BE/ EN 1/sem MIL/CBGS/CARELLERE COMMO /09-12-2016

Q.P. Code: 852600

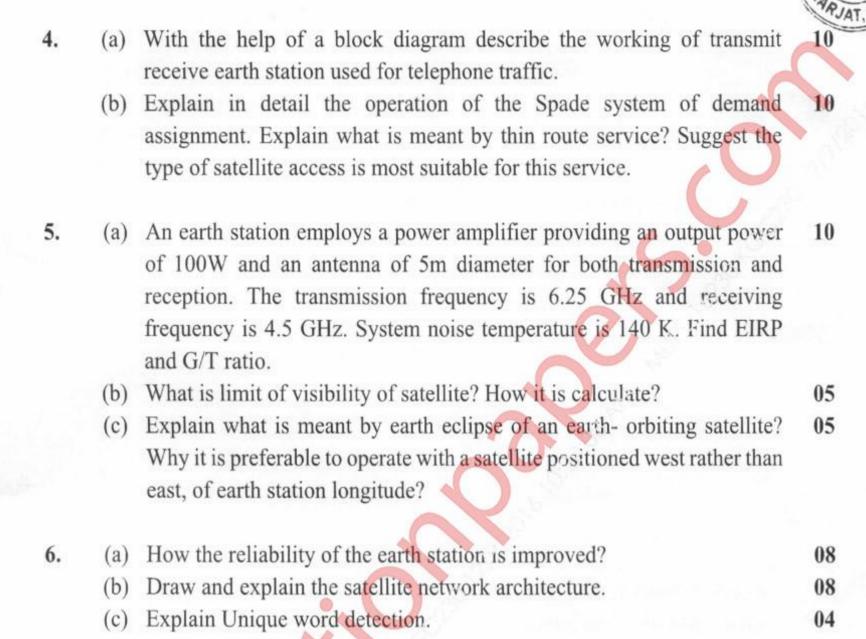
## (3 Hours) [Total Marks: 80]

N.B.	1)	Question No.1 is compulsory.	13
	2)	Attempt any three from remaining.	
	3)	Assume suitable data if necessary.	A PO PO
1.	(a)	Briefly describe the following:	05
		<ul><li>(i) Why does a satellite in highly inclined elliptical orbit spend most of its orbital period over higher latitude regions?</li><li>(ii) Why is it preferable for a remote sensing satellite to be in Sun</li></ul>	
		synchronized orbits?	
	(b)	Explain:	05
		(1) Lobe switching (2) mono pulse tracking (3) step tracking (4) intelligent tracking.	
	(c)	Why the control system in satellite waits for an execute command after	05
		receiving the command to be executed?	
	(d)	Differentiate between window and frame organization.	05
2.	(a)	Explain:	10
		1) Why a spin stabilized satellite uses relatively large number of solar cells as compared to three axis stabilized satellite for the same power requirement?	
		2) Why are storage batteries used along with solar arrays?	
	(b)	What is the antenna noise temperature? What are the major factors that decides the antenna noise temperature? What is the antenna gain to noise temperature (G/T) ratio? What is the significance of Earth stations antenna gain to noise temperature ratio?	10
3.	(a)	Explain thermal sub-system. What are the methods of thermal control in	10

What are the different types of lasers used for satellite communication?

satellite?

Explain photo detector noise model.



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