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Roll No. 121063/31063

6th Sem / Branch : Eltx.
Sub.: Wireless & Mobile Communication/ Digital & Data Communication Engg.

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 2G standards support

- a) Limited internet browsing
- b) Short Messaging Service
- c) Both A & B
- d) None of the above

Q.2 3G W-CDMA is also known as

- a) UMTS b) DECT
- c) DCS-1800 d) ETACS

Q.3 The interference between the neighboring base stations is avoided by

- a) Assigning different group of channels
- b) Using transmitters with different power level
- c) Using different antennas
- d) All of the above

Q.4 The shape of the cellular region for maximum radio coverage is

- a) Circular b) Square
- c) Oval d) Hexagon

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Q.5 Interference in cellular systems is caused by

- a) Two base stations operating in same frequency band
- b) Two calls in progress in nearby mobile stations
- c) Leakage of energy signals by non cellular systems into cellular frequency band
- d) All of the above

Q.6 FDMA is the division of

- a) Time b) Phase
- c) Spectrum d) Amplitude

Q.7 The minimum spectrum allocation required for W-CDMA is

- a) 5 MHz b) 2 MHz
- c) 500 KHz d) 100 KHz

Q.8 Dwell time is the time for

- a) A call within the cell
- b) Hand off
- c) Waiting for channel allocation
- d) None of the above

Q.9 The coherence time of the channel is smaller than the symbol period of the transmitted signal, it is

- a) Fast fading
- b) Slow fading
- c) Frequency selective fading
- d) Frequency non selective fading

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- Q.10 Which of the following is a type of wireless communication?
- a) LAN b) WAN
c) PAN d) All of the mentioned

SECTION-B

Note: Objective type questions. All questions are compulsory. $(10 \times 1 = 10)$

- Q.11 In wireless communication the signal is transferred without using _____.
- Q.12 FCC stands for _____.
- Q.13 Large cells are called as _____ cells.
- Q.14 Two types of power controls are _____ and _____.
- Q.15 WCDMA stands for _____.
- Q.16 Guard time in TDM is similar to a guard _____ in FDM.
- Q.17 Expand EDGE.
- Q.18 Write the full form of VoLTE.
- Q.19 Write the function of Flash IC.
- Q.20 What happens if power IC of mobile phone is faulty?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$

- Q.21 Write steps to disassemble a mobile phone.
- Q.22 List the components required to assemble of GSM phone.

- Q.23 List any five advantages of HSPA.
- Q.24 List any five features of UMTS.
- Q.25 List any five limitations of Wi-Fi.
- Q.26 Compare GSM and CDMA systems.
- Q.27 List different interfaces used in GSM.
- Q.28 List any five advantages of wireless communication.
- Q.29 Calculate the wavelength corresponding to 30 GHz frequency.
- Q.30 Define shortwave and microwave.
- Q.31 Define co-channel and adjacent channel interferences.
- Q.32 Define sectoring. Drawing figures of 120 degree and 60 degree sectoring.
- Q.33 Define and explain efficiency of TDMA.
- Q.34 Write a short note on Doppler effect.
- Q.35 Explain hard hand off and soft handoff.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 10 = 20)$

- Q.36 Explain the working of GPRS with the help of its block diagram. Also list its advantages and applications. $6+2+2$
- Q.37 What factors affect propagation of signals? Explain them in detail. $3+7$
- Q.38 Draw and explain architecture of LTE. $4+6$