

BHARATI VIDYAPEETH INSTITUTE OF TECHNOLOGY

QUESTION BANK

Unit Test-I

Program: - EJ

Semester: - V

Course:-MAR (315342)

Unit- I Fundamentals of Microwave communication and Waveguides (14 M)

2 Marks Questions

1. List application of Microwave in various fields.
2. State frequency ranges for following bands a) C band b) X- band c) K band d) Ku bands.
3. Explain the dominant mode of rectangular waveguide.

4 Marks Questions

4. Sketch Microwave frequency spectrum with band designation.
5. Differentiate between waveguide and two transmission line.
6. Define a) cut off frequency b) group velocity c) cut off wavelength d) phase velocity of waveguide.
7. Sketch the field pattern of TE₁₀, TE₂₀ and TE₁₁ modes of rectangular waveguide.
8. Compare rectangular waveguide and circular
9. State two advantages and two applications of circular waveguide.
10. For rectangular waveguide with a wall separation of 3 cm and desired frequency of operation 6 GHz, determine group and phase velocity.
11. Determine the cut off wavelength for the dominant mode in a rectangular waveguide of breadth 10cm for 2.5 GHz signal propagates in this waveguide in the dominant mode calculate the guide wavelength and group velocity.

Unit -II Microwave Passive Components (08 M)

2 Marks Questions

12. List application of Magic Tee.

13. Draw construction of Rat race ring.

4 Marks Questions

14. Describe the working principle of directional coupler with neat sketch.

15. Explain working principle of isolator with neat sketch and state its application .

16. Sketch the construction of circulator and isolator and state their applications.

Circulator.

Unit- III Microwave Active Components (12 M)

2 Marks Questions

17. Classify the microwave tube.

18. List two applications Reflex Klystron.

19. List two application of two cavity klystron.

20. List two application of magnetron.

4 Marks Questions.

21. Explain the working of Reflex Klystron with neat diagram.

22. Describe the working principle of two cavity klystron with neat diagram.

23. Explain the working principle of travelling wave tube(TWT) with neat diagram.

24. Draw constructional details of magnetron and explain the operating principle

25. Compare Klystron, Magnetron and TWT.