Seat No.

**Total No. of Pages : 3**

# MAR_APR 2026 SUMMER EXAMINATION

## 1154 B.Tech. CBCS

## Sub. Name: Satellite Communication

## Sub. Code: 83823/84049

**Day and Date: Thursday ,14-05-2026** **Total Marks: 70**

**Time: 10:30 AM To 01:00 PM**

**Instructions:** **1. Draw neat labelled diagrams wherever necessary**
**2. Figures to the right indicate full marks**

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**Q1)** Solve following MCQ. **[14]**

**i.** Angle measured in clockwise direction from geographic North to the projection of satellite path is called as ---------.

A. Elevation angle
B. Azimuth Angle
C. Latitude
D. Longitude

**ii.** The downlink frequency is ------ than the uplink frequency.

A. Lower
B. Greater
C. Same
D. None of the above

**iii.** Which of the following transponders convert the uplink signal to downlink signal using two mixers?

A. Single conversion transponders
B. Double conversion transponders
C. Regenerative transponders
D. Dual mixer transponder

**iv.** The height of the geostationary satellites above the earth's surface is approximately ---------.

A. 36000 km
B. 36000 miles
C. 63000km
D. 63000miiles

**v.** GPS in satellite communication stands for---------.

A. Global prime system
B. Global peace summit
C. Global postal system

D. Global positioning system

**vi.** In a star configuration network, there will be a central station called the ---------
.

A. HUb
B. Star
C. Router
D. Central Statiopn

**vii.** What is the primary use of communication satellites?

A. Telephoneservice
B. Surveillance
C. Research
D. GPS

**Q2) Attempt any TWO** **[14]**

i. Explain Orbital effects in communication system performance.
ii. Write short note on Sun transit outage
iii. Write short notes on System noise temperature

**Q3) Attempt any TWO** **[14]**

i. An earth station antenna has a diameter of 30m with an overall efficiency of 68% and issued to receive a signal at 4150MHz. At this frequency the system noise temperature is 79k when antenna points at the satellite at an elevation angle of 280. What is the earth station G/T ration under these conditions. If heavy rain causes the sky temperature to increases that the system noise temperature rises to 88k.what is the new G/T value
ii. Explain in detail Satellite antennas.
iii. Write short notes on Orbital perturbation.

**Q4) Attempt any TWO** **[14]**

i. Draw and explain the satellite network architecture
ii. Explain working principle of Frame Organization
iii. Explain working principle of GPS Navigation system

**Q5) Attempt any TWO** **[14]**

i. Write a note on Delay and Throughput consideration in Satellite communication
ii. Explain Digital DBS TV
iii. Write a note on Coverage and Frequency Consideration

# End Of Question Paper

**Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -**
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.



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1] (1154) B.Tech. CBCS (83823) Satellite Communication Part 4 SEM 7

2] (101) Bachelor of Engineering (84049) Satellite Communication Part 4 SEM 7

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