School of Engineering

Department of Electrical Electronics and Communication Engineering
Mid Term Examination

Exam Date: 30 Sep 2023
Time : 90 Minutes
Marks : 50

Sem VII - BECE4404 - Radar Guidence and Navigation

Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

1)	If the target and the Frequency source are moving close to each other with constant velocity, explain the change in the frequency?	K2	(2)
2)	If the transmitting source is fixed and the radar target is approaching the source, what type of change the received frequency will undergo?	K1	(3)
3)	What is Doppler frequency shift?	K2	(4)
4)	Explain how the multipath signals produce error in FM altimeter?	K2	(6)
5)	Establish a relation between Doppler frequency shift and radial velocity of a moving target.	K3	(6)
6)	What factor determines the difference between the transmitted frequency and the received frequency in an FM transmitter?	K3	(9)
7)	With necessary mathematical expressions, describe range and Doppler measurement if the transmitted signal of a CW radar is frequency modulated?	K4	(8)
8)	What are interferences that effect the velocity measurements in CW or FMCW radars?	K4	(12)

OR

	Discuss the effect of surface quality and reaction characteristics of a target on the angular tracking accuracy of tracking radar.	K4	(12)