	ADAMAS UNIVERSITY		
	END-SEMESTER EXAMINATION : MAY 2021		
	(Academic Session: 2020 – 21)		
Name of the Program: (Example: B. Sc./BBA/MA/B.Tech.)	BCA	**Semester:** (I/III/ V/ VII/IX)	IV
Paper Title :	Computer Graphics	**Paper Code:**	ECS32104
Maximum Marks :	**40**	**Time duration:**	3 hrs
Total No of questions:	08	**Total No of Pages:**	02
(Any other information for the student may be mentioned here)	1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer		

Answer all the Groups
Group A
Answer all the questions of the following $5 \times 1 = 5$

1.   a) What is bit depth?
b) Define 2D Rotation.
c) What is 4-connected polygon in Polygon Fill algorithm?
d) What is the importance of vanishing point?
e) What is an additive colour model?

GROUP –B
Answer *any three* of the following $3 \times 5 = 15$

2.   a) What is the major difference between passive and active Computer Graphics?
b) How is Computer Graphics being used in the Entertainment industry?   [2+3]

3.   Calculate the points between the starting co-ordinates (9,18) and ending co-ordinates (14,22) using Bresenham's line drawing algorithm. Mention the calculation steps.   [5]

4.   Differentiate between Parallel Projection and Perspective Projection. Mention five points of difference between them.
[5]

5.   a) Write the shearing equations for achieving shearing along Y-axis.

b) What is the matrix representation of the shearing equations used in shearing along Y-axis.
c) What is the need for 2-D Transformation?   [2+2+1]

GROUP –C

Answer *any two* of the following $2 \times 10 = 20$

6.   a) Explain the shadow mask method of producing colour display with a suitable figure.
b) Mention any three advantages and two disadvantages of the above method.
[5+3+2]

7.   a) What is clipping?
b) Define viewport.
c) Apply the Cohen-Sutherland algorithm to clip line P1(70,20) and P2(100,10) against a window lower left hand corner (50,10) and upper right hand corner (80,40).
[2+2+6]

8.   a) Explain the working procedure of Boundary Fill algorithm.
b) Differentiate between Raster scan display and Random scan display. Mention any five points of difference between them.
c) What is Spline?   [3+5+2]

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