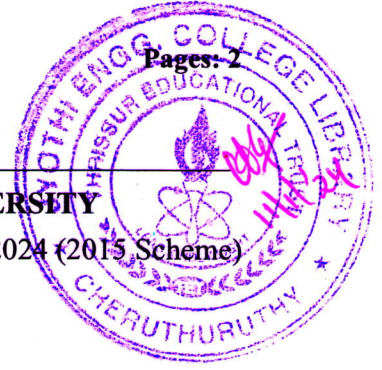B 04000EC404052004 Pages: 2

Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S8 (S, FE) / S8 (PT) (S, FE) Examination January 2024 (2015 Scheme)

Course Code: EC404
Course Name: ADVANCED COMMUNICATION SYSTEMS

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks.   Marks

1	a)	Explain the block diagram of a base band microwave repeater station.	(8)
	b)	Give the comparison between LCD, LED and Plasma displays.	(7)
2	a)	Explain the block diagram of Digital Video Broadcasting- Terrestrial (DVB-T) system.	(8)
	b)	Explain the need for protection switching arrangements. Compare the two types of protection switching arrangements.	(7)
3	a)	Explain the block diagram of a microwave transmitter station.	(8)
	b)	Explain the principles of MPEG-2 video coding.	(7)

PART B
Answer any two full questions, each carries 15 marks.

4	a)	Explain the block diagram of a satellite transponder.	(8)
	b)	Explain WIMAX architecture with necessary figure.	(7)
5	a)	Give the features of Bluetooth.	(4)
	b)	Explain the working of Wireless Local Loop.	(4)
	c)	Explain briefly the perturbation of satellite orbit. Describe various reasons for orbit perturbations.	(7)
6	a)	With block diagram, explain the operation of Very Small Aperture Terminal system (VSAT).	(8)
	b)	Compare 2G,3G & 4G systems.	(7)

PART C
Answer any two full questions, each carries 20 marks.

7	a)	Explain various techniques to improve the capacity of cellular systems.	(10)
	b)	Differentiate TDMA and FDMA.	(5)
	c)	Write notes on GPRS.	(5)

8 a) Discuss in detail GSM system architecture with figure.   (10)

   b) Discuss the 'handoff' strategies employed in the design of a mobile communication   (10)
       system.

9 a) Derive the time difference, phase difference and path difference between two rays   (10)
       in ground reflection (two ray) model.

   b) Write short notes on: -   (10)
       i) Enhanced Data Rate for Global Evolution (EDGE)
       ii) Digital Enhanced Cordless Telecommunications (DECT) data service

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