30. a.	Explain in detail about global system for mobile communication architecture with neat diagram.	12	3	3	1
	(OR)				
b.	Describe in detail about universal mobile telecommunication system architecture with neat sketch.	12	3	3	1
31. a.	Describe in detail about how IP configurations are carried out using dynamic host configuration protocol.	12	4	4	1
	(OR)				
b.	Describe about transmission control protocol congestion control mechanism with a neat diagram.	12	3	4	1
32. a.	Explain the architecture of IEEE 802.11 standard with a neat sketch.	12	3	5	1
	(OR)				
b.	Explain in detail about WiFi and Wimax standards.	12	4	5	1

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Reg. No.														

B.Tech. DEGREE EXAMINATION, JUNE 2023
Sixth & Seventh Semester

18CSE458T - WIRELESS AND MOBILE COMMUNICATION
(For the candidates admitted during the academic year 2018-2019 to 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
1.	Assigning different slots for uplink and downlink using the same frequency is (A) Frequency division duplex (B) Code division duplex (C) Time division duplex (D) Space division duplex	1	1	1	1
2.	Which of the following is the drawback of frequency division multiplexing? (A) Complexity in demodulation (B) Only one signal can be transmitted (C) Need of synchronization (D) Occurrence of cross talk	1	2	1	1
3.	In wireless system, which is used to circumvent narrow band interference at certain frequencies. (A) Spread spectrum (B) Co channel interference (C) Frequency hopping (D) Cell splitting	1	2	1	1
4.	In code division multiple access two vectors are called orthogonal if their inner product is (A) 1 (B) 0 (C) –1 (D) 11	1	1	1	1
5.	Which of the following gives the least probability of error? (A) Amplitude shift keying (B) Frequency shift keying (C) Phase shift keying (D) Differential phase shift keying	1	2	2	1
6.	Identify which shape ensures maximum wide coverage in cellular region (A) Rectangle (B) Square (C) Circular (D) Hexagon	1	1	2	2
7.	Actual radio coverage of a cell is called (A) Foot print (B) Imprint (C) Fingerprint (D) Matrix	1	1	2	1

8. Cell splitting is known as subdividing the _____ into _____. 1 2 2 1
   (A) Small cell, micro cell (B) Congested cell, smaller cell
   (C) Macro cell, micro cell (D) Congested cell, transmitter cell

9. Identify which is the process of transferring mobile station from one base station to another 1 1 3 1
   (A) Mobile switching center (B) Roamer
   (C) Handoff (D) Forward channel

10. Global system for mobile communication is an example of 1 1 3 1
   (A) Time division multiple access system (B) Frequency division multiple access system
   (C) Code division multiple access system (D) Space division multiple access system

11. Which of the following services of global system for mobile communication gives additional services along with basic services, which will differ based on service providers, protocol, country? 1 2 3 2
   (A) Bearer services (B) Tele services
   (C) Supplementary services (D) Both bearer and tele services

12. Universal mobile telecommunication system uses. 1 1 3 1
   (A) Code division multiple access (B) Time division multiple access
   (C) Frequency division multiple access (D) Space division multiple access

13. Dynamic host configuration protocol client and servers on the same subnet communication via. 1 2 4 1
   (A) User datagram protocol broadcast (B) User datagram protocol UMcast
   (C) Transmission control protocol broadcast (D) Transmission control protocol UMcast

14. In transmission control protocol, sending and receiving data is done as 1 1 4 1
   (A) Stream of bytes (B) Lines of data
   (C) Sequence of characters (D) Packets

15. Wireless application protocol was mainly designed for 1 1 4 1
   (A) Computers (B) Pages
   (C) Networks (D) Mobile phones

16. In wireless markup languages, pages are often called as 1 1 4 1
   (A) Cards (B) Decks
   (C) Stream (D) Packets

17. The frequency range of IEEE 802.11 a standard is 1 2 5 1
   (A) 2.5 GHz (B) 5 GHz
   (C) 2.4 GHz (D) 2.9 GHz

18. Worldwide interoperability for microwave access uses 1 2 5 1
   (A) Orthogonal frequency division multiplexing (B) Time division multiplexing
   (C) Space division multiplexing (D) Channel division multiplexing

19. An interconnected collection of piconet is called 1 1 5 2
   (A) Scatternet (B) Micronet
   (C) Mininet (D) Multinet

20. Bluetooth is the wireless technology for 1 1 5 1
   (A) Local area network (B) Personal area network
   (C) Metropolitan area network (D) Wide area network

PART – B (5 × 4 = 20 Marks) Marks BL CO PO
Answer **ANY FIVE** Questions

21. Describe the advantages of modulation techniques in communication systems. 4 3 1 1

22. Discuss the principle of orthogonal frequency division multiplexing scheme. 4 3 2 1

23. Describe briefly about handoff mechanism in global system for mobile communication. 4 3 3 1

24. Brief about snooping transmission control protocol. 4 3 4 1

25. Differentiate between narrow band and wide band frequency modulation. 4 4 1 1

26. Give a note on the basic characteristics of mobile adhoc networks. 4 3 5 1

27. Elaborate on few real time applications of RFID technology. 4 3 5 1

PART – C (5 × 12 = 60 Marks) Marks BL CO PO
Answer **ALL** Questions

28. a. Describe in detail about digital modulation techniques with a neat waveform. 12 3 1 1

(OR)

b. Explain in detail about frequency hopping spread spectrum with a neat diagram. 12 4 1 1

29. a. Describe about multiple access technique with collision avoidance scheme in detail. 12 4 2 1

(OR)

b. Explain the significance of signal strength and other important cell parameters in cellular architecture. 12 4 2 1