TED (10) – 4050

(REVISION — 2010)

Reg. No. .....

Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

MODERN COMMUNICATION SYSTEMS

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer all questions in one or two sentences. Each question carries 2 marks.

1. What is the purpose of quantiser in a PCM generator ?
2. What is the height of Geo stationary satellite from earth ?
3. List any two advantages of Fiber optic communication system over other systems.
4. What are the two types of Photo detectors used in optical fiber communication systems ?
5. Define a cell in cellular communication. (5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Explain Generation of BPSK.
2. Compare BFSK and BPSK. Also give the waveforms of each.
3. Explain the working of Reflex Klystron with a neat schematic.
4. Write notes on satellite orbits.
5. Write notes on graded index fibre.
6. Describe the different causes of Cable Losses.
7. Describe the operation of a cellular system with neat block diagram. (5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

III (a) With a neat block diagram explain the generation and detection of QPSK. 9

(b) Write notes on ISDN Signaling. 6

OR

IV (a) Compare PAM, PWM and PPM. 8

(b) With a neat block diagram explain the generation and detection of BFSK. 7

UNIT — II

V (a) With neat block diagram explain Microwave transmitter and receiver. 8

(b) Explain the working of TWT amplifier with a neat schematic. 7

OR

VI (a) With a neat sketch explain the construction and working of Gunn diode. 7

(b) Write notes on the following : 8

(i) Horn antenna (ii) Wave guide

UNIT — III

VII (a) With a neat sketch explain the construction and working of LED. 9

(b) Compare Single mode and multimode fibers. 6

OR

VIII (a) With a neat sketch explain the construction and working of Avalanche Photo diode. 9

(b) With a neat sketch explain the concept of acceptance angle and numerical aperture. 6

UNIT — IV

IX (a) Explain the architecture of DECT with a neat block schematic. 9

(b) Explain the concept of handoff. 6

OR

X (a) What are the different power control methods used in mobile communication systems ? 7

(b) What is channel fading ? How is it compensated ? 8

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