

Roll No : .....

Total No. of Questions : 11 ]

[ Total No. of Printed Pages : 3

# SP-700

M.Sc. (Final) Examination, 2021

COMPUTER SCIENCE

Paper - MCS-204 (A)

(Computer Graphics and Multimedia)

Time : 1½ Hours ]

[ Maximum Marks : 50

## Section-A

(Marks : 2 × 10 = 20)

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

(खण्ड-अ)

(अंक : 2 × 10 = 20)

**नोट :-** सभी दस प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 50 शब्द)। प्रत्येक प्रश्न 2 अंक का है।

## 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.

(खण्ड-ब)

(अंक : 3 × 5 = 15)

**नोट :-** सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा 200 शब्द)। प्रत्येक प्रश्न 3 अंक का है।

## Section-C

(Marks : 5 × 3 = 15)

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

(खण्ड-स)

(अंक : 5 × 3 = 15)

**नोट :-** पाँच में से किन्हीं तीन प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 500 शब्द)। प्रत्येक प्रश्न 5 अंक का है।

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SP-700 P.T.O.

**Section–A**

2 each

1. (i) What are basic elements of Computer Graphics ?
- (ii) Write the essential applications of Computer Graphics.
- (iii) What is Translation ?
- (iv) Differentiate between Rotation and Scaling.
- (v) What is Rendering ?
- (vi) Define term projection and lighting in Computer Graphics.
- (vii) What kind of things can you do with blender ?
- (viii) What is Subdivided Meshes ?
- (ix) Define scene with layers and groups.
- (x) What do you mean by bump mapping ?

**Section–B**

3 each

2. Explain DDA line Algorithm.

*Or*

Explain color model RGB. Compare it with HSV.

3. Explain matrix representation of 3D transformation.

*Or*

Define term translation, rotation and scaling in 2D transformation.

4. Define Animation. Explain principles of animation briefly.

*Or*

Explain the concept of clipping and hidden surface removal.

5. Explain how to create a simple creature.

*Or*

Explain the process of joining mesh objects and stitching vertices.

6. Explain the process of how to add motion blur.

*Or*

Explain how to create sky and ambient light.

**Section–C**

5 each

7. What is Scan Conversion ? Explain Raster scan system with the help of block diagram.
8. What is Homogeneous Co-ordinates ? Discuss the composite transformation matrices for *two* successive translations and scaling.
9. What is Animation ? Explain the principles of animation briefly.
10. Distinguish between translational and rotational motion. How to move objects precisely using snap ?
11. What do you understand by ambient occlusion ? Explain how to assigning glossy and reflective materials to objects.