

Code: 9A04703

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

RADAR SYSTEMS

(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Memorize the RADAR range equation and derive the same in simplest form.
(b) Summarize the various RADAR frequencies.
- 2 (a) Define the probability of false alarm time and justify how it is helpful for finding the target.
(b) Explain RADAR cross section of conical targets.
- 3 Analyze the isolation between the transmitter and receiver of FM-CW RADAR.
- 4 Explain the detection of range and Doppler measurement of FM-CW RADAR.
- 5 (a) Analyze the principle of moving target indicator (MTI) RADAR.
(b) Summarize the limitations to MTI performance.
- 6 (a) Explain acquisition and scanning patterns.
(b) Discuss sequential lobbing in view of MTI and pulse Doppler RADAR.
- 7 (a) Analyze the characteristics of matched filter with non-white noise.
(b) Define correlation function and cross correlation receiver.
- 8 (a) Derive the expression for system noise temperature and relate with noise figure.
(b) Explain the radiation pattern in RADAR receivers.
