

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

* April – May 2023		
M.Tech. Program: Artificial Intelligence		
Examination: FY Semester: II		
Course Code: PCEDLC2045 and Course Name: Mixed Reality		
Date: 21/06/23	Duration: 2.5 Hours	Max. Marks: 60

Instructions:				
(1) All questions are compulsory.				
(2) Draw neat diagrams wherever applicable.				
(3) Assume suitable data, if necessary.				
		Max. Marks	CO	BT level
Q 1	Solve <u>any six</u> questions out of eight.	12		
i)	Differentiate between Augmented Reality and Mixed Reality.	2	CO1	Understand
ii)	What causes motion sickness? How can motion sickness be prevented or managed?	2	CO2	Understand
iii)	How do designers decide whether to use exocentric or egocentric interaction in their mixed reality applications?	2	CO3	Understand
iv)	Why X3D is a viable and proven standard platform for implementing AR/MR?	2	CO4	Understand
v)	How do physical controls affect immersion in mixed reality?	2	CO5	Understand
vi)	Explain with suitable example, how can mixed reality be used in manufacturing.	2	CO6	Understand
vii)	Discuss about haptic display in mixed reality.	2	CO2	Understand
viii)	Compare distant interaction vs direct interaction.	2	CO5	Analyze
Q.2	Solve <u>any four</u> questions out of six.	16		
i)	Explain the components of virtual reality.	4	CO1	Understand
ii)	Explain with neat diagram the general architecture of mixed reality system.	4	CO2	Understand
iii)	Compare isomorphic vs. non-isomorphic interaction techniques.	4	CO3	Analyze
iv)	State the features of React360 mixed reality development tool.	4	CO4	Remember

*April – May 2023 M.Tech. Program: Artificial Intelligence Examination: FY Semester: II Course Code: PCEDLC2045 and Course Name: Mixed Reality Duration: 2.5 Hours		Max. Marks: 60
--	--	----------------

v)	List and define the metrics to measure the performance of interaction techniques in mixed reality.	4	CO5	Remember
vi)	Illustrate the application of mixed reality in education domain.	4	CO6	Analyze
Q.3	Solve <u>any two</u> questions out of three.	16		
i)	Illustrate the usability guidelines for designing mixed reality systems.	8	CO2	Analyze
ii)	Discuss about the common navigation techniques in mixed reality environments.	8	CO3	Understand
iii)	State and explain the menu design directions for designing mixed reality interface.	8	CO5	Understand
Q.4	Solve <u>any two</u> questions out of three.	16		
i)	Explain various graphical UI design principles in mixed reality.	8	CO2	Understand
ii)	Explain in detail the interaction design process in mixed reality.	8	CO5	Understand
iii)	Develop a simple Pie Chart using Vega tool.	8	CO4	Apply
