

- Q.23 What are main features of 4G.
- Q.24 Define free space path loss.
- Q.25 Explain about noise figure
- Q.26 Define fading margin.
- Q.27 Explain about beam forming.
- Q.28 Explain about capacity planning.
- Q.29 Define antenna diversity.
- Q.30 Describe the role of MIMO system.
- Q.31 Give the function of HLR.
- Q.32 What is function of BSC.
- Q.33 Describe the power control mechanism for reducing interference.
- Q.34 Describe features of CDMA
- Q.35 Give comparison between 3G and 4G

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Describe about LTE, its features and Architecture in detail.
 - Q.37 Explain in detail about OFDMA and its features.
 - Q.38 Describe about cellular capacity and frequency reuse concept in detail.

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4th Sem / Branch : Mechatronics Subject:- Mobile and Wireless Communication

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 ITU stands for _____
 - a) International Television Union
 - b) Internal Telecommunication Union
 - c) Inventions for Telecommunication Union
 - d) International Telecommunication Union
- Q.2 What is the Access technique used by an LTE or LTE-A network:
 - a) WCDMA
 - b) FDMA
 - c) PDMA
 - d) OFDMA
- Q.3 The advantage of using frequency reuse is :
 - a) Increased capacity
 - b) Limited spectrum is required
 - c) Same spectrum may be allocated to other network
 - d) All of the above

- Q.4 Radio capacity may be increased in cellular concept by:
- Increase in radio spectrum
 - Increasing the number of base stations and reusing the channels
 - Both a & b
 - None of the above
- Q.5 Commonly used mode for 3G networks is:
- TDMA
 - FDMA
 - TDD
 - FDD
- Q.6 2G standards support:
- Limited internet browsing
 - Short messaging service
 - Both a & b
 - None of the above
- Q.7 Which of the following is not a channel parameter:
- Coherence time
 - RMS delay spread
 - Doppler spread
 - Bandwidth
- Q.8 Which of the following is not an effect caused by multipath in radio channel:
- Random frequency modulation
 - Time dispersion
 - Rapid changes in signal strength
 - Power of base station

- Q.9 MIMO is a smart antenna technology
- False
 - True
- Q.10 Large scale fading can be mitigated with the help of:
- Modulation
 - Demodulation
 - Macroscopic diversity technique
 - Microscopic diversity technique

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Explain the term Handoff.
- Q.12 Give functions of BTS.
- Q.13 Give full form of SIM
- Q.14 Define Roaming.
- Q.15 Define Noise Figure
- Q.16 CDMA stands for _____
- Q.17 GSM stands for _____
- Q.18 OFDM stands for _____
- Q.19 Define Fading margin.
- Q.20 Define Splitting

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Define Mobile radio propagation.
- Q.22 Explain Co-channel interference.