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Question Paper Code: 37403

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Seventh Semester

Electronics and Communication Engineering

01UEC703 - MICROWAVE ENGINEERING

(Regulation 2013)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Why isolators are called uniline?
2. Mention the reason for using S-matrix for microwave analysis.
3. What are the factors reducing efficiency of IMPATT diode?
4. Define negative resistance.
5. Why magnetron is called as cross filed device?
6. Compare TWTA and klystron amplifier.
7. Outline the features of coplanar strip line and microstrip line?
8. Write about diffusion and ion implantation process in fabrication.
9. List the different types of impedance measurement methods.
10. A wave guide termination with a VSWR of 1.5 is used to dissipate 150 watts of power. Determine the reflected power.
11. Why S-matrix is preferred in analysis of microwave circuits?
12. State the differences between isolator and circulator.
13. Define Gunn effect.

14. What are the factors reducing efficiency of IMPATT diode?
15. Mention the performance specification of reflex Klystron.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Derive the S- parameter of Magic Tee. (10)
17. Compare the characteristics of IMPATT, BARITT and TRAPATT diode. (10)
18. Explain the velocity modulation process and derive the condition at which maximum bunching occurs in two cavity klystron. (10)
19. Explain in detail with suitable diagrams, the fabrication techniques of a monolithic microwave integrated circuit. (10)
20. Explain in detail various power measurement techniques. (10)