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Code No: RT31052 **R13** SET - 1

III B. Tech I Semester Supplementary Examinations, May- 2018

DATA COMMUNICATION

(Common to Computer Science Engineering and Information Technology)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	Define data communication. What are the elements of data communication?	[3M]
	b)	What is Optical fiber? What are the disadvantages of Optical Fiber Cables?	[4M]
	c)	Give the concept of delta modulation.	[4M]
	d)	What is Skip Distance?	[3M]
	e)	What is Global system for Mobile Communications?	[4M]
	f)	Distinguish between synchronous and Asynchronous Voice-Band Modems.	[4M]

PART -B

2	a)	With neat sketch explain the layered network structure.	[4M]
	b)	Explain about Serial and parallel Data Transmission.	[8M]
	c)	Define i) Information Capacity and ii) Bit rate	[4M]
3	a)	Write about the two commonly used fiber types due to variations in the Material Composition.	[3M]
	b)	Derive the Expression for quantum efficiency and optical power emitted from the LED.	[8M]
	c)	Derive the general equation of coupling loss in single mode fiber connectors.	[5M]
4	a)	Explain in detail about the operation of PCM transmitter and receiver.	[8M]
	b)	Discuss about Digital Line Encoding in detail.	[8M]
5	a)	Explain the Microwave communication system with neat block diagram.	[8M]
	b)	Derive the expression for Free-Space Path Loss.	[8M]
6	a)	Explain the Basic Telephone Call Procedures.	[8M]
	b)	Describe the digital cellular mobile systems and the limitations of AMPS standard.	[8M]
7	a)	What are the different methods of error detection and explain any two methods.	[8M]
	b)	Write short notes on Voice- Band Data Communication Modems.	[8M]

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