

University of Mumbai
Paper Code- 89383/Wireless Technology
Examination Summer 2022
Examination Commencement from 17th May to 31th May 2022

Program: T.E. (Information Technology)
(Choice Based) SEM VI- (REV-2020-21) (C Scheme)
TE Semester VI

Course Code ITC603

Time: 2 hours and 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for the following questions. All the questions are compulsory and carry equal marks
1.	Which is better for avoiding jamming
Option A:	Direct sequence spread spectrum
Option B:	Frequency hopping spread spectrum
Option C:	Time hopping spread spectrum
Option D:	Code division hopping spread spectrum
2.	CDMA uses handoff
Option A:	Hard handoff
Option B:	Hard & Soft hand off
Option C:	Soft Handoff
Option D:	Orthogonal Handoff
3.	UMTS use which multiple access technique?
Option A:	FDMA
Option B:	TDMA
Option C:	CDMA
Option D:	WCDMA
4.	2.5G allows standard web pages to be viewed in compressed format on mobile
Option A:	SAP
Option B:	WEP
Option C:	RAP
Option D:	WAP
5.	Carrier spacing used in GSM
Option A:	290KHz
Option B:	200KHz
Option C:	490KHz
Option D:	450KHz
6.	Wi-Max uses
Option A:	Channel division multiplexing
Option B:	Space division multiplexing
Option C:	Time division multiplexing
Option D:	Orthogonal frequency division multiplexing
7.	L2CAP layer in Bluetooth
Option A:	Handles data encryption
Option B:	Administration and control of all link actions
Option C:	Provides connection-oriented and connectionless data services to upper-layer protocols
Option D:	To join piconet

8.	What is the frequency range of IEEE 802.11a standard?
Option A:	2.4 Gbps
Option B:	5 Gbps
Option C:	2.4 Ghz
Option D:	5 GHz
9.	In Bluetooth the operating frequency band is
Option A:	2.4GHz
Option B:	9.4GHz
Option C:	8.4GHz
Option D:	9.4GHz
10.	WPA uses _____ Algorithm to check integrity of the packets.
Option A:	TKIP
Option B:	SAP
Option C:	DOA
Option D:	RAP

Q2 (20 Marks Each)	Solve any Two Questions out of Three 10 marks each
A	Explain the LTE network architecture.
B	i. Compare FDMA, TDMA and CDMA ii. Explain the protocol architecture of IEEE802.11
C	Draw and explain the GSM Time slot hierarchy

Q3 (20 Marks Each)	Solve any Two Questions out of Three 10 marks each
A	Explain spread spectrum and briefly outline DSSS and FHSS
B	Draw and explain WSN protocol layer architecture. Give the applications of WSN
C	State the features of WiMAX. Draw and explain the architecture of WiMAX

Q4 (20 Marks Each)	Solve any Two Questions out of Three 10 marks each
A	i. State the characteristics of MANET. ii. Give the Features of VANET and E-VANET
B	i. Write a Short Note on UMTS security ii. Compare WEP and WPA2 protocol.
C	State the features of Cisco Unified Wireless Network. Draw and explain Cisco Unified Wireless Network Architecture