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B. E. (Seventh Semester) Examination, Nov.-Dec. 2021

(New Scheme)

(CSE Engg. Branch)

MOBILE COMPUTING & APPLICATION

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

*Note : Attempt any **two** parts from (b), (c) & (d) from each unit. All questions carry equal marks and part (a) from each unit is compulsory having 2 marks. Draw the labeled diagram to support your answer.*

Unit-I

1. (a) In hexagonal geometry i and j are the two non-negative integers used to find the nearest co-channel neighbors of a particular cell. If $i = 2$ and $j = 2$ then

what is the value of Cluster Size (N) and Co-channel Reuse Ratio (Q).   2

(b) Explain Direct Sequence Spread Spectrum (DSSS) systems using suitable example.   7

(c) Explain the Elements of Cellular System Design.   7

(d) Compare SDMA, TDMA, FDMA and CDMA mechanisms.   7

Unit-II

2. (a) Write the services offered by GMS.   2

(b) Explain the functional architecture of a GSM System.   7

(c) Explain PACS system architecture.   7

(d) Explain DECT System architecture reference model.   7

Unit-III

3. (a) What do you understand by hidden node problems in Wireless Networks?   2

(b) Explain the components required to design a wireless LAN for 50 users base on IEEE 802.11 standard.   7

(c) Explain Bluetooth and its type also compare it with wireless LAN.   7

(d) Explain the phases of Elimination-yield non-preemptive priority multiple access (EY-NPMA) access scheme used in HYPERLAN 1.   7

Unit-IV

4. (a) Define Mobile Ad-hoc Networks (MANET).   2

(b) Explain how the communication between correspondent host and mobile host takes place in Mobile IP with the help of diagram.   7

(c) Compare the various classical TCP improvement approaches for mobility with advantages and disadvantages.   7

(d) Explain how IP address assignment in an organization can be done automatically using the Dynamic Host Configuration Protocol (DHCP).   7

Unit-V

5. (a) Define WAP gatway.   2

(b) Explain Wireless Application Protocol (WAP).   7

(c) Explain various 3G Wireless Operating System for 3G handset.   7

(d) Compare W-CDMA and CDMA 2000.   7