TED (10) - 4056

(REVISION - 2010)

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Reg. No.....

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

#### DIGITAL AND DATA COMMUNICATION

[Time: 3 hours

(Maximum marks : 100)

#### PART - A

#### (Maximum marks : 10)

Marks

 $(5 \times 2 = 10)$ 

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.

#### 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) [P.T.O.

[302]



# PART — C

2

Marks

## (Maximum marks : 60)

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

U	NIT	 I
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Ш	(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