Q.21 Explain the working of a circulator.

Q.22 Explain different types of microwave bends.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain in detail CW (Doppler) radar system with the help of block diagram.

Q.24 Explain the working of travelling wave tube with help of a neat sketch. Also list its any four applications.

Q.25 Write a short note on following :

a) matched termination

b) variable attenuator

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221063A

6th Sem / ECE, ECE (For Speech and Hearing Impaired)

Subject : Microwave and Radar Engineering

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 A waveguide can consider to be equivalent to a

a) High pass filter b) Low pass filter

c) Band pass filter d) Band reject filter

Q.2 How many cavities are there in a reflex klystron

a) 4 b) 3

c) 2 d) 1

Q.3 Which of the following is the correct sequence of frequency bends in order of increasing available peak power?

a) C-band, X-band, L-band, S-band

b) X-band, C-band, S-band, L-band

c) X-band, S-band, C-band, L-band

d) S-band, X-band, C-band, L-band

Q.4 Magic tee is nothing but

a) a modification of E-plane tee

b) a combination of E-plane and H-plane tee

c) a modification of H-plane tee

d) two E-plane tee connected in parallel

Q.5 PPI in a radar system stands for

a) Plan position indicator

b) plan position image

c) Pulse position indicator

d) Prior position identification

Q.6 VSAT stands for

a) very small aperture terminal

b) very small antenna terminal

c) very small antenna transmitter

d) none of these

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Frequency range of L frequency band is_____

Q.8 The modes of propagation supported by a rectangular waveguide is TM and TE. (T/F)

Q.9 Gunn diode exhibits negative resistance (T/F)

Q.10 Full form of RADAR is _____

Q.11 _____ is used for measuring the microwave frequency?

Q.12 At microwave frequencies, the size of antenna becomes very small/ very large?

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 List the various microwave frequency bands.

Q.14 List different modes in waveguide.

Q.15 Draw the schematic diagram of reflex klystron, clearly indicating each part.

Q.16 List the applications of rectangular waveguides.

Q.17 Define ambiguous range and blind speed. (2+2)

Q.18 What is role of helix in TWT.

Q.19 Write the basic principle of horn antenna.

Q.20 Briefly explain troposcatter communication.