

- b.i. Organize the types of satellite systems with neat sketch. 5 4 3 1
- ii. Identify the beneficiaries of GPS. 5 4 3 2
29. a. Elaborate the use of reverse tunneling concept in mobile IP and draw suitable diagram. 10 3 4 3

(OR)

- b. Discuss the features of WML with example programs. 10 2 4 3
30. a. Analyze IEEE802.11 architecture and frames types. 10 4 5 2

(OR)

- b.i. Draw the architecture of Bluetooth. 5 3 5 3
- ii. Discuss Wi-Fi standards. 5 2 5 3

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**B.Tech. DEGREE EXAMINATION, MAY 2022**  
Sixth Semester

18CSE458T – WIRELESS AND MOBILE COMMUNICATION  
(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

**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 40<sup>th</sup> minute.
- (ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours

Max. Marks: 75

**PART – A (25 × 1 = 25 Marks)**

Answer **ALL** Questions

- |  | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 1. In _____ high frequency radio waves radiate upward in to the ionosphere where they are reflected back to the earth.<br>(A) Ground propagation (B) Sky propagation<br>(C) Line-of-sight propagation (D) Layer propagation                        | 1     | 1  | 1  | 1  |
| 2. When the modulation index is greater than one, the signal is said to be _____.<br>(A) Under modulated (B) Two-tone modulated<br>(C) Over modulated (D) Three-tone modulated   | 1     | 2  | 1  | 2  |
| 3. Adjacent channel interference can be avoided by _____.<br>(A) Guard spaces (B) Overlapping area<br>(C) Multiplexing (D) Demultiplexing  | 1     | 2  | 1  | 1  |
| 4. In PSK, to receive the signal correctly, the receiver must synchronize in frequency and phase with the transmitter. This can be done using _____.<br>(A) Amplitude lock loop (B) Space lock loop<br>(C) Frequency lock loop (D) Phase lock loop | 1     | 2  | 1  | 3  |
| 5. Which filter is used to get the final FHSS signal?<br>(A) Low pass filter (B) High pass filter<br>(C) Band pass filter (D) Band stop filter   | 1     | 2  | 1  | 1  |
| 6. Which method of cellular network assists in minimizing the co-channel interference associated with the angle of degree?<br>(A) Cell splitting (B) Cell sectoring<br>(C) Cell segmenting (D) Cell dualization                                    | 1     | 2  | 2  | 3  |
| 7. Co-channel reuse factor Q is<br>(A) $3\sqrt{N}$ (B) $\sqrt{3}N$<br>(C) $\sqrt{3}(N)$ (D) $N\sqrt{3}$  | 1     | 2  | 2  | 1  |
| 8. Standard shape of cell is<br>(A) Circular (B) Hexagonal<br>(C) Triangular (D) Oval  | 1     | 2  | 2  | 1  |

9. Which of the following is not true for TDMA? 1 2 2 2  
 (A) Single carrier frequency for single user (B) Discontinuous data transmission  
 (C) No requirement of duplexers (D) High transmission rates
10. All users in CDMA system uses \_\_\_\_\_ carrier frequency. 1 1 2 1  
 (A) Different (B) Two  
 (C) Ten (D) Same
11. The permanent data of the subscriber is stored in 1 2 3 3  
 (A) HLR (B) VLR  
 (C) AU (D) EIR
12. VMTS uses which multiple access technique? 1 2 3 3  
 (A) CDMA (B) TDMA  
 (C) FDMA (D) SDMA
13. LOW satellite are at \_\_\_\_\_ kms above earth's surface. 1 2 3 1  
 (A) 3600 (B) 500-1500  
 (C) 6000-20000 (D) Above 20000
14. Airplane and boat pilots use GPS for 1 3 3 1  
 (A) Mapping (B) Limit setting in air or water  
 (C) Navigation (D) Bearing
15. WiMAX stands for 1 1 3 1  
 (A) Wireless Maximum Communication  
 (B) Worldwide Interoperability for Microwave Access  
 (C) Worldwide International Standard for Microwave Access  
 (D) Worldwide Maximum Communication
16. To solve the network addressing problem, a mobile host \_\_\_\_\_. 1 4 4 3  
 (A) Uses HDCP to change its address as it goes to a new network (B) Use two addresses, the home address and the care of address  
 (C) Borrows an address from the foreign network (D) Base address
17. For agent solicitation, mobile IP uses \_\_\_\_\_. 1 2 4 1  
 (A) A new packet type (B) Solicitation packet of IP  
 (C) Solicitation packet of TCP (D) The outer solicitation packet of ICMP
18. The behavior of TCP shows after the detection of congestion is called \_\_\_\_\_. 1 1 4 1  
 (A) Slow start (B) Slow down  
 (C) Wait to restart (D) Slow stop
19. \_\_\_\_\_ runs on top of a datagram service such as UDP and is part of the standard suite of TCP/IP protocols. 1 2 4 1  
 (A) Wireless Application Environment  
 (B) Wireless Markup Language  
 (C) Wireless Transport Layer Security  
 (D) Wireless Transaction Protocol

20. In WML, a deck contains a set of \_\_\_\_\_. 1 1 4 1  
 (A) Pages (B) Cards  
 (C) Text (D) Files
21. Which multiple access technique is used by IEEE802.11 standard for wireless LAN? 1 2 5 2  
 (A) CDMA (B) CSMA/CA  
 (C) ALOHA (D) Slotted ALOHA
22. A Bluetooth network is called a \_\_\_\_\_. 1 2 5 1  
 (A) Pico net (B) Scatter net  
 (C) Blue net (D) Internet
23. In IEEE 802.11, a BSS with an AP is sometime referred to as \_\_\_\_\_. 1 1 5 3  
 (A) An adhoc architecture (B) An infrastructure network  
 (C) Point-to-point network (D) Independent network
24. Which type of RFID tags are most common for supply chain and inventory management? 1 2 5 1  
 (A) Passive tags (B) Active tags  
 (C) Original tags (D) Duplicate tags
25. Which of the following technology is mainly designed for indoor coverage? 1 1 5 2  
 (A) 3GPP (B) LTE  
 (C) Femtocell networks (D) AMPS

**PART – B (5 × 10 = 50 Marks)**

Answer **ALL** Questions

Marks BL CO PO

26. a. Illustrate analog and digital modulation schemes with neat sketch. 10 4 1 1
- (OR)**
- b.i. Identify the advantages of spread spectrum. 3 3 1 2
- ii. Explain Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS). 7 4 1 2
27. a.i. Classify the shape of the cell. 3 1 2 1
- ii. Analyse the purpose of cell splitting and cell sectoring with diagram. 7 4 2 1
- (OR)**
- b.i. Distinguish pure ALOHA and slotted ALOHA. 4 4 2 1
- ii. Compare various multiple access technique. 6 4 2 1
28. a.i. Categorize the domains of GSM. 5 3 3 1
- ii. Illustrate EDGE technology in GPRS. 5 3 3 1
- (OR)**