

Roll No.

Total Pages : 3

321102

December, 2019

M.Tech. (ECE) 1st SEMESTER

Wireless and Mobile Communication (MEC102)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) Compare the wired and wireless communication. (1.5)
- (b) What is mobility management? (1.5)
- (c) What is GPRS and give its application. (1.5)
- (d) State the difference between small scale and large scale fading. (1.5)
- (e) Describe about space diversity. (1.5)
- (f) Differentiate between soft and hard handoff in mobile communication. (1.5)

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- (g) Define Power control in CDMA. (1.5)
- (h) What is VoLTE? (1.5)
- (i) What is evolved EDGE technology? (1.5)
- (j) Compare FDMA, TDMA & CDMA. (1.5)

PART - B

- 2. (a) What are various techniques to improve coverage and channel capacity in cellular systems? Explain in detail. (7.5)
- (b) With suitable block diagram explain the GSM architecture. (7.5)
- 3. (a) Explain the channel assignment and handoff strategies in detail. (7.5)
- (b) Examine the different types of diversity techniques and explain frequency and Polarization diversity techniques. (7.5)
- 4. (a) Discuss the impulse response model of a multipath channel and obtain the relationship between bandwidth and received power. (7.5)
- (b) Explain the various parameters involved in mobile multipath channels and explain in detail. (7.5)

5. (a) Describe the free space propagation model and discuss how the signals are affected by reflection, diffraction and scattering effects. (10)
- (b) Distinguish between flat fading and frequency selective fading. (5)
6. (a) Write a short note on CDMA 2000. (7.5)
- (b) Explain the operation of an adaptive equalizer at the receiver side. (7.5)
7. (a) Explain the forward and reverse link operation in CDMA based IS 95 system. (7.5)
- (b) What is 3G wireless standards? What are the enhancements done in 4G standard? (7.5)
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