Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Course: *SPACE SCIENCE AND SPACE ENVIRONEMNT* **Semester:** *VIII*
Program: *B.TECH (AEROSPACE ENGINEERING)* **SPZ AVIONICS** **Time** *03 hrs*
Course Code: *ASEG 485* **Max. Marks:** *100*

Instructions:

SECTION A

S. No.	State if the following statements are '**True**' or '**False**'.	**Marks**	**CO**
Q 1	KBOs are found in our galaxy, but out of our solar system.	**3**	**CO1**
Q 2	Mars has an intrinsic Magnetosphere.	**3**	**CO2**
Q 3	Van Allen Belts are found around Jupiter too.	**3**	**CO3**
Q 4	Solar wind is a strong wind of neutral gas particles from the Sun.	**3**	**CO4**
Q 5	The Heliosphere encompasses the region in Sun where hydrogen burns to give helium.	**3**	**CO1**
Q 6	Cosmic rays are the strongest form of EM waves.	**3**	**CO3**
Q 7	Strong Solar wind can cause magnetic storms in the Earth's atmosphere.	**3**	**CO4**
Q 8	The solar corona is visible from the Earth only during Solar eclipses.	**3**	**CO1**
Q 9	Aurora, Van Allen Belts and the Magnetosphere are all caused by energetic charged particles.	**3**	**CO3**
Q 10	For some Cosmic rays, it is still difficult to know their origins.	**3**	**CO3**

SECTION B

Q 11	Differentiate between asteroids, meteoroids and comets.	**10**	**CO1**
Q 12	Discuss the evolution of Earth's atmosphere since its formation. **OR** Explain in detail as to from where the planetary atmospheres came.	**10**	**CO2**
Q 13	Discuss the origin, structure and composition of Van Allen Belt(s) created in the Earth's atmosphere.	**10**	**CO3**
Q 14	Discuss the origin and structure of solar wind. Discuss its interaction with the planets of the solar system.	**10**	**CO4**

Q 15	Explain the terms magnetic inclination, declination and secular variation with respect to the Earth's magnetic field. Has the Earth's magnetic field remained the same since the beginning? Support your answer with proper arguments.	**6+4**	**CO2**
	SECTION-C		
Q 16	Our Sun is not a homogenous ball of fire. Discuss in detail its structure and describe the different regions inside with their characteristic properties.	**20**	**CO1**
	OR Compare, involving relevant physics, the complete life cycles of stars that begin their lives as Proto-stars with masses quite smaller than, nearly equal to, and quite larger than our Sun.	**20**	**CO1**