Enrolment No._____

HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL

MID SEMESTER EXAMINATION, SEPTEMBER-2016

Subject Code: 2171007 **Date: 28-09-16**

Subject Name: SATCOM **Sem: 7TH**

Time: 10:00 TO 10:50 **Total Marks: 20**

Instructions:

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

QUE.1	**(A)**	Define the terms: i) Apogee ii) Subsatellite point iii) Azimuth angle iv) CPD v) Inclined orbit vi) Retrograde orbit	**6**
QUE.2	**(A)**	Draw the block diagram of satellite communication. State the advantages of SATCOM.	**3**
	(B)	A satellite is an elliptical orbit with a perigee height of 1000 km and apogee of 4000 km using mean earth radius=6371 km, find the period of the orbit in hours, minutes and seconds, and the eccentricity of the orbit.	**4**
		OR	
	(B)	An earth station situated in the U.K. needs to calculate the Look Angles to a geostationary satellite in the Indian ocean operated at INSAT. The details of the earth station site and the satellite are as follows: Earth station latitude and longitude are 52.0^0N and 0^0 respectively and the satellite longitude (subsatellite point) is 66.0^0E.	**4**
QUE.3	**(A)**	Draw only the block diagram of satellite transponder.	**3**
	(B)	State and explain Kepler's law of planetary motion.	**4**
		OR	
	(A)	Write a short note on the solar eclipse of satellite and sun transit outage.	**3**
	(B)	Draw and explain block diagram of TT&C for satellite communication.	**4**

********** ALL THE BEST **********