Code No: 117BD R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, March - 2017

CAD/CAM

(Common to ME, AE, AME, MSNT)

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

Part- A (25 Marks)

1.a)	List out the computer peripherals' for CAD	[2]
b)	Differentiate between the database and data structure	[3]
c)	What is blending function?	[2]
d)	Write the parametric equation of Surface of revolution	[3]
e)	Define the MCU,DPU, CLU in NC system	[2]
f)	Differentiate the ACO and ACC type adaptive controllers	[3]
g)	What is an ideal cell?	[2]
h)	What are the benefits of MRP	[3]
i)	State the objectives of quality control	[2]
j)	Distinguish between the FMS and FMC	[3]

Part- B (50 Marks)

2.a) How CAD /CAM systems are evaluated? Explain in detail by categorizing different evaluation parameters during selection.
b) What is automation? Explain the various categories of automation. [5+5]

OR

3.a) Compare the Bezier and B spline curves and derive the parametric equations of both.
b) What are the manipulation curve fitting techniques used in wire frame modeling? [5+5]

4.a) What is the difference between the B spline and Coon's surface ? Explain.
b) An ellipse wit semi major axis a=1 and semi minor axis b=5 is o be rotated, the axis of revolution passes through center of the ellipse and lies in the plane xy. Revolve this curve about x axis through $2\prod$ to obtain a surface revolution. Calculate the surface point at $\theta = \prod/2$ and $\Phi = \prod$. [5+5]

OR

5.a) With suitable example briefly explain about the C rep modeling and B rep modeling.
b) Differentiate between the linear sweep and rotational sweep. [5+5]

6.a) What are the major components of NC machine? Explain in detail
b) What are the advantages of computer assisted part programming over manual part programming. [5+5]

OR

7.a) Briefly explain functions of CNC and DNC systems.
b) What are the four types of statement in APT langaguge? [5+5]

8.a) What factors must be considered in selecting a classification and coding system

b) Discuss with examples of the following.
i) Mono code ii) Poly code iii) Mixed code. [5+5]

OR

9.a) Discuss a variant process planning system.

b) Explain the enterprise resource planning and capacity requirements planning. [5+5]

10.a) Explain principal components of FMS.

b) Discuss various attributes of guidance and AGV systems. [5+5]

OR

11.a) Sketch and explain elements of machine vision system.

b) What are benefits of CIM? [5+5]

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