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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE) (Sem.-6)
MICROWAVE & RADAR ENGG.
Subject Code : EC-302
Paper ID : [A0317]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Answer briefly :**

- a. What is s-parameter in two-port network?
- b. Can a waveguide have more than one cut-off frequency?
- c. How do insertion loss different from attenuation?
- d. What is difference between search radar and tracking radar?
- e. What is Doppler effect in RADAR?
- f. What is Bolometer? Give an example.
- g. What are the disadvantages of lobe scanning?
- h. Write S-matrix of E-plane tee.
- i. What is range ambiguity?
- j. What is the nature of transmitted signal that in FMCW radar?

SECTION-B

2. Describe with schematic and applegate diagram generation of microwaves by two cavity klystron.
3. What is the basic principle on which a circulator works? Also discuss its applications.
4. Explain MTI radar with its block diagram. What are its limitations?
5. Draw the block diagram of radar and explain the function of each block.
6. Describe lobe switching technique for angle tracking system.

SECTION-C

7. How is bunching achieved in cavity magnetron? With a neat diagram explain the working of a multi-cavity magnetron.
8. What is the importance of beam coupling coefficient? Derive the equation of velocity modulation in klystron.
9. Write short notes on following :
 - a. CW radar
 - b. Delay line canceller