TED (10) – 4056

(REVISION — 2010)

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

DIGITAL AND DATA COMMUNICATION

[*Time* : 3 hours

(Maximum marks : 100)

Marks

PART — A

(Maximum marks : 10)

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

1. Define quantization noise.

2. Define entropy.

3. Mention the feature of half duplex system.

4. List the types of stored program control.

5. State Shanon Hartley theorem.   (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain the concept of Time Division Time Switching with suitable figure.

2. Describe pulse amplitude modulation with necessary waveform.

3. With necessary diagram, explain crossbar switching system.

4. Explain slope overload noise with figure.

5. Explain the basic elements in PCM with block diagram.

6. Write short notes on parity bit method of error detection with example.

7. Describe the FDM system with neat block diagram.   (5×6 = 30)

[302]   [P.T.O.

Marks

PART — C

(Maximum marks : 60)

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

Unit — I

III	(a)	Explain Shanon Fano algorithm.	8
	(b)	Explain CRC coding technique.	7

Or

IV	(a)	Explain the technique of block interleaving with necessary diagram.	7
	(b)	With suitable figure, explain convolutional codes.	8

Unit — II

V	(a)	With necessary circuit diagram, explain the generation of PWM signal.	8
	(b)	Explain Time Division Multiplexing with block diagram.	7

Or

VI	(a)	Explain the model of a digital communication system with figure.	9
	(b)	Explain PPM demodulation.	6

Unit — III

VII	(a)	Explain Adaptive Delta modulation with block diagram.	8
	(b)	With necessary diagram, explain companding.	7

Or

VIII	(a)	Explain the generation of Differential PCM with block diagram.	8
	(b)	With suitable figure, explain quantization.	7

Unit — IV

IX	(a)	Explain the signalling tones used in telephone with suitable figure.	9
	(b)	Explain the basic principle of stored program control.	6

Or

X	(a)	Explain ISDN architecture with figure.	9
	(b)	Explain the features of distributed SPC.	6