TED (21) 5202
(Revision-2021)

2109230202

Reg.No.....
Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2023

MOBILE AND WIRELESS COMMUNICATION

[Maximum marks: 75] [Time: 3 Hours]

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	The network is divided into small geographical areas called …….	M1.01	R
2	The multiple access technique which uses different frequency band for different users is called ……..	M1.04	U
3	In GSM temporary data of users is stored in ……	M2.01	R
4	Expand the term GPRS.	M2.04	R
5	The organization that developed network standard for UMTS is called ….....	M3.01	R
6	IEEE standard for WiMAX is ……	M3.02	R
7	Name the frequency band used in Bluetooth.	M3.04	R
8	In which release, 3GPP introduced LTE?	M4.01	R
9	NodeB in 3G is replaced by …… in 4G.	M4.01	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Summarize on telecom regulatory bodies in India.	M1.05	U
2	List any three features of 1G network.	M1.03	R
3	List the three registers in NSS of a GSM network.	M2.01	R
4	Outline the services of IN in GSM network.	M2.03	U
5	List any three features of EDGE network.	M2.04	R
6	Explain UTRAN in UMTS Network.	M3.01	U
7	Explain briefly on OVSF codes.	M3.01	U
8	Differentiate between LTE and LTE-A.	M4.01	R
9	List any three features of IoT.	M4.03	R
10	Write a short note on Voice over LTE technology.	M4.01	U

PART C
Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Summarize different multiple access techniques used in mobile communication.	M1.04	U
	OR		
IV	Explain cellular network organization concepts including cell structure and frequency reuse.	M1.01	U
V	Outline the propagation effects on radio waves when travelling through air.	M1.03	U
	OR		
VI	Summarize different techniques to improve capacity in cellular network.	M1.02	U
VII	With the help of block diagram explain architecture of GSM.	M2.01	U
	OR		
VIII	Explain authentication process in GSM system.	M2.02	U
IX	Explain UMTS architecture with the help of a block diagram.	M3.01	U
	OR		
X	Explain Bluetooth technology and its protocol stack.	M3.04	U
XI	Describe the concepts of UMTS-CDMA technology in 3G cellular network.	M3.01	U
	OR		
XII	Write a note on Wi-MAX technology and list important features.	M3.02	U
XIII	Explain LTE architecture with block diagram.	M4.01	U
	OR		
XIV	Summarize concepts of 5G New Radio and features of 5G network.	M4.03	U

****