

Q.28 Define channel Capacity. Why is it so important.
(CO3)

Q.29 What is the difference between antenna diversity and MIMO?
(CO4)

Q.30 How does OFDMA works?
(CO5)

Q.31 Mention disadvantages of MIMO.
(CO4)

Q.32 List main features of LTE
(CO5)

Q.33 What is difference between GSM technology and CDMA technology.
(CO6)

Q.34 What is CDMA. Explain its structure with block diagram.
(CO5)

Q.35 Enlist few differences between 1G/2G/3G
(CO2)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What are basic components of cellular system. Explain each in details.
(CO2)

Q.37 What does LTE mean? Explain its complete Architecture with Block diagram.
(CO5)

Q.38 What are different types of fading. Explain each one in details.
(CO3)

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3rd Sem / Mechtronics Subject:- Mobile & Wireless Communication

Time : 3Hrs.

M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 What is frequency reuse?
(CO1)

- a) Process of selecting and allocating channels
- b) Process of selection of mobile users
- c) Process of selecting frequency of mobile equipment
- d) Process of selection of number of cells

Q.2 What is a cell in cellular system?
(CO2)

- a) A group of cells
- b) A group of subscribers
- c) A small geographical area
- d) A large group of mobile systems

Q.3 For a cellular system, if there are N cells and each cell is allocated k channel. What is the total number of available radio channels, S?
(CO2)

- a) $S=K*N$
- b) $S=k/N$
- c) $S=N/k$
- d) $S=k^N$

Q.4 Propagation model that characterize rapid fluctuation is called _____
(CO3)

- a) Hata model
- b) Fading model
- c) Large scale propagation model
- d) Okumura model

- Q.5 The performance of BPSK is best in term of BER because _____ (CO3)
- a) Symbol offset interference does not exist
 - b) Existence of cross rail interference
 - c) No multipath delay
 - d) Doppler spread
- Q.6 Small scale fading occurs due to (CO3)
- a) Doppler Shift
 - b) Time Delay
 - c) Doppler Shift and Time Delay
 - d) None of the mentioned
- Q.7 Which of the following is not a category of space diversity technique? (CO3)
- a) Selection diversity b) Time diversity
 - c) Feedback diversity d) Equal gain diversity
- Q.8 Which of the following technology does not use MIMO? (CO4)
- a) 4G b) Wifi
 - c) WiMax d) AMPS
- Q.9 ITU stands for _____ (CO6)
- a) International Television Union
 - b) Internal Telecommunication Union
 - c) Inventions for Telecommunication Union
 - d) International Telecommunications Union
- Q.10 Which of the following is used by IS-95? (CO5)
- a) DSSS b) FHSS
 - c) THSS d) Hybrid

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Define Space Diversity. (CO3)
- Q.12 CDMA2000 technology is a _____ network. (CO5)
- Q.13 Define Multipath fading. (CO3)
- Q.14 Define Noise Figure. (CO3)
- Q.15 MIMO stands for _____ (CO4)
- Q.16 OFDMA stands for _____ (CO5)
- Q.17 Large cells are called as _____ cells and small cells are called as _____. (CO1)
- Q.18 What is Co-channel Interference? (CO1)
- Q.19 What is the access technique used by LTE (CO5)
- Q.20 On what factors Channel Capacity depends? (CO3)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Define Cell and its salient features. (CO1)
- Q.22 What are advantages and applications of Wireless Communication System. (CO6)
- Q.23 What is the purpose of link budget? (CO3)
- Q.24 Explain adjacent channel Interference. (CO3)
- Q.25 What is the difference between noise figure and noise power? (CO3)
- Q.26 Explain MIMO System in Wireless Communication (CO4)
- Q.27 What causes Multipath fading? (CO3)