Enrolment No:	UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, April/May 2018

Course: Space Science and Space Environment **Semester:** VIII
Program: B.Tech ASE
Time: 03 hrs. **Max. Marks: 100**

Instructions: Write to the point answers.

SECTION A

S. No.		Marks	CO
Q 1	Define following: 1. Accretion disc 2. Heliosphere 3. Nebula 4. Quasar	4	CO1
Q2	Differentiate between: 1. Comet and asteroid 2. White dwarf and neutron star	4	CO1
Q3	Name and define different types of galaxy structures.	4	CO2
Q4	Explain expansion of universe.	4	CO4
Q5	What is cosmic background radiation?	4	CO3
	SECTION B		
Q6	Explain major environment challenges which must be tackled to ensure safety of a satellite in an orbit.	10	CO4
Q7	Describe the process and conditions under which a star's life ends in a black hole.	10	CO3
Q8	Describe the science of interaction between Van-Allen particles with Earth's magnetic field. **or** Illustrate interaction of Earth's magnetic field with IMF.	10	CO2
Q9	Present a brief write-up on the following: a) Mars b) Saturn c) Uranus	10	CO1

SECTION-C			
Q10	What are the three most prominent theories predicting fate of universe? Explain each in detail **or** Illustrate a brief history of universe.	**20**	**CO4**
Q11	Give a detailed write-up on 1. Interstellar space. 2. Milky way and Andromeda galaxies 3. Dark matter and dark energy 4. Orion arm	**20**	**CO3**