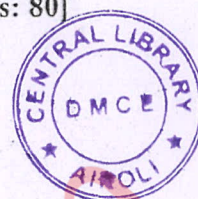


BEC & E.L) / SEM VII / W.C / R-19 - Cscheme) 10/06/25.

(3 Hours)

[Total Marks: 80]



N.B.: (1) Question No. 1 is **Compulsory**.

(2) Attempt any **three** questions out of the remaining **five**.

(3) Each question carries 20 marks and sub-question carry equal marks.

(4) Assume suitable data if required.

1. (a) Summarize an overview of multicarrier modulation. (5)
- (b) Distinguish between Co-channel interference and adjacent channel interference. (5)
- (c) Discuss the challenges faced by 5G operators (5)
- (d) Discuss various channels of IS-95 CDMA system. (5)
2. (a) Illustrate methods to improve coverage and cell capacity in Cellular Systems? (10)
- (b) Discuss Key Considerations of Frequency Reuse in Cellular Networks (10)
3. (a) Explain working, benefits and applications of Direct Sequence spread spectrum Modulation technique. (10)
- (b) Assume each user generates 0.1 Erlangs of traffic.
How many users can be supported for 0.5% blocking capacity for the following number of trunked channels in a blocked calls cleared system?
100,5,10,20,50 (10)
4. (a) Describe specifications and standardization of 5G SIM. (10)
- (b) List and explain Features and Services in GSM Mobile system. (10)
5. (a) Illustrate benefits and applications of Software-Defined Radio (SDR) in wireless communication (10)
- (b) Comment on "OFDMA: Robust against Interference" (10)
6. (a) Describe Doppler effect and explain the techniques to counter this effect (10)
- (b) Discuss various Channel assignment strategies used in GSM and CDMA IS-95. (10)

Q.P. Code:-
81895

Page 1 of 1

Program Code
1701137

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