

B. Tech 8th Semester Examination
Wireless and Mobile Networks (NS)
IT-424

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Any one out of given two questions in section A, B, C and D each has to be done. And all parts of section E are compulsory.

SECTION - A

1. (a) Out of pager, a cellular phone, and a cordless phone, which device will have the shortest battery life between charging and Why? (10)
- (b) Why is FM, rather than AM, used in most mobile radio systems today? Why is AM preferred over FM in broadcast communication? (10)
2. Compare the various wireless networks like LAN, PAN, MAN, and WAN on the parameters like, IEEE standards used, speed, range, modulation technique, security, and applications. (20)

SECTION - B

3. (a) What is near-far problems in wireless mobile communication? What is difference between wireless PAN and ad hoc networks? (10)
- (b) What is the difference between WPAN and WBAN technologies? Write down about latest trend in these technologies. (10)
4. (a) Explain Bluetooth with its data rate, modulation type, capacity, and status of slaves. (10)
- (b) What is the need of frequency reuse? What is difference between coverage and capacity? (10)

SECTION - C

5. (a) What is Wi-Fi and WLAN? Compare them. (10)
- (b) Explain the IEEE 802.11 p/r/n wireless standards. (10)
6. (a) Explain broadband wireless network and last mile problem. (10)
- (b) What is WAP? Why do we need WAP? (10)

SECTION - D

7. (a) What is mobile Ad Hoc network? What is the similarity between wireless sensor network and wireless Ad hoc network? (10)
- (b) Why standardization was required for WLAN? Explain the advantages and disadvantages of standardization? (10)
8. What is Vehicular Ad Hoc networks (VANETs)? Throw light on design issues in VANETs. (20)

SECTION - E (Compulsory)

9. Write short note on following:
 - (a) What is piconet and scatternet in Bluetooth?
 - (b) What is the difference between UWB and WiMAX?
 - (c) What is the difference between ad-hoc and infrastructure mode in IEEE 802.11?
 - (d) What is guard band?
 - (e) What is uplink and downlink channel in GSM and which of them lower and why?
 - (f) Mention some WPAN technologies, which are currently in use.
 - (g) What is fast fading and slow fading?
 - (h) What is LR-WPANs?
 - (i) What is hidden and exposed node problem in wireless networks?
 - (j) Write down advantages and disadvantages of WBAN. (10×2=20)