

(Arrear Examinations)

INFORMATION TECHNOLOGY

SEMESTER VI

IT 9352 – WIRELESS NETWORKS

(REGULATION – 2008)

Duration: 3 Hrs

Max Marks: 100

SEMESTER VI

Answer ALL Questions.

PART – A (10 X 2 = 20 Marks)

1. State the characteristics exhibit by a communication device.
2. Is a directional antenna useful for mobile phones? Why? How can the gain of an antenna be improved?
3. How are guard spaces realized between users in CDMA?
4. In what Situation can collision occur in IEEE802.11?
5. Mention few differences between infrastructure based and ad-hoc networks regarding roaming.
6. Why and when are different signaling channels needed?
7. Name the requirements for a mobile IP.
8. Name the main differences between multi-hop ad hoc networks and other networks.
9. Why is strong consistency of file systems problematic in a wireless and mobile environment?
10. What is the fundamental difference between WML and HTML?

PART – B (5 X 16 = 80 Marks)

11. a) i) Give the frequency spectrum and discuss the advantages and disadvantages of all the frequency bands. (8)
- ii) Discuss the mechanisms used for several users to share a medium with minimum or no interference. (8)

12. a) Discuss the ad-hoc capabilities of IEEE 802.11.

**OR**

b) Discuss in detail the power saving mechanisms of WLAN. What are the tradeoffs between power consumption and transmission QoS?

13. a) Give the functional Architecture of a GSM system and discuss its various components.

**OR**

b) State the need for Handover procedures required in cellular system and discuss different Handover scenario in detail.

14. a) Explain how tunneling works in general and especially for mobile IP using IP-in-IP, minimal and generic routing encapsulation respectively. Discuss the advantages and disadvantages of these three methods.

**OR**

b) i) How can DHCP be used for mobility and support of mobile IP? (10)

ii) Compare the different types of transmission errors that can occur in wireless and wired networks. What additional role does mobility play? (6)

15. a) i) Name mechanisms to improve web access for handheld devices. Discuss the common problem among these mechanisms. (8)

ii) Why does WAP define its own security layer and does not rely on the security provided by the mobile phone network? What problems does the WAP security layer cause? (8)

**OR**

b) What is the role of a WTA server? What are the different ways of integrating WTA servers into the WAP Architecture?