

Printed Pages: 02

Subject Code: EAU 701

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID:

Roll No.

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B.Tech.

(7<sup>th</sup> Semester) Carry Over Theory Examination 2014-15

CAD/CAM

**Time: 3 Hrs****Total Marks: 100**

- Note:** (i) The Question Paper contains two sections – A & B.  
(ii) Attempt all the questions. Each question Carry equal marks.  
(iii) Follow the guidelines and be precise in your answer.  
(iv). Assume suitable value for missing data.

**Section - A**

Q.1 Attempt any FOUR of the following

(5\*4 marks)

- Describe the light pen input device used in CAD.
- Draw the wire frame model and solid model of a rectangular block.
- Differentiate between manual and automatic inspection.
- List six NC words used in part programming.
- What are the NC motion control systems? Describe any one of them.

Q.2 Attempt any FOUR of the following:

(5\*4 marks)

- List the six storage devices used in CAD/CAM
- Draw the block diagram of the basic structure of CAD/CAM system with its meaning.
- Draw configuration diagram of DNC system and give the function of each component.
- Explain coordinate system used in CNC.
- Define CIM and list four benefits of CIM.

Q.3 Attempt any FOUR of the following:

(5\*4 marks)

- Explain the constructive solid geometry (CSG) technique used in solid modeling.
- Explain the procedure to generate a cylinder placed on top of a rectangular block using any CAD software.
- Draw the product cycle in CAD/CAM environment.
- State with the help of an example the APT statements to generate points and lines.
- What is group technology? Discuss machine cell design in group technology?

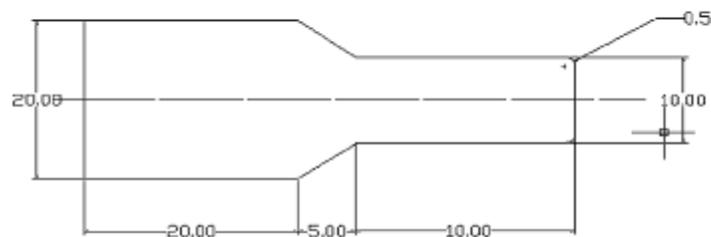
**Section - B**

Q.4 Attempt any TWO of the following: (10\*2 marks)

- Discuss briefly sweep representation giving basic elements and building operation with examples?
- Define surface entities and derives the parametric equations of the four analytical surface models?
- Describe part classification and coding used in group technology?

Q.5 Attempt any TWO of the following: (10\*2 marks)

- Explain the use of DO loops in NC part programming with the help of a suitable example.
- Write an NC part program for the following part. The raw material size is  $\Phi 25 \times 40$  mm long.



ALL DIM. ARE IN MM.

- Find the transformed coordinates when a square  $[(1,1), (2,1), (1,2) \& (2,2)]$  which is scaled for
  - Uniform scaling with a factor of 2 in XY plane?
  - Non uniform scaling with a factor of  $a$  and 1.5 in X and Y directions, while anchoring point (1,1)?