Code: 9A04703

R09

B.Tech IV Year I Semester (R09) Supplementary Examinations, May 2013
RADAR SYSTEMS
(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

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1   (a)   Derive the simple form of radar equation.
    (b)   Describe the applications of radar.

2   (a)   Explain the radar cross section of the sphere.
    (b)   Discuss in brief about pulse repetition frequency and range ambiguities.

3   (a)   Draw and explain the block diagram of a simple CW radar.
    (b)   Explain how to determine whether the target is approaching or receding in CW radar.

4   (a)   Discuss in brief about multiple - frequency CW radar.
    (b)   Explain the measurement of range in FM – CW radar.

5   (a)   Briefly explain about range – gated Doppler filters.
    (b)   Describe the importance of double cancellation.

6   (a)   Draw and explain the wave front phase relationships in phase comparison monopulse radar.
    (b)   Write a brief note on acquisition and scanning patterns.

7   (a)   Derive the frequency response function of the matched filter.
    (b)   Explain the efficiency of nonmatched filters.

8   (a)   Explain the principle of balanced duplexer.
    (b)   Discuss in brief about series verses parallel feeds.

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