

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

Jan/Feb 2025

Regular/Supplementary Examination: LY Semester: VII		Course Code: CEDLC7041_II and Course	
Date of Exam : <u>31-01-25</u>		Name: Augmented and Virtual Reality	
23/11/2024		Duration: 02.5 Hours	
		Max. Marks: 60	

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Define Augmented Reality and Virtual Reality		CO1	U
b)	Differentiate between marker - based and markerless AR		CO3	U
c)	Explain virtual reality in gaming.		CO1	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Sketch AR taxonomy.		CO2	U
b)	Explain the application of AR in gaming application.		CO6	U
c)	Discuss the role of 3D modeling in creating AR and VR experiences.		CO4	U
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	What are the challenges faced by research areas related to Virtual reality applications?		CO5	U
b)	What is quaternion? Derive $q = q_{roll}q_{pitch}q_{yaw}$		CO2	Ap
c)	What is restitution? Write the derivation for restitution.		CO3	Ap
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	How can storytelling be effectively integrated into VR experiences? Provide examples.		CO4	U
b)	Describe how AR can enhance the retail experience for consumers. Provide examples.		CO5	U
c)	Predict how AR and VR technology might evolve in the next decade. What innovations do you foresee?		CO6	U
