S.B. Roll No……

MICROWAVE AND RADAR ENGG.
6th ECE/ ETV/ECE(II)/8461/6861/Nov' 2016

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

SECTION - A

Q1. Attempt all parts: **1x15= 15**

a. Expand RADAR
b. K band lies in _____to_____GHz frequency range.
c. Magnetron is a _____field device
d. Expand IMPATT .
e. _____mode cannot exist in Waveguide.
f. Magic T is a ____port device.
g. VSAT stand for_____
h. Dominant mode for Rectangular mode is TE ____and TM ____
i. The input cavity in a Two cavity klystron is known as_____
j. RADAR RANGE EQUATION is_____
k. MTI can measure ____of a target
l. If a microwave device is 4 port device than its S matrix is of order of _____.
m. Wave guide act as _____filter
n. Troposphere is ____KM from earth's surface.
o. ISOLATOR can be used as CIRCULATOR.(T/F)

SECTION – B

Q.2. Attempt any Six Questions: **6x5=30**

a. Explain the advatages and applications of microwaves.
b. Describe the concept of troposcatter propogation.
c. What is HORN antenna and give brief idea of its types.
d. Differentiate between circular and rectangular waveguides.
e. What is Gunn Effect? Explain construction of GUNN diode.
f. What is velocity modulation and thermionic emission?
g. Explain working of TWT with diagram.
h. Explain the working of directional coupler?

SECTION C

Note: Attempt any three **3x10=30**

Q. 3. Draw and explain in detail the block diagram of a microwave communication link.
Q. 4. What is magnetron .What are its types .Explain Cavity magnetron in detail with diagram.
Q. 5. What is MAGIC TEE? Explain with the help of diagram. What is its application?
Q. 6. Explain the block diagram of MTI RADAR in detail.
Q. 7. Explain the terms
(a) Circulators
(b) Reflex klystron