

Roll No. _____

22676

**M. Tech. 3rd Semester (ECE) CBCS
Scheme
Examination – February, 2022**

CDMA

Paper : 16ECE23C2

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting one question from each Unit. Question No. 1 is compulsory. All question carry equal marks.

1. (a) Enumerate steps involved in BTS assisted Soft Handoff mechanism.
- (b) List out salient points of Page channel in IS 95 system.
- (c) Derive the equation for calculation of the capacity in IS-95 CDMA system.

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- (d) What happens to Power Control Group on working with reduced rate? 10
- (e) Explain working of Voice coding device in CDMA system. 4 * 5 = 20

UNIT - I

- 2. (a) Discuss DSSS CDMA system in details with the help of wave diagram. 10
- (b) Give out properties and application of Walsh code. 10
- 3. (a) Why PN sequences are not called random sequences? Also list out various properties of PN sequences. 10
- (b) With the help of four stage LFSR generator tabulate PN sequences, assuming initial data as 1001. 10

UNIT - II

- 4. (a) Derive the equation for error probability for DS-SS CDMA system for AWGN channel. 10
- (b) Explain working principle of RAKE receiver, also draw the diagram. 10
- 5. Enumerate the Forward Link channels of IS-95 CDMA system. Discuss in details properties of Pilot and Sync channel. 20

- 6. Discuss in details about the modalities to determine Capacity of CDMA system. Why it is said that capacity of CDMA system is dominated by reverse link? Justify your answer in details. 20

UNIT - III

- 7. Stringent power control mechanism is one of the special feature of CDMA cellular system. Discuss both forward and reverse link power control management. 20

UNIT - IV

- 8. (a) Enumerate the advantages of CDMA 2000 over CDMA IS-95A. 10
- (b) Discuss implementation of variable length Walsh code in CDMA 2000. 10
- 9. Write short notes on the following: 10 * 2 = 20
 - (a) MC-CDMA.
 - (b) Multi user detection technique.