



BRAINWARE UNIVERSITY

Term End Examination 2023 Programme – B.Tech.(CSE)-2018/B.Tech.(CSE)-2019 Course Name – Satellite Communication Course Code - OEC-802B (Semester VIII)

Full Marks: 60
Time: 2:30 Hours
[The figure in the margin indicates full marks. Candidates are required to give their answers in their

own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15 1. Choose the correct alternative from the following: (i) GPS define as ______. a) Global Positioning System b) Global Positioning System c) Guide Posting System d) Global pointing System (ii) State, How many techniques are used for achieving multiple access? a) 2 b) 3 c) 4 d) 5 (iii) FDD technique explain in multiplexing ___ a) Frequency division duplex b) Frequency double division c) Frequency duplex division d) Frequency division double (iv) Select, Which of the following statement is true regarding the FDD satellite technique? a) It uses only upward channel b) It uses only downward channel c) It uses both upward channel and d) None of the above downward channel (v) Select, Which of the following are the advantages of FDMA? a) It is easy to implement b) It is a continuous transmission scheme c) Less complex scheme d) All of these (vi) Report, Which of the following statement is true for satellite communication? a) It is a method to transport information from one place to another place via It is a method to transmit waves satellite c) It is a method to measure information d) None of the these between satellites (vii) Tell, what dose the rotation of a geosynchronous satellite means a) drift from stationary position b) wobbling

d) three-dimensional stabilization

c) three-axis stabilization

(viii)	The discussing sharing of a communication sate Earth station, DAMA define	llite by many geographically dispersed	
(ix)	a) Demand-Assigned Multiple Accessc) Digital Analog Master AntennaTo act antenna more directional, either its size r	b) Decibel Attenuated Microwave Acces d) Dynamically-Assigned Multiple Acces must be increased or	
	a) the number of its feed horns must be increased	b) the frequency of its transmission mu increased	st be
	c) its effective isotropic radiated power (EIRP) must be increased	d) its footprint must be increased	
(x)	Compute, the number of days when Earth\'s shis	adow falls on a geosynchronous satellite	
	a) 88	b) 277	
(vi)	c) 5 Tell, the quality of a space-link is measured in te	d) 10	
(^1)	a) C/N	b) S/N	
	c) G/T	d) EIRP	
(xii)	Choose, which one of the following statement is	s correct?	
	a) Satellite spacing is not affected by the bandwidth of the transmitting earth station	b) Beamwidth is independent of antennand frequency band used	na size
	 c) The width of a beam in space is inversely proportional to the width of the transmitting antenna 	d) Use of high-frequency bands permits number of satellites to share the orb	
(xiii)	Write, After the up-linking process, a satellite _	and the signal.	
(xiv)	a) Receives, amplifiesc) Receives, adds noiseState, Which of the following are the satellite re	b) Amplifies, receives d) Adds noise and transmits eceivers on the earth station?	
(xv)	a) DTH satellite equipmentc) Satellite telephonesReport, Which of the following is the first 2 way	b) Mobile reception equipment in aircrad) All the these communication active satellite?	aft
	a) Telstar c) FalconSAT-1	b) FalconSAT-2 d) AISAT-1	
	Grou	р-В	
	(Short Answer Ty	-	3 x 5=15
2. State, Why frequencies of 6/4 GHz are most widely used for satellite communication?3. Write the applications of satellites? What band of microwave frequencies are assigned for satellite communication?			(3) (3)
	kplain why uplink frequency is larger than down l	ink frequency.	(3)
5. Describe different frequency bands which are allocated for satellite communication and			(3)
	xplain the uses of these frequencies?		(=)
6. Ex	xplain LEO of satellite orbits. OF	,	(3)
W	rite the function of the Altitude and orbit contro		(3)
	Grou	р-С	
	(Long Answer Type Questions)		
8. I	7. Explain the function of the Telemetry tracking control and monitoring system?8. Explain ground based and space based remote sensing.9. Illustrate Apogee and Perigee. Distinguish between Solar day and Sideral day. Write down		
	the possible causes of orbit perturbations. Write short notes on satellite's solar power system	m?	(5)

11. Name and define the modes of multiple access?

12. What is transponder? Why it is express as the brain of a satellite communication system?

(5)

Also explain various type of transponder.

OR

Express satellite point to point telephone networks with neat diagram.

(5)