Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. / B. Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV/DEC 2023

B.E. Geoinformatics, Semester VII, (Regulation 2019)

GI 5012 Planetary Remote Sensing

Time: 3hrs Max.Marks: 100

CO 1	To identify the components of Solar System and understand the payloads of related exploratory missions
CO 2	To understand the mineralogy and petrology of terrestrial planets
CO 3	To describe the exo –endogenic process of Planetary Atmosphere
CO 4	To apply Remote Sensing Techniques for Planetary Surface Analysis
CO 5	To describe the various past and present planetary missions

BL – Bloom's Taxonomy Levels

(L1 - Remembering, L2 - Understanding, L3 - Applying, L4 - Analysing, L5 - Evaluating, L6 - Creating)

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

Q. No	Questions	Marks	CO	BL
1	Write down the evidences for Big Bang theory.	2	1	L1
2	What do you mean by 'Meteoroid' and 'Meteorite'?	2	1	L2
3	What are the three common characteristics to be possessed by a celestial object behaving as a 'planet'?	2	2	L1
4	Why the planets of inner solar system are called as 'terrestrial planets?	2	2	L2
5	What do you mean by Andesite on Mars?	2	3	L1
6	Differentiate between 'Mare' and Highland regions.	2	3	L2
7	What are the merits of space telescope over conventional telescopes?	2	4	L1
8	Write down the functions of space station.	2	4	L2
9	What is the role of MOLA in Mars Global Surveyor?	2	5	L1
10	Write down the cause of spectral absorption by rock forming minerals.	2	5	L2

PART- B (5 x 13 = 65 Marks)

(Restrict to a maximum of 2 subdivisions)

Q. No	Questions	Marks	CO	BL
11 (a) (i)	Explain in detail about the Hubble's "tuning fork" galaxies.	8	1	L3
(ii)	Relate the star temperature with its spectral emission with neat sketch.	5	1	L3
	OR			
11 (b) (i)	Give a detail account on solar system formation with its good hypothesis.	8	1	L3
(ii)	Write short note on standard candle method of stellar distance estimation.	5	1	L3
12 (a) (i)	Explain in detail about the orbital, physical and interior characteristics of wandering planet.	8	2	L3
(ii)	Write about the structure and composition of earth crust.	5	2	L3
	OR			

12 (b)	Discuss in detail about chemical differentiation and crustal development in terrestrial planets	**13**	2	L3
13 (a) (i)	Relate the parallel evolution of Moon and Earth with neat sketch.	**8**	3	L4
(ii)	Write about the Martian atmosphere with its composition.	**5**	3	L4
	OR			
13 (b)	Explain in detail about the various processes influencing planetary surface formation.	**13**	3	L4
14 (a) (i)	Discuss in detail about the structure and operation of 'lander'.	**8**	4	L4
(ii)	Write short note on payload characteristics of Chandrayaan 3.	**5**	4	L4
	OR			
14 (b)	Explain in detail about the various stages of Mars orbit insertion by Mars Orbiter Mission.	**13**	4	L4
15 (a)	Write about the age dating process of planetary surfaces with CSFD.	**13**	5	L5
	OR			
15 (b)	Discuss in detail about the geological mapping of craters in terrestrial planets with case study.	**13**	5	L5

PART- C (1 x 15 = 15 Marks)

(Q.No.16 is compulsory)

Q. No	Questions	Marks	CO	BL
16.	Discuss in detail about the extraction of planetary surface minerals using hyperspectral remote sensing.	**15**	1,2,3 ,4,5	5,6