MCA 5th Semester End Term Examination- 2022

Wireless Communication Network

MCA05E06

Full Marks: 50 Time: 2 Hours

[The figures in the margin indicate full marks for the question]

Group A: Very Short Questions (5 X 2 = 10)

1) Name four major transmission techniques considered for WLAN standards.
2) What is the guard time of IEEE 802.1Ia / HIPERLAN - 2 OFDM modems? What is the purpose of the guard time?
3) How many different symmetric and asymmetric data services does Bluetooth support?
4) Explain the difference between WLAN and WAN.
5) What is PCF and RTS / CTS in 802.11?

Group B: Short Questions (3 + 4 + 3 = 10)

6)
a) Explain the difference between wireless inter - LAN bridges and WLANs.
b) Compare OFDM and spread spectrum technology for the WLAN application.
c) Why does the MAC layer of 802.11 have four address fields compared with 802.3, which has two?

(3 + 4 + 3 = 10)

7)
a) Explain why an AP in the 802.11 also acts as a bridge?
b) What is the difference between backoff algorithms in 802.11 and 802.3?
c) What is the purpose of PIF, DIF and SIF time intervals and how are they used in IEEE 802.11?

Group C: Descriptive Questions

8) (4 + 4 + (4 X 3) = 20)

a) Explain the similarities between the following:

i. HIPERLAN - 1 and IEEE 802.11
i. HIPERLAN - 1 and HIPERLAN - 2

b) Explain the general differences between the packet format of:

i. ATM and WATM
il. WATM and IEEE 802.11

c) Explain the architectural differences between HIPERLAN - 2 and IEEE 802.11

d) What is the difference between MAC protocol of Bluetooth and IEEE 802.11?

e) What are the differences between the implementation of paging and inquiry algorithms in Bluetooth?

f) Explain the differences between NPMA and CSMA/CA medium access control mechanisms used in HIPERLAN - 1 and IEEE 802.11 respectively.

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