II B. Tech I Semester Supplementary Examinations, May - 2018
COMPUTER GRAPHICS
(Computer Science & Engineering)

Time: 3 hours   Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1. a) What is a View port   (2M)

    b) Distinguish the parallel projection and Perspective Projection view volumes.   (3M)

    c) Write about the primary and secondary colors.   (2M)

    d) List the problems with interpolated shading methods.   (3M)

    e) Write about Julia sets.   (2M)

    f) Where does the ray $r(t)=(3,2,3) + (-3,-2,-3)t$ hit the generic sphere?   (2M)

PART –B

2. a) Devise an algorithm for adjusting the height and width of characters defined as   (7M)
        rectangular grid patterns.
    b) Write a routine to split a concave polygon using the vector method.   (7M)

3. a) Write a routine to convert the polygon definition of a three-dimensional object   (7M)
        into an octree representation.
    b) Derive the matrix form for the cubic Bezier curves.   (7M)

4. a) Explain in detail about the methods of controlling animation.   (7M)

    b) Explain the procedure for drawing three dimensional scenes.   (7M)

5. a) Compare and contrast between flat and smooth shading models with necessary   (7M)
        examples.
    b) Explain the implementation of a two-pass object-precision shadow algorithm.   (7M)

6. a) Discuss the classification of Fractals.   (7M)

    b) Explain about Peano curves.   (7M)

7. a) Explain various Boolean operations on compounded objects.   (7M)

    b) Discuss the intersecting rays with a Cube or any convex polyhedron.   (7M)

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