Seat No.

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MAR_APR 2025 SUMMER EXAMINATION

11731 Bachelor of Technology (NEP-2.0)

Sub. Name: Wireless Communication

Sub. Code: 67817/84861/85041

Day and Date: MAY ,19-05-2025 **Total Marks: 70**

Time: 10:30 AM To 01:00 PM

Instructions:
1. **All questions are compulsory**
2. **Assume suitable data wherever necessary and mention it boldly**
3. **Draw neat labelled diagrams wherever necessary**
4. **Figures to the right indicate full marks**
5. **Use of Scientific calculator is allowed**

Q1) Solve following MCQ. **[14]**

i. Why neighboring stations are assigned different group of channels in cellular system?

A. To minimize interference
B. To minimize area
C. To maximize throughput
D. To maximize capacity of each cell

ii. MAHO stands for _____

A. MSC assisted handoff
B. Man assisted handoff
C. Machine assisted handoff
D. Mobile assisted handoff

iii. The received power is attenuated by a factor called.

A. Path loss &Free space loss
B. Path loss
C. Free space loss
D. None of the mentioned

iv. Direct RF pulse system helps in calculating.

A. Impulse response in frequency domain
B. Impulse response in phase domainSame
C. Power delay of the channel
D. All of the above

v. _____ leads to time dispersion and frequency selective fading.

A. Doppler spread
B. Multipath delay spread

C. Time dispersive parameters
D. Frequency delay spread

vi. In _____ systems, resources are allocated on demand.
A. packet switching
B. circuit switching
C. line switching
D. frequency switching

vii. Which of the following specifies a set of media access control (MAC) and physical layer specifications for implementing WLANs?
A. IEEE 802.16
B. IEEE 802.11
C. IEEE 802.3
D. IEEE 802.15

Q2) Attemt Any Two **[14]**

a. Explain interference and system capacity in cellular system ? **[7]**

b. Draw & Explain two ray model **[7]**

c. Analyse impulse response model of multipath channel. **[7]**

Q3) Attempt Any Two **[14]**

a. Explain trunking and grade of service . **[7]**

b. Explain method of small-scale multipath measurement using spread spectrum sliding correlator technique **[7]**

c. For given path loss exponent a) n=4 b) n=3, find the frequency reuse factor and the cluster size that should be used for maximum capacity. The signal to interference ratio of 15 dB is minimum required for satisfactory forward channel performance of cellular system. There are 6 co channel cells in the first tier and all of them are at the same distance from mobile. **[7]**

Q4) Attempt Any Two **[14]**

a. Differentiate Between Wireless and Fixed Telephone Networks **[7]**

b. Explain MAC layer of IEEE 802.11 **[7]**

c. Explain Wireless Transport layer security **[7]**

Q5) Attempt Any Two **[14]**

a. Explain x.25 protocol in detail **[7]**

b. Explain piconet and scatternet in Bluetooth **[7]**

c. Draw and explain Wireless Datagram Protocol **[7]**

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (101) Bachelor of Engineering (67817) WIRELESS MOBILE COMMUNICATION Part 4 SEM 8
2] (1154) B.Tech. CBCS (84861) Wireless Communication Part 4 SEM 8
3] (101) Bachelor of Engineering (85041) Wireless Communication Part 4 SEM 8