Part A: Introduction				
Program: Certificate Course		Class: **B.Sc.--IT VI Semester**	**Year: 2024**	**Session:2024-25**
1	Course Code	**ITSE-6T**		
2	Course Title	**Advance Trends in Information Technology**		
3	Course Type	**Discipline Specific Elective (DSE)**		
4	Pre-requisite(if any)	As per Govt. Norms / Institutional Scheme		
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to: • Understand the functionality digital circuits. • Aware about logic gates • Understand the complexities of logical families. • Understand the concepts of Boolean algebra and applications of it. • Internal working of microprocessor. • Working of combinational and sequential circuit.		
6	Credit Values	**04 (03 Theory + 01 Practical)**		
7	Total Marks	**Max. Marks: 100 = 80Theory + 20 Internal Assessment**	**Min Passing Marks: 40**	

Part B: Content of the Course		
Total number of Teaching-Learning – Hours-45		
Unit	**Topics (Course Contents)**	**Hours**
I	**Mobile Communication:** Wireless Transmission: Frequencies for Radio Transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulation, Spread Spectrum, Cellular System. Wireless: Mobile Internet, GPS, 3G, 4G, Wi-Fi, Bluetooth, Social Networking.	11
II	**Tele Communications System:** GSM: Mobile Service, System Architecture, Radio Interface, Protocols, Localization and Collin, Handover, Security, New Data Services-DECT: System Architecture, Audio Interface, Protocol Architecture.	11
III	**Satellite Systems:** Satellite System Application: Geo, Meo , Leo, Handover, Routing algorithm and Examples. Broadcast Systems: Overview, Cyclical Repetition of Data-Digital Audio Broadcasting, Digital Video Broadcasting, Convergence of Broadcasting and Mobile Communications.	11
IV	**Introduction to Virtual Reality:** Key Elements, Components of VR Systems, Interface to Virtual Word, Rendering The Virtual World, Interacting with Virtual World, VRML Introduction and Concepts, VRML. Models. **Cloud Computing Basics:** Cloud Computing Components, Infrastructure, Services, Storage Applications Database, Cloud Security Services and Design Principles, Virtualization Fundamentals, SAAS and PAAS, ISSA and Cloud Data Storage, Cloud Application Development, Client Server Distributed Architecture for Cloud.	12