


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, May 2022			
Course: Space Science and Space Environment Program: B.Tech Aerospace Engineering Course Code: ASEG4008P		Semester: VIII Time : 03 hrs. Max. Marks: 100	
Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q 1	Explain about Solar Atmosphere, photosphere and its significance in energy transport from sun.	4	CO3
Q 2	Explain the concept of finding distance of planets from sun using empirical relationship, as well as Mass of the Planet.	4	CO2
Q 3	How do astronomers use Doppler effect to determine the velocities of astronomical objects?	4	CO1
Q 4	Name three important differences between the terrestrial planets and the Jovian planets.	4	CO2
Q 5	Why can comets approach the sun from any direction but asteroids generally orbit close to the plane of elliptic?	4	CO 1
SECTION B (4Qx10M= 40 Marks)			
Q 6	Describe the basic features of the nebular theory of solar system formation, and give three examples of how this theory explains some observed features of the present day solar system?	10	CO4
Q 7	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 8	Describe how Earth's movements affect seasons and cause day and night. Explain solar and lunar eclipses. Describe the phases of the Moon and explain why they occur. Explain how movements of the Earth and Moon affect Earth's tides.	10	CO2
Q 9	Explain about Van Allen belt and its Discoveries, effects of its Radiation for Human Space Missions.	10	CO3
SECTION-C (2Qx20M=40 Marks)			
Q 10	Explain the Significance of Cosmic Background Radiation in conformation of Big bang Theory. Explain about Singularity, Inflation Epoch, Cooling Epoch and Structure Epoch.	20	CO5

Q 11	Explain about different types of galaxies and its formation, draw the different shapes of galaxies and explain the different characteristic feature of galaxy formation. Name any three galactic clusters and explain the significance of these clusters.	20	CO4
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