

Roll No.

22234

**M. Tech 2nd Sem. Mechanical Engg.
(Machine Design) (Elective - I)
Examination – May, 2018**

COMPUTER AIDED DESIGN

Paper : M-838

Time : Three Hours] [Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions. Each question carry equal marks.

1. A triangle ABC with vertices A(0,0), B(60,30) and C(0,30) is to be scaled by a factor of 2 about point (60,30). Determine : 20
- (i) The composite transformation matrix.
 - (ii) The co-ordinates of the vertices for a scaled triangle.

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P. T. O.

2. Explain, with neat sketches; the following two dimensional mappings : (a) Translation mapping (b) Rotational mapping (c) General mapping. 20
3. Design process and application of CAD ; product cycle with CAD/CAM; introduction to CAM and CIM. 20
4. Describe the terms : 20
- (a) Bezier curves
 - (b) B-spline curve
 - (c) Bezier surface
 - (d) Spline blended surfaces
5. Describe Non-Parametric Representation. 20
- (i) Explicit Non-Parametric Representation.
 - (ii) Implicit Non-Parametric Representation.
6. Solid modeling; Coons patch, fillet surface; Offset surface Advantages and limitation of Solid modeling.20
7. Explain : <http://www.HaryanaPapers.com> 20
- (a) Production Flow Analysis (PFA)
 - (b) Composite part method
 - (c) Parts classification systems
 - (d) Types of machine cell designs

8. Explain the following terms : 20

- (i) Element (ii) Node (iii) Element stiffness matrix
- (iv) Global stiffness matrix (v) Element load vector (vi) Global load vector.

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