Reg. No.																

Question Paper Code	13908

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2025

Seventh Semester

Computer Science and Engineering (AIML)

(Common to Artificial Intelligence and Data Science)

20ITOE910 - COMPUTER GRAPHICS AND MULTIMEDIA SYSTEM DESIGN

Regulations - 2020

Duration: 3 Hours Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Which of the following is an example of an Output Primitive in Two-Dimensional Graphics? (a) Translation (b) Line (c) Clipping (d) Viewing Coordinates	1	K1	CO1
2.	The process of removing parts of a two-dimensional graphic that are outside a specified region is called _____ (a) Transformations (b) Clipping (c) Viewing Pipeline (d) Projections	1	K1	CO1
3.	A sequence of two or more transformations applied to a Three-Dimensional object is known as _____ (a) Orthogonal Transformation (b) Composite Projection (c) Composite Transformation (d) Homogeneous Transformation	1	K1	CO2
4.	In 3D viewing, what defines the process of mapping a 3D scene onto a 2D plane? (a) Clipping (b) Scaling (c) Projections (d) Viewing Pipeline	1	K1	CO2
5.	Which color model is often used in subtractive color printing rather than additive displays? (a) RGB Colour Model (b) HSV Colour Model (c) CMY Colour Model (d) YIQ Colour Model	1	K1	CO3
6.	The programmer wants to adjust the hue and saturation of a color without affecting its lightness, which color model would be the most intuitive to use? (a) RGB (b) YIQ (c) CMY (d) HSV/HLS	1	K1	CO3
7.	Which of the following is NOT a fundamental component or process typically associated with Multimedia Basics? (a) Data and File Format Standards (b) Compression and Decompression (c) Two-Dimensional Geometric Transformations (d) Digital Voice and Audio	1	K1	CO4
8.	Given a requirement for real-time video streaming over a network with limited bandwidth, which aspect of Multimedia Systems Design becomes most critical? (a) Multimedia Databases (b) Compression and Decompression (c) Hypermedia Messaging (d) Full Motion Video Storage	1	K1	CO4
9.	The key difference between a standard Multimedia Message and a Hypermedia Message component is the inclusion of ____ (a) Digital Audio (b) Video (c) Text (d) Non-linear links/Interactive elements	1	K1	CO5
10.	Integrating different types of digital content into single cohesive navigable resource relates directly to the concept of ____ (a) Distributed Multimedia System (b) Full Motion Video (c) Hypermedia (d) Virtual Reality	1	K2	CO5

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

11.	Define a Line.	2	K1	CO1
12.	List the applications of input techniques.	2	K1	CO1
13.	Outline the properties of three dimensional transformations.	2	K2	CO2

14.	Compare and Contrast the two dimensional transformations and composite transformations.	2	K2	CO2
15.	Classify the types of projections.	2	K2	CO3
16.	Infer the properties of light.	2	K2	CO3
17.	What is meant by the multimedia?	2	K1	CO4
18.	Identify the needs of multimedia database.	2	K2	CO4
19.	Relate the characteristics of mobile messaging.	2	K2	CO5
20.	Categorize the hypermedia messaging.	2	K2	CO5
21.	Name the importance of user interface.	2	K1	CO5
22.	List the features of integrated document management.	2	K1	CO5

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23.	a)	Explain the Ellipse drawing algorithm with a suitable example.	11	K2	CO1
		OR			
	b)	Summarize the various attributes and input techniques with a real world example.	11	K2	CO1
24.	a)	Extend the two dimensional transformations with a suitable example.	11	K2	CO2
		OR			
	b)	Describe the three dimensional viewing with a relevant example.	11	K2	CO2
25.	a)	Illustrate the architecture of RGB Colour Model with a real world program.	11	K2	CO3
		OR			
	b)	Demonstrate the working principles of HLS Colour Model and its advantages.	11	K2	CO3
26.	a)	Explain Multimedia System Architecture and with its advantages.	11	K2	CO4
		OR			
	b)	Categorize the Multimedia Databases with a suitable example.	11	K2	CO4
27.	a)	Explain the Hypermedia Messaging with a real time example.	11	K2	CO5
		OR			
	b)	Illustrate the architecture of Distributed Multimedia System with an example	11	K2	CO5
28.	a)	Describe the working principles of Integrated Multimedia Message Standards and with its advantages.	11	K2	CO5
		OR			
	b)	Demonstrate with the neat sketch of hypermedia message components with a suitable example.	11	K2	CO5