



## End Semester Examination – Nov/Dec – 2016

<b>Code</b> :	<b>14EC2038</b>	<b>Semester</b> :	<b>2016-17 ODD</b>
<b>Sub. Name</b> :	<b>CELLULAR MOBILE COMMUNICATION</b>	<b>Duration</b> :	<b>3hrs</b>
		<b>Max. marks</b> :	<b>100</b>

### ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Compare and contrast the features of SDMA, TDMA, FDMA and CDMA mechanisms.	CO1	16
	b.	What are the factors influencing the signal propagation in wireless medium?	CO1	04
		(OR)		
2.	a.	Explain in detail the different techniques used to improve coverage & capacity of cellular systems.	CO1	16
	b.	What is hidden and exposed terminal problem? How are collisions avoided during wireless transmission?	CO1	04
3.	a.	What is the need for frequency reuse? Explain the frequency reuse concept and show that $N=i^2+ij+j^2$ where N is the number of cells per cluster.	CO1	14
	b.	Discuss in detail about future trends of Cellular & Wireless systems.	CO1	06
		(OR)		
4.	a.	What are the consequences of choosing the cluster of (i) a large cell reuse cluster pattern and (ii) small cell reuse cluster pattern on the following parameters: (a) Spectrum Utilization Efficiency, (b) Carrier to Interference Ratio, (c) No. of calls per cell, (d) No. of channels available per cell.	CO1	14
	b.	What are the types of Handoff's encountered in mobile communication?	CO1	06
5.	a.	Explain the GSM system architecture and give its protocol specifications.	CO2	16
	b.	Draw and Explain the following GSM Radio Interfaces: • Mobile Station (MS) to Base transceiver Interface (BTS), • BTS to BSC, • BSC to MSC, and • Interfaces between other MS Entities.	CO2	04

(OR)

6.	a.	Discuss the features of GEO, LEO and MEO satellites.	CO2	16
	b.	What are the types of logical channels present in GSM ?	CO2	04
7.	a.	Explain the DAB transport mechanisms and give its channel and frame format specification.	CO2	16
	b.	Discuss about the DAB transmitter with neat block diagram.	CO2	04
<b>(OR)</b>				
8.	a.	Explain the user plane and control plane protocol layers of WATM.	CO3	16
	b.	Describe the reference models of WATM with further access scenarios.	CO3	04

**Compulsory:**

9.	a.	Discuss, in detail the dynamic source routing and dynamic host configuration protocol.	CO3	16
	b.	What are the motivations for Mobile IP?	CO3	04

ALL THE BEST

**Course outcome**

CO 1: Understand the state of art techniques in wireless communication.

CO 2: Learn the fundamental and emerging trends in Mobile Communication, wireless network/protocol architecture and broadcast system.

CO 3: Analyze the various wireless protocol architectures.