Total No. of Questions : **11**]　　　　　　[Total No. of Printed Pages : **3**

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M.Sc. (Final) Examination, 2022
COMPUTER SCIENCE

Paper – MCS-204 (A)

(Computer Graphics and Multimedia)

Time : 3 Hours]　　　　　　　　　　　[*Maximum Marks : 50*

Section–A　　　　　　**(Marks : 2 × 10 = 20)**

Note :–　Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section–B　　　　　　**(Marks : 3 × 5 = 15)**

Note :–　Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **3** marks.

Section–C　　　　　　**(Marks : 5 × 3 = 15)**

Note :–　Answer any *three* questions out of five (Answer limit **500** words). Each question carries **5** marks.

Section–A

1. (i)　Write basic elements of Computer Graphics.

　　(ii)　Define Raster and Random scan display.

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(iii) Explain concept of Composite Transformation.

(iv) Write matrix representation of 3D translation.

(v) List *four* text clipping techniques.

(vi) Explain about modeling and texturing.

(vii) Write uses of Blender GUI Interface.

(viii) How is snap used to move object precisely ?

(ix) Write about motion blur and depth of filed.

(x) How does graphic editor work ? Explain.

Section–B

2. Scan convert a straight line whose end points are (5, 10) and (15, 35) using DDA algorithm.

Or

Write various applications of computer graphics.

3. Prove the following :

(i) 2 Translations are additive

(ii) 2 Rotations are additive

Or

Derive the matrix for 2D rotation about an arbitrary point.

4. Explain parallel projection with its types.

Or

Write any *one* method of hidden surface removal with example.

5. How simple creatures are created in Blender ?

Or

Write step for assigning glossy and reflective materials to object in Blender.

6. Explain the role of Blender in Computer Graphics.

Or

What do you mean by ambient occlusion ? Explain role of ambient occlusion effect in computer graphics.

Section–C

7. Write midpoint circle algorithm. Using the same, plot the circle whose radius is 10 units.

8. Translate the polygon with coordinates A(2, 5), B(7, 10) and C(10, 2) by 3 units in x direction and 4 units in y direction.

9. Write algorithm to clip line using Cohen Sutherland line clipping algorithm.

10. How do rotation and translation perform in Blender ? Explain with example.

11. How does editing animation happen in the graph editor ?