Name: Enrolment No:	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2021

Programme Name: B.TECH ASE, ASE+AVE **Semester : VIIIth**
Course Name : Space Science and Space Environment **Time : 03 hrs**
Course Code : ASEG 4008 P **Max. Marks : 100**

SECTION A

S. No.	Answer all the Questions (30 Marks)	Marks	CO
Q 1	What is Hubble's law and how is it used by astronomers for measuring distances?	5	CO1
Q 2	Explain about Van Allen belt and its Discoveries, effects of its Radiation for Human Space Missions?	5	CO2
Q 3	Explain about Meteorites, Comets, and Asteroids formation, Consider few objects in the solar system and explain about any one of the mission.	5	CO3
Q 4	Explain about the life cycle of a Star? Why are stars different colours? How do stars die?	5	CO1
Q5.	Compare and contrast the properties of open and globular star cluster? Why do stars tend to form in groups?	5	CO2
Q6.	Explain about the significance of Ionosphere and how the Orbital drag is influenced but Ionosphere activities in the upper atmosphere?	5	CO3

SECTION B

	Answer all the Questions (50 Marks)		
Q 7	Explain about Origin and history of the Solar System with the reference of Big Bang Theory? Explain about process of Earth and Moon formation, and Describe the phases of the Moon and explain why they occur.	10	CO1

Q 8	Explain about Earth's Magnetic field using the schematic Diagram and indicate the geographic poles and magnetic poles, what are the composition of Inner magnetic field and outer magnetic field. Explain about the Magnetic field reversals and its impact on the earth.	**10**	**CO2**
Q 9	Explain about Solar Wind Origin and its Properties, and Its Interactions with different planets Including Earth. What is the impact of solar wind on Earth?	**10**	**CO3**
Q 10	What is Hematopoietic syndrome and Prodromic Syndrome and how it is significant to the Astronauts travelling into the space and what kind of damage it can cause to the Human Body?	**10**	**CO 4**
Q 11	Explain about Coronal Mass Ejections (CME) that occur on the surface of the Sun? What are the Composition of material ejected from CME?	**10**	**CO 3**
SECTION-C			
	Answer all the Questions (20 Marks)		
Q 12	(a). Why Is Ionizing Radiation More Dangerous Than Non-Ionizing Radiation? What Factors Determine the Amount of Radiation Astronauts Receive? How Is Radiation Measured? What Are the Risks and Symptoms of Radiation Exposure for Humans? (b). Explain about radioactivity in space, Absorbed Dosage with in the solar system? Are there any radiation Exposure Limits. How Does the Radiation Environment on Earth Compare to the Radiation Environment on the Moon and Mars?	**20**	**CO4**