

**APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
08 PALAKKAD CLUSTER**

Q. P. Code : CES0819242C-I

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Name:

Reg. No:.....

SECOND SEMESTER M.TECH. DEGREE EXAMINATION APRIL 2019

Branch: Electronics & Communication Engineering

08EC6242(C)/08EC6542(C) SPREAD SPECTRUM AND CDMA SYSTEMS

(Common to ECE and CESP)

Time:3 hours

Max. marks: 60

Answer all six questions.

Modules 1 to 6:Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	Explain the difference between slow frequency hopping and fast frequency hopping	3
Answer b or c		
b	Illustrate the modal analysis of BPSK direct sequence spread spectrum system with necessary equations.	6
c	Explain about pulse noise jamming and low probability of detection.	6
Q.no.	Module 2	Marks
2.a	Discuss the properties of a PN sequences signal with example	3
Answer b or c		
b	Explain how tau-dither tracking overcome the problems of delay lock loop	6
c	Using serial search method ,explain the acquisition of direct sequence signal	6

Q.no.	Module 3	Marks
3.a	Explain low probability intercept method?	3

Answer b or c

b	Analyse the performance of FH -SS signals in AWGN channel	6
c	Explain in detail about RAKE receiver?	6

Q.no.	Module 4	Marks
4.a	Differentiate FDMA and CDMA	3

Answer b or c

b	Give your perspective on one of the power control schemes in cellular wireless system.	6
c	What is soft handoff? How does it differ from hard and seamless handoff? Give an example for soft and hard handoff.	6

Q.no.	Module 5	Marks
5.a	Write a note on MMSE detector	4

Answer b or c

b	Explain one of the methods used to detect the multiuser interference in data detection techniques.	8
c	Briefly describe the principle of successive interference cancellation	8

Q.no.	Module 6	Marks
6.a	Compare MC-DS-CDMA and MC CDMA?	4

Answer b or c

b	Explain about WCDMA & CDMA-2000 with neat diagram?	8
c	Explain the IS -95 CDMA forward channel in detail	8