



R18 Regulation

Subject Code:2E8DH

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VIII Semester Supplementary Examinations, April 2024

Radar Systems
(ECE)

Maximum Marks: 70

Date:27.04.2024 Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10X2M=20 Marks)

- 1 Define Integration.
- 2 List the applications of radar.
- 3 Define the Doppler principle.
- 4 List the advantages of CW Radar.
- 5 Define blind speed of MTI radars.
- 6 What are Range gate Doppler filters?
- 7 List The Types Of Tracking Radars
- 8 Define Squint angle?
- 9 What is a matched filter Receiver?
- 10 What is the basic function of duplexer. list the types of duplexers.

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 11 Derive the radar range equation in terms of SNR. [10]

OR

12. Explain the principle of operation of CW Doppler radar with non zero IF receiver. [10]

- 13 Draw the block diagram of CW RADAR and explain its operation. [10]

OR

- 14 What are Delay line cancellers and explain their filter characteristics? [10]

- 15 What is an MTI Radar and how does it operate. [10]

OR

- 16 a) Write the differences between conical and monopulse Tracking Radars and explain? [5]
b) What is a matched filter receiver and derive its frequency response function? [5]

17 Explain in Detail various system losses involved in Radar system. [10]

OR

18 Derive the matched filter characteristic. [10]

19 Derive The Efficiency of Non-Matched Filter. [10]

OR

20 Discuss various types of duplexers used in radar receiver. [10]