(B)

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

Subject Code: 1PCEDLC2045   Subject Name: Mixed Reality   Date: 14/07/2022   EXTRA

April – May 2022
M.Tech(AI) Program: Computer Engineering
Examination: FY   Semester: II
Course Code: **1PCEDLC2045**   and   Course Name: **Mixed Reality**

Duration: 03 Hours   Max. Marks: 60

Instructions:
(1) All questions are compulsory.
(2) Draw neat diagrams wherever applicable.
(3) Assume suitable data if required, and state it clearly.

		Max. Marks	CO	BT Level
Qu-1	Solve any **Six** questions out of **Eight.**	12		
i)	Define VR toolkit. Explain in brief.	2	CO4	Understand
ii)	Describe implementation issues of gestural commands	2	CO5	Understand
iii)	What is virtual reality?	2	CO1	Remember
iv)	What are the three I's of Virtual Reality?	2	CO1	Remember
v)	What is Exploration-Based Learning?	2	CO6	Remember
vi)	What are the four basic interaction tasks? Explain any one.	2	CO3	Understand
vii)	Explain the terms Immersion and presence related to the VR.	2	CO2	Understand
viii)	Explain Usability Testing with simple example.	2	CO2	Understand
Qu-2	Solve any **Four** questions out of **Six.**	16		
i)	How does virtual reality differ from augmented reality?	4	CO1	Analyze
ii)	What are trackers? Enumerate some important tracker characteristics.	4	CO2	Understand
iii)	Explain the Egocentric Interaction Techniques.	4	CO3	Understand
iv)	Explain the Props and State related to React360.	4	CO4	Understand
v)	Explain applications of MR for Art and Entertainment.	4	CO6	Understand
vi)	Explain the system control issues related to the MR Interface Design.	4	CO5	Understand
Qu-3	Solve any **Two** questions out of **Three.**	16		
i)	What are the five classic components of a VR system? Explain with suitable diagram.	8	CO1	Understand
ii)	Justify the term: "Virtual reality is a new medium of expression for conveying artists' messages".	8	CO6	Evaluate

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iii)	Explain UI Design process with suitable diagram.	8	CO2	Understand
Qu-4	Solve any **Two** questions out of **Three**.	16		
i)	Diagrammatically represent the VR locomotion techniques and explain the physical locomotion techniques.	8	CO3	Apply

ii)	List and describe in short the three important files of React 360 project and interpret the working of following code:
	
	...
	r360.renderToSurface(
	  r360.createRoot('HMRTest', { /* initial props */ }),
	   r360.getDefaultSurface()
	  );
	// Load the initial environment
	
	r360.compositor.setBackground(r360.getAssetURL('360_world.jpg'));
	}
	window.React360 = {init};
		8	CO4	Apply

iii)	List and justify any four design guidelines of MR Interface Design.	8	CO5	Evaluate

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