Code No: J4507/R16

M. Tech. II Semester Regular Examinations, May-2017

RADAR SIGNAL PROCESSING

(Common to SSP (45), DIP (63), CE&SP (46), IP (-), C & SP (80), Microwave and Communication Engg (82), C&CE (49), C&C (39)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	Draw the block diagram of a Radar and explain	6
	b	Obtain the frequency response of a Matched filter with non white noise.	6
2.	a	Discuss the efficiency of a non matched filter	4
	b	Explain the role of beacon and repeater expressions n Radar.	3
	C	Discuss the CFAR use in Radar.	5
3.	a	Explain the I,Q detector with a block diagram.	6
	b	What is CFAR explain the cell averaging CFAR technique.	6
4.	a	Obtain the ambiguity diagram for a pulse train consisting of five pulses.	6
	b	Explain the optimization for detecting signals in clutter when the relative Doppler shift is zero or unknown	6
5.	a	What are the advantages of the thumblack ambiguity diagram? And sketch the ideal thumblack ambiguity diagram by a noise like waveforms.	6
	b	Explain the basic principle of the linear FM pulse compression.	6
6.	a	Discuss the applications, advantages and disadvantages of short pulse in a radar	6
	b	Explain the SAW pulse compression in detail.	6
7.	a	Discuss the principle of the binary phase coded pulse compression.	6
	b	Explain the properties of the frank poly phase codes.	6
8.		Write a short notes on	
	a	Barker codes	6
	b	Maximal length sequences using PN codes	6

*****