

VIRTUAL REALITY [As per Choice Based Credit System (CBCS) scheme] (Effective from the academic year 2016 -2017) SEMESTER – VIII			
Subject Code	15IS833	IA Marks	20
Number of Lecture Hours/Week	3	Exam Marks	80
Total Number of Lecture Hours	40	Exam Hours	03
CREDITS – 03			
Course objectives: This course will enable students to			
<ul style="list-style-type: none"> • Explain understanding of this technology, underlying principles, its potential and limits and to learn about the criteria for defining useful applications. • Illustrate process of creating virtual environments 			
Module – 1			Teaching Hours
Introduction : The three I's of virtual reality, commercial VR technology and the five classic components of a VR system. Input Devices : (Trackers, Navigation, and Gesture Interfaces): Three-dimensional position trackers, navigation and manipulation, interfaces and gesture interfaces. Text book1: 1.1, 1.3, 1.5, 2.1, 2.2 and 2.3			10 Hours
Module – 2			
Output Devices: Graphics displays, sound displays & haptic feedback. Text book1: 3.1,3.2 and 3.3			10 Hours
Module – 3			
Modeling : Geometric modeling, kinematics modeling, physical modeling, behaviour modeling, model management. Text book1: 5.1, 5.2 and 5.3, 5.4 and 5.5			10 Hours
Module – 4			
Human Factors: Methodology and terminology, user performance studies, VR health and safety issues. Text book1: 7.1, 7.2 and 7.3			10 Hours
Module – 5			
Applications: Medical applications, military applications, robotics applications. Text book1: 8.1, 8.3 and 9.2			10 Hours
Course outcomes: The students should be able to:			
<ul style="list-style-type: none"> • Illustrate technology, underlying principles, its potential and limits and to learn about the criteria for defining useful applications. • Explain process of creating virtual environments 			
Question paper pattern:			
The question paper will have ten questions. There will be 2 questions from each module. Each question will have questions covering all the topics under a module. The students will have to answer 5 full questions, selecting one full question from each module.			
Text Books:			
1. Virtual Reality Technology, Second Edition, Gregory C. Burdea & Philippe Coiffet, John Wiley & Sons			
Reference Books:			

Signature

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