VI SEM EEE/ETC/2019(W)

ETT-601- ADVANCECOMMUNICATION ENGINEERING

Full Mark- 80 **Time- 03 Hr.**

Answer any five (05) questions including Q.No.1 & 2. Figure in the right hand margin indicate marks

Q.1 Answer all questions. **[10x2]**

a) What is full form of Radar? How does a radar system work?

b) Give some applications of radar.

c) Define satellite, what are the differences between artificial and natural satellites?

d) What is multiple accessing?

e) What are the different types of satellite links?

f) What is an optical fiber communication?

g) Define critical angle.

h) What is dispersion in optical fiber?

i) Define space and time switching.

j) What is LASER? What is the threshold condition for laser oscillation?

Q.2 Answer any Six (06) of the followings. **[6x5]**

a) Draw the block diagram of a pulsed radar system and explain each block.

b) What is detection in a radar system? What are the different types of detection?

c) What are satellite orbital patterns and what are satellite elevation categories?

d) Explain time division multiple accessing.

e) Explain the advantages and disadvantages of optical fiber communication over metallic cable communication.

f) Define the terms, velocity of propagation acceptance angle and numerical aperture of an optical fiber cable.

g) Write notes on- Digital EPABX.

Q.3 Derive an expression for maximum range of a RADAR. What are the factors influencing the range of a radar? **[10]**

Q.4. With a neat circuit diagram, explain the operation of an MITI radar system, Give its applications. **[10]**

Q.5 State and explain kepler's third law, Determine the height of a geosynchronous satellite, using this law. **[10]**

Q.6 What is attenuation in optical fiber? What are the different types of losses in optical fiber? State the types of optical fiber configurations. **[10]**

Q.7 a) Explain the principle of operation of an Internet Protocol Telephone System and What are the different methods of jamming or confusing enemy radar. **[10]**

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