



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

OBJECTIVE QUESTIONS

Name of Course Instructor(s) : Mr. V V Rama Krishna Reg : R20
Course Name & Code : Satellite Technology – 20EC80 Unit : 4
Program/Sem/Sec : B.Tech., IT, V-Sem., Section – A, B, andC A.Y : 2023-24
L-T-P Structure : 3-0-0 Credits: 3

S.No	Question Description
1.	What is the primary purpose of the attitude control system in a spacecraft? a) To control the spacecraft's speed b) To monitor the spacecraft's health c) To manage the communication with ground stations d) To orient the spacecraft in the desired direction Answer: d) To orient the spacecraft in the desired direction
2.	Why is station-keeping essential for geostationary satellites? a) To maintain the satellite's speed b) To keep the satellite aligned with a specific point on Earth c) To control the satellite's altitude d) To recharge the satellite's batteries Answer: b) To keep the satellite aligned with a specific point on Earth
3.	For satellites in geostationary orbits, which direction is typically kept constant with respect to the Earth's surface? a) Pitch b) Yaw c) Roll d) All of the above Answer: d) All of the above
4.	Which component in the attitude control system can store and release rotational energy to help turn the spacecraft? a) Thrusters b) Magnetic torquers c) Reaction wheels d) Solar arrays Answer: c) Reaction wheels
5.	If a satellite needs to perform rapid reorientation, which system is typically the most effective? a) Gyroscopes b) Reaction wheels c) Magnetic torquers d) Thrusters Answer: d) Thrusters
6.	For satellites in which type of orbit is station-keeping most frequently required due to atmospheric drag? a) High Earth Orbit (HEO) b) Medium Earth Orbit (MEO) c) Geostationary Orbit (GEO) d) Low Earth Orbit (LEO) Answer: d) Low Earth Orbit (LEO)
7.	Periodic adjustments to maintain a satellite's position in its designated orbital slot are termed as: a) Attitude control b) Orbital repositioning c) Station-keeping maneuvers d) Orbital realignment Answer: c) Station-keeping maneuvers
8.	Which sensor determines a spacecraft's orientation by measuring the angle between the spacecraft and a reference star? a) Earth sensor b) Sun sensor c) Star sensor d) Magnetometer Answer: c) Star sensor
9.	Which sensor helps a spacecraft determine its orientation relative to the Sun? a) Inertial sensor b) Earth sensor c) Magnetometer d) Sun sensor Answer: d) Sun sensor

10. Inertial sensors provide information on: a) The strength of magnetic fields b) The position of stars c) The velocity and acceleration of the spacecraft d) The intensity of sunlight
Answer: c) The velocity and acceleration of the spacecraft

Course Instructor	Course Coordinator	Module Coordinator	HOD
Mr. V V Rama Krishna	Mr. V maneugravityV Rama Krishna	Dr.M.V.Sudhakar	Dr. Y. Amar Babu



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DES

CRIPTIVE QUESTIONS

Name of Course Instructor(s) : Mr. V V Rama Krishna	Reg : R20
Course Name & Code : Satellite Technology – 20EC80	Unit : 1
Program/Sem/Sec : B.Tech., IT, V-Sem., Section – A, B, andC	A.Y : 2023-24
L-T-P Structure : 3-0-0	Credits: 3

S.No	Question Description	CO	BL
1.	Describe about different methods of station keeping maneuvering in satellite control.	CO2	L2
2.	Discuss the necessity of AOCS (Altitude and orbital control system) in a Satellite Vehicle?	CO2	L2
3.	Mention the various sensors commonly employed in satellite control design and mention the role of such sensors	CO4	L1
4.	Why the Momentum wheels used in active altitude control? Give their significance.	CO4	L2
5.	Assess the importance of 3- axis stabilization in satellite control design.	CO3	L2
6.	Compare active attitude control and passive attitude control methods.	CO1	L2
7.	Describe the different methods of station keeping maneuvers in satellite control design.	CO4	L2
8.	Discuss in detail about the following sensors. (i) Gyroscopic Sensors (ii) Magnetic torque sensors	CO3	L2
9.	Assess the importance of 3- axis stabilization in satellite control design	CO1	L2

10.	Compose the salient characteristics of a solar cell used in power control.	CO4	L2
11.	Differentiate Mass expulsion and momentum exchange control system.	CO4	L2
12.	Paraphrase the following : (i) Inertial Sensors (ii) Star and Sun Sensors (iii) Earth sensors	CO4	L2
13.	Why the Momentum wheels used in active altitude control? Give their significance.	CO2	L1
14.	Describe the Gravity gradient stabilization method of satellites.	CO4	L2
15.	Discuss various sensors commonly employed in satellite control design.	CO4	L2
16.	Compare active attitude control and passive attitude control methods.	CO2	L2

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ICT Tools

Name of Course Instructor(s) : Mr. V V Rama Krishna

Reg : R20

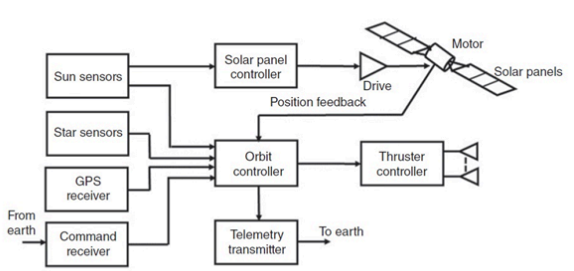
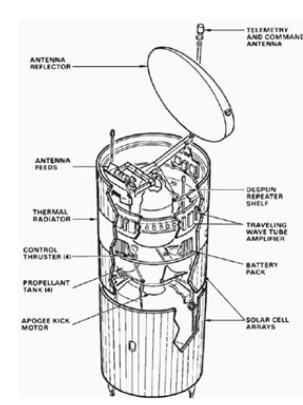
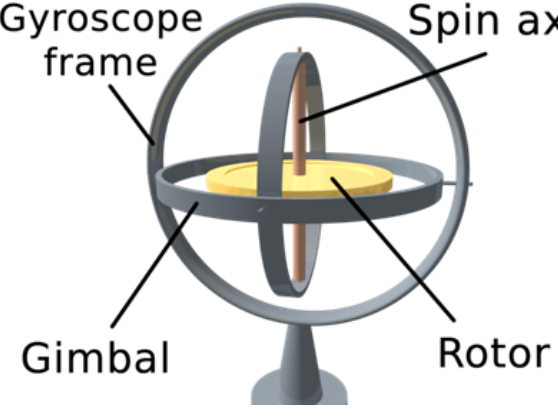
Course Name & Code : Satellite Technology – 20EC80

Unit : 1

Program/Sem/Sec : B.Tech., IT, V-Sem., Section – A, B, andC A.Y : 2023-24

L-T-P Structure : 3-0-0

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 <p>Orbital Control System</p>	 <p>Details about Satellite</p>
 <p>Gyroscope frame Spin axis Gimbal Rotor</p>	<p>Contents</p> <ul style="list-style-type: none"> • Commonly used control systems: <ul style="list-style-type: none"> – Mass Expulsion Systems – Momentum Exchange Systems • Sensors: <ul style="list-style-type: none"> – Gyro & Magnetic Torque sensors – Star & Sun sensor – Earth Sensor – Magnetometers & Inertial Sensors

Course Instructor

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