

# University of Mumbai

Program: Electronics and Telecommunication Engineering

Curriculum Scheme: Rev 2016

Examination: BE Semester VII

Course Code: ECC-702 and Course Name: Mobile Communication systems

Time: 2 hour 30 minutes

Max. Marks: 80

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<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	Which of the following is the world's first cellular system to specify digital modulation and network level architecture?
Option A:	GSM
Option B:	AMPS
Option C:	CDMA
Option D:	IS-54
2.	Previously in 1980s, GSM stands for _____
Option A:	Global system for mobile
Option B:	Groupe special mobile
Option C:	Global special mobile
Option D:	Groupe system mobile
3.	Who sets the standards of GSM?
Option A:	ITU
Option B:	AT & T
Option C:	ETSI
Option D:	USDC
4.	Which of the following memory device stores information such as subscriber's identification number in GSM?
Option A:	Register
Option B:	Flip flop
Option C:	SIM
Option D:	SMS
5.	Which of the following subsystem provides radio transmission between mobile station and MSC?
Option A:	BSS
Option B:	NSS
Option C:	OSS
Option D:	BSC
6.	_____ carries digitally encoded user data.
Option A:	Traffic channels
Option B:	Control channels
Option C:	Signalling channels

Option D:	Forward channels
7.	Which of the following channel provides paging signals from base station to all mobiles in the cell?
Option A:	RACH
Option B:	AGCH
Option C:	DCCH
Option D:	PCH
8.	Which of the following burst is used to broadcast the frequency and time synchronization control messages?
Option A:	FCCH and SCH
Option B:	TCH and DCCH
Option C:	RACH and TCH
Option D:	FCCH and DCCH
9.	Which of the following burst is used to access service from any base station?
Option A:	TCH
Option B:	RACH
Option C:	SCH
Option D:	FCCH
10.	_____ is a reverse link channel used by a subscriber unit to acknowledge.
Option A:	RACH
Option B:	AGCH
Option C:	DCCH
Option D:	PCH

<b>Q2.</b> <b>(20 Marks Each)</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	<b>Explain IS-95 forward and reverse channels structure in details.</b>	
B	<b>Draw and explain 3GPP LTE architecture and also discuss frames and slots in LTE</b>	
C	<b>Explain with appropriate diagram the concept of FDMA.</b>	

<b>Q3.</b> <b>(20 Marks Each)</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	<b>Write short notes on: i) Trunking ii) Grade of service</b>	
B	<b>Explain the use of two ray model to explain Mobile radio Path loss and antenna height effects.</b>	
C	<b>Describe the concept of software defined radio. Explain it in detail.</b>	

<b>Q4.</b> <b>(20 Marks Each)</b>	<b>Solve any Two Questions out of Three</b>	<b>10 marks each</b>
A	<b>Sketch and explain LTE network architecture and various interfaces.</b>	
B	<b>Compare IS95, WCDMA and CDMA2000</b>	
C	<b>Sketch UMTS network architecture and explain it in detail.</b>	