Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– II (Old course)• REMEDIAL EXAMINATION – SUMMER 2015

Subject Code: 1722202 **Date:13/05/2015**

Subject Name: Advanced Digital Communication

Time: 02:30 pm to 5:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	With respect to probability theory, explain following: (a) Characteristic Function (b) Rice Distribution.	**07**
	(b)	With necessary equations, describe in brief: (a) Averages for Joint Stochastic Processes (b) Stationary Stochastic Process.	**07**
Q.2	**(a)**	Explain and Represent following: Response of a Bandpass System to a Bandpass Signal.	**07**
	(b)	Discuss Orthogonal Expansion of Signals.	**07**
		OR	
	(b)	Explain Spectral Characteristics of CPM.	**07**
Q.3	**(a)**	Describe Correlation-type Demodulator with diagrams.	**07**
	(b)	Discuss Regenerative Repeaters.	**07**
		OR	
Q.3	**(a)**	Discuss about a Matched Filter Demodulator. .	**07**
	(b)	Explain Demodulation and Square Law Detection of Binary FSK Signals.	**07**
Q.4	**(a)**	With necessary Block Diagram, discuss M-ary PSK Receiver.	**07**
	(b)	Explain Carrier Recovery with a Decision Feedback PLL.	**07**
		OR	
Q.4	**(a)**	Discuss Squaring Loop.	**07**
Q.4	**(b)**	Explain Symbol-by-Symbol Suboptimal Detection.	**07**

Q.5	**(a)**	Explain Code Division Multiple Access.	**07**
	(b)	Discuss in brief: OFDM.	**07**

OR

Q.5	**(a)**	Discuss in brief: Decision Feedback Equalization.	**07**
	(b)	Discuss in brief: Statistical Model for Fadding Channels.	**07**

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