

[M19CS1103]

I M. Tech I Semester (R19) Regular Examinations

RADAR SIGNAL PROCESSING

DEPARTMENT OF ELECTRONICS & COMMUNICATIONS ENGINEERING

MODEL QUESTION PAPER

TIME: 3Hrs.

Max. Marks: 75 M

Answer **ONE Question** from **EACH UNIT**.

All questions carry equal marks.

			CO	KL	M
		UNIT-I			
1.	a).	Draw the block diagram of a Radar and explain	1	1	8
	b).	Obtain the frequency response of a Matched filter with non-white noise	1	2	7
		OR			
2.	a).	Discuss the efficiency of a non-matched filter	1	2	8
	b).	Explain the role of beacon and repeater expressions n Radar.	1	2	7
		UNIT-II			
3.	a).	Explain the I,Q detector with a block diagram	2	2	8
	b).	What is CFAR and explain average CFAR technique.	2	1	7
		OR			
4.	a).	Explain Likelihood-Ratio Receiver, Inverse Probability Receiver, and Sequential Observer,	2	2	8
	b).	Discuss Radar Signal Management–Schematics	2	2	7
		UNIT-III			
5.	a).	Obtain the ambiguity diagram for a pulse train consisting of five pulses	3	3	8
	b).	Explain the optimization for detecting signals in clutter when the relative Doppler shift is zero or unknown	3	4	7
		OR			
6.	a).	Discuss Waveform Design Requirements	3	3	8
	b).	Write short note on Family of Radar Waveforms.	3	2	7
		UNIT-IV			
7.	a).	What are the advantages of the thumb lack ambiguity diagram? And sketch the ideal thumb lack ambiguity diagram by a noise like waveforms.	4	1	8
	b).	Explain the basic principle of the linear FM pulse compression	4	3	7
		OR			
8.	a).	Discuss the applications, advantages and disadvantages of short pulse in a radar	4	3	8
	b).	Explain the SAW pulse compression in detail	4	4	7
		UNIT-V			
9.	a).	Discuss the principle of the binary phase coded pulse compression	5	5	8
	b).	Explain the properties of the frank poly phase codes.	5	5	7
		OR			
10.	a).	Write short note on Barker code	5	5	8
	b).	Write short note Maximal length sequences using PN codes	5	5	7

CO-CRSE TCOME

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-KNOWLEDGE LEVEL

M-MARKS