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TKN/KS/16 – 5901

Fifth Semester B. Sc. Examination

ELECTRONICS

Paper – I

(Electronic Communication)

Time : Three Hours] [Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat diagrams wherever necessary.

EITHER

1. (A) Draw the block diagram of electronic communication system and state the function of each block.
Compare analog communication with digital communication. 5 + 5

OR

(B) Describe amplitude modulation with suitable waveforms and explain the significance of amplitude modulation index.
List any five differences between Amplitude and frequency modulation. 5 + 5

EITHER

2. (A) Explain SKY wave propagation and with reference to it, define :–
(i) Skip distance
(ii) Skip Zone
Explain satellite communication with neat sketch and List any four applications. 5 + 5

OR

(B) Explain ground wave propagation and its limitations. List different types of antennas and describe the construction of Yagi antenna. 5 + 5

EITHER

3. (A) Explain Asynchronous and synchronous serial data transmission systems.
State and explain Shannon theorem. 6 + 4

OR

(B) Draw the block diagram of FSK modulator and explain it.
State any four differences between ASK and FSK modulation. 6 + 4

EITHER

4. (A) Explain the concept of cell. State any two advantages of cellular telephone system.
Draw the block diagram of FAX system and explain its functioning. 5 + 5

OR

(B) Draw the block diagram of fiber optic communication system and explain the function of each block.
List any five advantages and applications of fiber optic cable system. 5 + 5

5. Solve any **ten** :—
(a) Define full duplex with suitable example.
(b) What is the frequency of 2 m signal ?
(c) Define the term "significant side frequency components".

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(d) What is antenna efficiency ?

(e) State the role of transponder in satellite communication.

(f) What are the different layers of ionosphere ?

(g) Explain the term "digital communication".

(h) What is the role of Modern in communication system.

(i) Give the long form of ASK.

(j) Which type of signal fiber optic cable carries and how ?

(k) What is demodulator ?

(l) Explain the role of optical detector in fiber optic communication system. $1 \times 10 = 10$

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