

- Q.5 Interference in cellular systems is caused by
- Two base stations operating in same frequency band
 - Two calls in progress in nearby mobile stations
 - Leakage of energy signals by non cellular systems into cellular frequency band
 - All of the above
- Q.6 FDMA is the division of
- Time
 - Phase
 - Spectrum
 - Amplitude
- Q.7 The minimum spectrum allocation required for W-CDMA is
- 5 MHz
 - 2 MHz
 - 500 KHz
 - 100 KHz
- Q.8 Dwell time is the time for
- A call within the cell
 - Hand off
 - Waiting for channel allocation
 - None of the above
- Q.9 The coherence time of the channel is smaller than the symbol period of the transmitted signal, it is
- Fast fading
 - Slow fading
 - Frequency selective fading
 - Frequency non selective fading

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Q.10 Which of the following is a type of wireless communication?

- LAN
- WAN
- PAN
- All of the mentioned

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=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. (12x5=60)

Q.21 Write steps to disassemble a mobile phone.

Q.22 List the components required to assemble of GSM phone.

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- 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. (2x10=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

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SECTION-A

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

- Q.1 2G standards support
- Limited internet browsing
 - Short Messaging Service
 - Both A & B
 - None of the above
- Q.2 3G W-CDMA is also known as
- UMTS
 - DECT
 - DCS-1800
 - ETACS
- Q.3 The interference between the neighboring base stations is avoided by
- Assigning different group of channels
 - Using transmitters with different power level
 - Using different antennas
 - All of the above
- Q.4 The shape of the cellular region for maximum radio coverage is
- Circular
 - Square
 - Oval
 - Hexagon

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