

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, NOVEMBER - 2024**

**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 area covered by a base station in a mobile communication network is called .....	M1.01	R
2	The multiple access technique in which different time slot for different users is called .....	M1.04	U
3	In GSM permanent data of users is stored in .....	M2.01	R
4	Expand the term EDGE.	M2.04	R
5	The organization that developed network standard for 4G is called .....	M3.01	R
6	IEEE standard for WLAN is .....	M3.03	R
7	Specify the frequency used in Bluetooth.	M3.04	R
8	Write any one modulation technique used in 4G.	M4.01	R
9	e-NodeB in 4G is replaced by ..... in 5G.	M4.04	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	Explain power control in Cellular Network (GSM).	M1.03	U
2	List any three examples for 1G network.	M1.05	R
3	List any three important registers in NSS of GSM.	M2.01	R
4	Write a note on GSM Air Interface.	M2.02	U
5	List any three features of EDGE network.	M2.04	R
6	Explain UTRAN in UMTS Network.	M3.01	U
7	Explain IEEE 802.16e Mobile Wi-Max.	M3.02	U
8	Differentiate between LTE and LTE-A.	M4.01	R
9	List any three differences between IoT and M2M.	M4.02	R
10	Write a short note on different 3GPP releases on 5G.	M4.04	U

**PART C**

**Answer all questions. Each question carries seven marks.**

**(6 x 7 = 42 Marks)**

		<b>Module outcome</b>	<b>Cognitive level</b>
III	Summarize the steps of mobile cellular call scenario. <b>OR</b>	M1.03	U
IV	Summarize different multiple access techniques used in mobile communication.	M1.04	U
V	Explain the concept of hand off and different hand off strategies in mobile network. <b>OR</b>	M1.03	U
VI	Summarize different techniques to improve capacity in cellular network.	M1.02	U
VII	Explain architecture of GSM with the help of block diagram. <b>OR</b>	M2.01	U
VIII	Describe concepts of CDMA IS-95 standard.	M2.04	U
IX	Explain UMTS architecture with the help of a block diagram. <b>OR</b>	M3.01	U
X	Explain Wi-Max Technology and list important features.	M3.02	U
XI	Describe concepts of OVVSF codes and its generation. <b>OR</b>	M3.01	U
XII	Write a note on W-LAN technology and list important advantages and disadvantages.	M3.03	U
XIII	Describe LTE architecture with block diagram. <b>OR</b>	M4.01	U
XIV	Summarize basic concepts and features of 5G-NR.	M4.04	U

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