Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (ECE) (Sem.–6)

MICROWAVE AND RADAR ENGINEERING

Subject Code : EC-302

M.Code : 57535

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. Write briefly :

a) What is the difference between Klystron & TWT?

b) Define Gunn Effect.

c) What are the properties of s-matrix?

d) Define microwave band.

e) Define the term directivity and coupling factor in directional coupler.

f) Why is an isolator used in microwave bench?

g) What is the value of VSWR for open circuit and short circuit?

h) What is blind speed?

i) What is cavity resonator?

j) Name the various scanning techniques.

SECTION-B

2. Explain the working of Tunnel diode in detail.

3. Derive the equation for efficiency of two cavity klystron amplifier.

4. Explain the working of isolator with the help of neat and clean diagram.

5. What are slow wave structures? Give working of TWT amplifier. Give the construction and working of a TWT Amplifier.

6. Explain the angle tracking system.

SECTION-C

7. Explain the operation of radar with the help of suitable diagram and discuss all the blocks detail.

8. a) Discuss difference between MTI and Doppler radar.

   b) Describe high power measurement method.

9. Write short notes on :

   a) CW radar and its limitations

   b) Microwave bridges

   c) Measurement of SWR

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.