Reg. No. :

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The first cellular systems were

    (a) analog   (b) digital   (c) semi analog   (d) None of these

2. Wireless communication is started in

    (a) 1869   (b) 1895.   (c) 1879   (d) 1885.

3. Fading of the received radio signals in a mobile communication environment occurs because of

    (a) Direct propagation   (b) Multipath Propagation
    (c) Bi-path Propagation   (d) None of these

4. Link budget consists of calculation of

    (a) Useful signal power   (b) Interfering noise power

    (c) Both (a) and (b)   (d) None of these

5. QPSK is a composite of

    (a) Two BPSK   (b) Three BPSK
    (c) Two FSK   (d) Two M-ary PSK

6. If Gray encoded input debit is 11 then the phase 9 QPSK signal is?

   (a) $\pi/4$ (b) $3\pi/4$ (c) $5\pi/4$ (d) $7\pi/4$

7. Diversity technique
      (a) Provides significant link improvement
      (b) Needs training overhead
      (c) Both (a) and (b)
      (d) None of these

8. The technique for combining diversity signals are
      (a) Feedback (b) Maximal ratio
      (c) Equal gain (d) All the above

9. _____ are typically characterized by very small cells, especially in densely populated areas.

      (a) 2G system (b) 3G system
      (c) 2.5G System (d) 3.5G system

10. GSM is the accepted cellular standard in

      (a) Europe (b) South America
      (c) Southeast Asia (d) All the above

PART - B (5 x 2 = 10 Marks)

11. Define frequency reuse.

12. List the advantages and disadvantages of Hata model.

13. List out the factors that influence the choice of digital modulation.

14. What is angular diversity?

15. What are the basic channels available in GSM?

PART - C (5 x 16 = 80 Marks)

16. (a) Discuss briefly about the requirements of services for a wireless system. (16)

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(b) (i) With neat diagram describe about CDMA & TDMA (8)

(ii) Explain about multipath propagation in detail. (8)

17. (a) Explain about narrowband wideband models . (16)

Or

(b) (i) Discuss about wide band model. (8)

(ii) What is the need for link calculation? Explain with suitable example. (8)

18. (a) (i) Write the characteristics features of OQPSK. (8)

(ii) With neat diagrams explain the structure of a wireless communication link. (8)

Or

(b) Give a detailed description of OFDM transceiver. (16)

19. (a) Explain the principles of diversity. (16)

Or

(b) Explain about linear and decision feedback equalizer techniques. (16)

20. (a) Explain the Code Division Multiple Access and compare its performance with TDMA. (16)

Or

(b) (i) Illustrate the block diagram of IS-95transmitter. (8)

(ii) Write short notes on 2G and 3G Wireless networks and standard. (8)

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