Q.25 Give comparison between CDMA and TDMA.
Q.26 Give advantages of wireless communication.
Q.27 Explain about selection diversity.
Q.28 Give different types of small scale fading.
Q.29 What is function of VLR.
Q.30 Explain Power Control for reducing interference.
Q.31 Write about shadowing margin.
Q.32 Give the function of MSC.
Q.33 Give working of full duplex system.
Q.34 Explain how 3G is better than 2G.
Q35 Explain about MIMO system.

Section-D

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

Q.36 Explain in detail about CDMA and its features.
Q.37 How propagation link budget is prepared. Explain in detail.
Q.38 Explain Cellular frequency reuse concept and give its relationship.

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Sem. 3
Mechtronics
Sub : Mobile & Wireless Communication

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (10x1=10)

Q.1 Fourth Generation (4G) provides data communication.
a) A few hundred of bits per sec.
b) Tens to hundred of kilo bits per sec
c) Ten to hundred Mega bits per sec.
d) None of the above

Q.2. Cellular phones use carrier frequencies:
a) Less than 200 Ghz b) Less than 20 Ghz
c) Less than 2 Ghz d) None of these

Q.3. Total number of channels available in a cluster can be expressed as:
a) $F=GN$ b) $F=(GN)^{1/2}$
c) $F=(GN)^{2}$ d) $F=(GN)^{3}$

Q.4 IN CDMA, all earth stations can transmit:
a) On the same frequency
b) At the same time
c) A and B
d) None

Q.5 Small scale fades are characterized by _____ amplitude fluctuations:

a) Large b) Small
c) Rapid d) Slow

Q.6 What is Mobile Communication:

a) Allows to communicate from different locations without the use of physical medium
b) Allows to communicate from different locations with the use of physical medium.
c) Allows to communicate from same locations without the use of physical medium
d) Allows to communicate from same locations with the use of physical medium.

Q.7 Which of the following is a type of wireless communication:

a) LAN b) WAN
c) PAN d) All of the above

Q.8 _____ is a transmission method used in MIMO wireless communication to transmit encoded data signals independently:

a) MU-MIMO
b) STTD
c) SM
d) Collaborative uplink MIMO

Q.9 Which of the following is a CDMA standard of second generation network:

a) ETACS b) EDGE
c) IS-95 d) IS-136

Q.10 Which of the following is a universal adopted shape of cell:

a) Hexagon b) Square
c) Circle d) Triangle

Section-B

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

Q.11 Define diversity.
Q.12 Define fading.
Q.13 Define shadowing.
Q.14 MIMO stands for_____.
Q.15 Define frequency reuse factor.
Q.16 Explain the term LTE.
Q.17 Define cell splitting.
Q.18 What is 4G Generation.
Q.19 Define Adjacent Channel Interference.
Q.20 UMTS stands for _____.

Section-C

Note: Short answer type Question. Attempt any eight questions out of ten Questions. (8x4=32)

Q.21 Define fading, how it affects the system.
Q.22 What are main features of 3G.
Q.23 Explain the features of LTE.
Q.24 Explain the different types of path losses.