

Code: 22ECMC1T5A

I M.Tech - I Semester – Regular Examinations - MARCH - 2023**COGNITIVE RADIO
(MICROWAVE & COMMUNICATION ENGINEERING)**

Duration: 3 hours

Max. Marks: 60

Note: 1. This paper contains 4 questions from 4 units of Syllabus. Each unit carries 15 marks and have an internal choice of Questions.

2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Describe the Architecture of Cognitive Radio with a clear diagram.	L2	CO1	9 M
	b)	Demonstrate how emerging cognitive radio services will differentiate products.	L2	CO1	6 M
OR					
2	a)	Write a note on evolution of Cognitive radio, goals and benefits.	L2	CO1	7 M
	b)	Explain the use of SDR as a platform for Cognitive Radio.	L2	CO1	8 M
UNIT-II					
3	a)	Illustrate the need for dynamic spectrum access.	L3	CO2	9 M
	b)	Describe the fundamental limits of cognitive radio.	L2	CO2	6 M
<i>Page 1 of 2</i>					

OR					
4	a)	Classify licensed and unlicensed spectrum sharing techniques.	L2	CO2	8 M
	b)	Illustrate the capabilities of Cognitive radio.	L3	CO2	7 M
UNIT-III					
5	a)	Illustrate CSMA/CA scheme with neat diagrams.	L3	CO3	7 M
	b)	Demonstrate pure and slotted ALOHA schemes.	L3	CO3	8 M
OR					
6	a)	Demonstrate MAC schemes related to cognitive radio network.	L3	CO3	8 M
	b)	Illustrate the flow control techniques associated with routing in cognitive radio network.	L3	CO3	7 M
UNIT-IV					
7	a)	Illustrate the security threats related to cognitive radio networks in detail.	L3	CO4	8 M
	b)	Explain on demand spectrum auctions.	L4	CO4	7 M
OR					
8	a)	Demonstrate the impact of cognitive radio in public safety networks.	L3	CO4	7 M
	b)	Analyse Security and Privacy Related to Cognitive Radio – IOT .	L4	CO4	8 M
<i>Page 2 of 2</i>					