JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

B.Tech- Vth Semester (CSE/IT)

COURSE CODE (CREDITS): 18B11CI515(3) MAX MARKS: 35

COURSE NAME: Computer Graphics

COURSE INSTRUCTOR: SSA MAX. TIME: 2 Hours

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	Use the Cohen Sutherland algorithm to clip line P1(35, 100)-P2(65,40) against a window A(50,10), B(80,10), C(80,40) and D(50,40)	1	4
Q2	Short Note: (a) NLN CLIPPING and (b) Inside Outside Test	2	2 x 2
Q3	Write down algorithm steps for Scan line filling algorithm. Elaborate with an example.	3	4
Q4	(a) Justify the statement such that two successive reflections about any line in the XY plane which intersects the coordinate origin is equivalent to a rotation in the XY plane about the origin. What do you understand by rigid body transformation? Describe it with transformation matrix and also specify a situation for rigid motion transformation.	4	4
Q5	Define solid modelling. Explain with the help of an example how constructive solid geometry (CSG) performs solid modelling?	5	4
Q6	Give the general classification of visible detection algorithm and explain any one algorithm in detail.	6	5
Q7	(a) What are the components of the standard Phong Illumination model? (b) What is the difference between Gouraud and Phong shading?	6	3 + 2
Q8	(a) What is image compression, and why is it needed? (b) Explain following terms: (i) Image Enhancement, (ii) Contrast Stretching, (iii) Histogram Equalization	6	2+1+1+1