JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, March - 2017
CAD/CAM
(Common to ME, AE, AME)

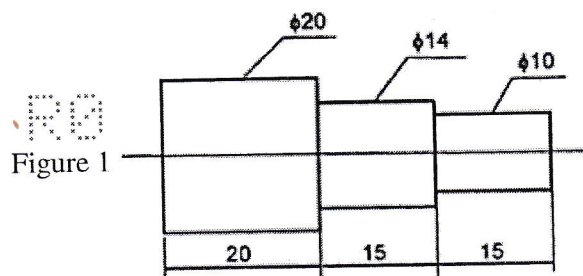Time: 3 Hours

Max. Marks: 75

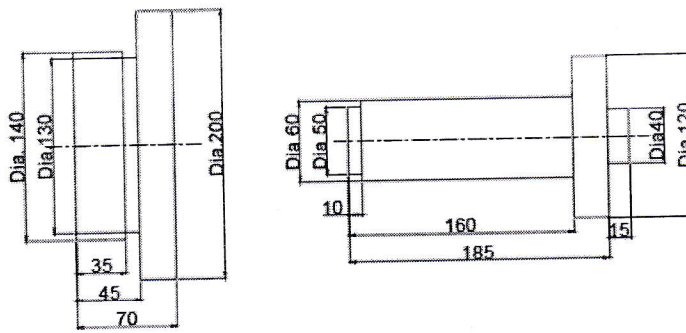**Answer any Five Questions**
All Questions Carry Equal Marks

- - -

1.a) Discuss the stages in the product life cycle and the importance of each stage.
  b) What is the function of a frame buffer?

[8+7]

2.a) Make a comparative study of hidden surface removal algorithms.
  b) Show that transformation matrix for a reflection about the line Y = - X is equivalent to a reflection relative to the Y – Axis, followed by a counter clock wise rotation of 90^0. [7+8]

3.a) What is the advantage of parametric form of curves and surfaces in designing curves and surfaces?
  b) What are the Boolean operations used in solid modeling?

[8+7]

4.a) What are the commands and their sequence to create 2D and 3D wire frame models of a spur gear?
  b) How do you set the dimension variables for Aligned dimensioning, unilateral dimensioning and Chain dimensioning.

[8+7]

5.a) What are the axes of a 4 axes machining centre?
  b) Write a manual program for step turning operations using G90 cycle for the component given in figure 1. All the dimensions are in mm only.

[7+8]

Figure 1

6.a) Compare variant and generative process planning methodologies.
  b) Two components are shown in Figure 2. Do they belong to the same part family? Discuss.

[7+8]

Figure 2

7.a) What is the significance of quality control in CIM?

   b) Write a short note on non-contact non-optical inspection techniques.   [7+8]

8.a) Describe in detail about manufacturing systems classification scheme.

   b) Enumerate the various factors involved in the Selection of Machine Tools and its related equipment in the manufacturing system.   [7+8]

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