BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)
B.Tech.Sem - VIII Computer Science & Engineering : WINTER : 2024
SUBJECT: AUGMENTED & VIRTUAL REALITY

Day : Saturday
Date : 07/12/2024

W-24353-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.:
1) All questions are Compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data wherever necessary.
4) Draw neat labeled diagrams wherever necessary.

Q.1	Define Augmented Reality and Virtual Reality. What are the challenges with AR?	(10)
	OR	
Q.1	Compare AR with mixed reality and extended reality. How are these terms related and how do they differ in terms of technology and user experience?	(10)
Q.2	Describe some applications of virtual Reality in architecture and manufacturing. How can VR be used to visualize complex designs and to improve productivity in these industries?	(10)
	OR	
Q.2	Discuss the role of tracking systems in Virtual Reality. What are some common tracking technologies used in VR and how do they contribute to the user's sense of presence?	(10)
Q.3	Discuss the challenges and limitations of converting complex 2D scenes to 3D models.	(10)
	OR	
Q.3	Define modelling transformations and explain their significance in virtual reality applications.	(10)
Q.4	Describe the role of input devices in VR systems. What are some common input devices used to interact with virtual environments and how do they work?	(10)
	OR	
Q.4	Explain the concept of gesture recognition in VR input devices. How can gesture recognition technology be used to interpret and respond to user movements in Virtual Environment?	(10)
Q.5	Write different approaches to AR development such as marker-based, markerless AR and projection-based AR. What are the advantages and limitations of each approach?	(10)
	OR	
Q.5	What are key components of an AR system and how do they work together? Describe the functionality of AR systems.	(10)
Q.6	Explain the challenges associated with designing user interfaces for AR/VR applications? How do factors like accessibility and user feedback impact UI design in AR/VR?	(10)
	OR	
Q.6	Describe strategies for enhancing interactivity in AR environments. How can AR systems incorporate gestures, voice commands and other forms of natural interaction to improve user engagement?	(10)

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