S. B. Roll. No……

MICROWAVE AND RADAR ENGINEERING
6th Exam/ECE/3612/Dec'22
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Give answer in one line. **15x1=15**

a. What is the frequency range of Ku and L frequency band?
b. What Is E-plane Tee?
c. What Is Microwave Isolators?
d. Write any two applications of reflex klystron?
e. Why bends are used in microwave communication?
f. Why magnetron is called cross field device?
g. List any two applications of RADAR?
h. What is the purpose of the electromagnetic field which surrounds a traveling-wave tube?
i. Which mode cannot exist in rectangular waveguide?
j. Write the Radar Range equation.
k. Write the full forms of PPI and MTI Radar
l. Write any one difference between two cavity klystron and reflex klystron.
m. What is the use of Gunn diode?
n. What is maximum unambiguous range in Radar?
o. Write any one example of transferred electron devices.

SECTION-B

Q2. Attempt any six questions. **6x5=30**

i. Write any five applications of microwaves.
ii. Differentiate between circular and rectangular waveguides.
iii. Explain the working of directional coupler.
iv. Write a short note on Reflex Klystron.
v. Explain the use of bends and twists in microwave communication.
vi. Describe the working of FMCW Radar using block diagram.
vii. Briefly explain the concept of VSAT.
viii. Explain briefly the working of Gunn diode.

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. Explain in detail the construction and working of Magnetron.
b. Draw and explain in detail the block diagram of a microwave communication link
c. Explain the block diagram of MTI RADAR in detail.
d. Describe the working of two cavity klystron with the help of diagram.
e. Write a short note on (any two)
    i. Applications of Radar
    ii. Isolator
    iii. PPI Display