Microwaveandradarengineeringbykulkarnifreedownloadpdf

NKT/KS/17/7560

RTMNU University Question Paper (Summer-2017)

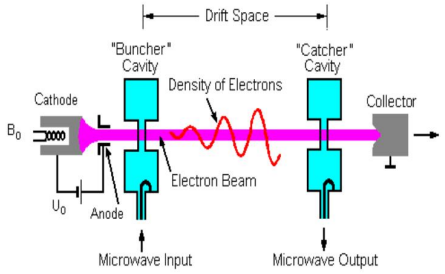
Solution

B.E. Eighth Semester (Electronics & Telecommunication) (C.B.S.)

Microwave & Radar Engineering

1. a) Explain two cavity Klystron with Applegate diagram.

Ans:



Two cavity Klystron amplifier is basically a velocity modulated tube.

Here a high voltage electron beam is formed, focused and sent down along the glass tube through an input cavity, **Buncher**.

Then it is sent down to a field free drift space and then to an output cavity, **Catcher** to anode.

The anode is kept at a positive potential with respect to cathode.

The electron beam passes through a gap A consisting of two grids of the Buncher cavity separated by very small distance and two other grids of the Catcher cavity with a small gap B.

Operation:

The RF signal to be amplified is used for exciting the input Buncher cavity thereby developing an alternating voltage of signal frequency across the gap A.

The electron beam is travel through a cylindrical drift tube in a straight path by an axial magnetic field.

You'll learn about waves in microwaves, matter-wave or matter-light interaction, and the microwave quantum vacuum. You'll learn about coaxial cables, their use in a microwave experiment and how to build a simple microwave circuit with them. You'll learn how to connect a spectrum analyzer to a coaxial cable, why you want to use one and how to evaluate the frequency response of the circuit. You'll learn about the measurement setup, and the circuit response. You'll learn about coaxial cables, their use in a microwave experiment and how to build a simple microwave circuit with them. You'll learn how to connect a spectrum analyzer to a coaxial cable, why you want to use one and how to evaluate the frequency response of the circuit. You'll learn about coaxial cables, their use in a microwave experiment and how to build a simple microwave circuit with them. You'll learn about coaxial cables, their use in a microwave experiment and how to build a simple microwave circuit with them. You'll learn how to connect a spectrum analyzer to a coaxial cable, why you want to use one and how to evaluate the frequency response of the circuit. Electromagnetic Waves with Microwaves, Third Edition Microwaves are used in many everyday consumer products, such as cell phones, and are increasingly being used in a number of more complex applications such as precision medicine, photonics, and high-definition television. This book, revised and updated to reflect new advances in the field, presents a thorough understanding of electromagnetic waves, the theory of radio waves, and their use in electronics, communications, and microwave engineering. Coverage includes: General properties of waves The propagation of waves in mediums Radiation of waves Visible light, infrared, and ultraviolet radiation Transmission lines and coaxial cables Applications of microwaves Signal-processing circuits Manufacturing devices using microwaves Exploring the physics of microwaves Units and equations Field and vector representation Generalized coordinates Geometrical representation Relativistic effects in physics Discussion of relativity in electromagnetic theory Conductors and antennas Plasmonics and metamaterials Ray theory The book also covers a number of advanced topics, including: Concepts in acoustics Cavities Graphene Future of electronics 82157476af