $y=2$ whose vertices are A(-1,0) B(0,-2) C(1,0) D(0,2). [6]
13. a) Write a CNC lathe programme for a step turning of a bar of size 100mm long × 25mm dia to 10mm and 15mm dia at a length of 25mm each. [6]
b) Enlist advantages and disadvantages of NC systems. [4]
14. a) Distinguish between CNC and DNC systems. [4]
b) With neat sketch explain the types of end effectors and its applications of a Robot. [6]
15. a) What are the benefits of CAPP? [5]
b) Distinguish between Opitz and MICLASS coding system. [5]
16. a) Distinguish between parametric and non parametric curves. [5]
b) Distinguish between IGES and PDES formats. [5]
17. Answer any *two* of the following:
a) Absolute and Incremental systems [5]
b) G and M Codes for Milling [5]
c) Reverse Engineering [5]