

Registration no:

--	--	--	--	--	--	--	--	--	--

Total Number of Pages: 02

**B.Tech**  
**PEME5302**

**5<sup>th</sup> Semester Regular / Back Examination 2016-17**

**CAD AND CAM**

**BRANCH(S): AERO, MECH**

**Time: 3 Hours**

**Max Marks: 70**

**Q.CODE: Y315**

**Answer Question No.1 which is compulsory and any five from the rest.  
The figures in the right hand margin indicate marks.**

**Q1 Answer the following questions: (2 x 10)**

- a) Write the major differences between an engineering workstation and a PC.
- b) Give the benefits of integrated CAD/CAM system.
- c) What do you understand by fixed zero and floating zero in NC coordinate systems?
- d) What do you mean by parametric representation of geometric entities?
- e) How are the Bezier curves different from the cubic spines?
- f) What do you mean by tool length compensation, explain briefly?
- g) Draw the basic structure of CAD software and explain its main parts.
- h) What is AGV? Explain briefly.
- i) Discuss the use of various display commands available in a drafting package.
- j) Describe various G and M codes used in CNC machines?

**Q2 What is a general design process? Explain the application of computers for the design process with a block diagram. (2+8)**

**Q3 a) A line is defined by its end points (0,0) and (2,3) in a two-dimensional graphics system. Express the line in matrix notation and perform the following transformations on this line: (5)**

(a) Scale the line by a factor of 2.0

(b) Scale the original line by a factor of 3.0 in the x direction and 2.0 in the y direction.

(c) Translate the original line by 2.0 units in the x direction and 2.0 units in the y direction.

**b) What are the criteria for evaluation of CAD software? Discuss. (5)**

**Q4 a)** What do you understand by geometric transformation? Explain any three common transformations used in computer graphics. **(5)**

**b)** Discuss the different languages available? Explain about APT language. **(5)**

**Q5 a)** What are the different approaches in CAD graphics terminal? Explain about the graphics terminal. **(5)**

**b)** What do you mean by NC motion control system? Explain briefly. **(5)**

**Q6 a)** What are the functions of a DNC? Discuss the advantages over the CNC. **(5)**

**b)** Differentiate between wire frame modeling and solid modeling. **(5)**

**Q7** What are the basic components of NC system? Describe them briefly. **(10)**

**Q8 Write short answer on any TWO: (5 x 2)**

**a)** Operation input devices

**b)** Adaptive control manufacturing system

**c)** Editing

**d)** Manufacturing database