

No. of Printed Pages : 4
Roll No.

221063A

6 th 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 Millmetric waves corresponds to a frequency range of:

- a) 30 to 300 KHz
- b) 30 to 300 GHz
- c) 30 to 300 MHz
- d) 3 to 30 Ghz

Q.4 The function of a slotted line is

- a) To measure frequency
- b) To measure the variation in field strength along a waveguide
- c) To measure impedance
- d) None of these

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 Which of the following regarding a microwave link is incorrect ? A microwave link

- a) Uses reflector type antenna
- b) Can operate from 1MHz onwards
- c) Uses repeaters to increase the range
- d) Uses line of sight propagation.

(1)

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(2)

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SECTION-B

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

- Q.7 Frequency range of X 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 Write a short note on cutoff wavelength and guide wavelength.
- Q.15 Explain the construction of reflex klystron?
- Q.16 What are the different type of waveguides. Explain ?
- Q.17 Explain the basic radar range equation.
- Q.18 What is use of helix in TWT.

Q.19 Give the construction and basic principle of parabolic dish antenna .

- Q.20 Give the basic idea of troposcatter communication.
- Q.21 Explain the construction and working of an isolator .
- Q.22 Explain different applications of magic tee.

SECTION-D

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

- Q.23 Explain in detail basic pulse radar system with the help of block diagram.
- Q.24 Draw and Explain the block diagram and working principle of microwave communication link.
- Q.25 Write a short note on following :
- Gunn diode
 - Impatt diode