

## Question Bank (G Scheme)

Name Of Subject: Advanced Communication Systems

Unit Test: I

Subject Code: 17656

Course: EJ6G

Semester: VI

### Chapter 1: Waveguide and Components

20M

#### 3 Marks

- 1) Define:
  - a) Guide wavelength
  - b) Group velocity
  - c) Phase velocity
- 2) List the advantages of wave guide over transmission line?
- 3) Write down any three frequency band and their uses.
- 4) Give advantages and application of circular waveguide.
- 5) Distinguish between TE and TM mode in rectangular wave guide.
- 6) List the advantages & application of circular waveguide?

#### 4 Marks

- 7) With a neat sketch explain operation of Waveguide
- 8) Explain Dominant mode in waveguide? Draw the field pattern for  $TE_{10}$  mode.
- 9) Distinguish between waveguide and two wire transmission line?
- 10) Draw the construction of E- plane tee and explain the working Principle.

- 11) Explain the operation of Isolator and list its use?
- 12) Draw the field pattern for TE<sub>10</sub>, TE<sub>20</sub>, and TE<sub>11</sub> mode.
- 13) How wave is propagated in rectangular waveguide, explain?
- 14) Explain Hybrid Tee with neat sketch?

## **Chapter 2: Microwave Devices**

**20M**

### **3 Marks**

- 15) List the application of TWT.
- 16) Give the application of a) Reflex Klystron b) Magnetron

### **4 Marks**

- 17) Explain working of Reflex Klystron amplifier with a neat diagram.
- 18) Give construction details of travelling wave tube, with neat sketch
- 19) Draw and explain construction details of two cavity Klystron Amplifier.
- 20) Draw and explain Magnetron in detail.
- 21) Describe operating principle of PIN diode.
- 22) State the applications of Gunn diode.

## **Chapter 3: Radar System**

**8M**

### **3 Marks**

- 23) Draw the block diagram of basic radar set & explain its operation.

### **4 Marks**

- 24) Give range equation and explain the factor influencing radar range.
- 25) Draw and explain pulse radar system.?

