Name:

Enrolment No:

UPES

End Semester Examination, December 2024

Course: Earth System Science **Semester: I**
Program: B.Sc. Hons. Geology **Time Time : 03 hrs.**
Course Code: PEGS 1001 **Max. Marks: 100**

Instructions:

1. **All Questions are Compulsory in Sections A, B and C.**
2. **Choices are given in Section B for Question No. 7 and in Section C for Question No. 11**

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	List out the methods by which we can determine the age of the earth.	**[4M]**	**CO1**
Q.2	Match the Following: 1. Nebular hypothesis — 1. Catastrophic Theory 2. Tidal Hypothesis — 2. Kuiper 3. Protoplanet Hypothesis — 3. **Sc**hmidt 4. Interstellar Hypothesis — 4. Evolutionary Theory	**[4M]**	**CO1**
Q.3	List down the radioactive isotopes used in radioactive dating of rocks.	**[4M]**	**CO2**
Q.4	Identify the characteristics of soil A – horizon.	**[4M]**	**CO2**
Q.5	Illustrate lithostratigraphic classification for stratigraphy.	**[4M]**	**CO4**

SECTION B
(4Qx10M= 40 Marks)

Q.6	Describe the Planetesimal Hypothesis for the origin of the earth with suitable figure. Also highlight the drawbacks of this hypothesis.	**[8+2M]**	**CO1**

Q.7	Describe in detail Troposphere layer of the atmosphere with its significance. **OR,** Describe in detail Thermosphere layer of the atmosphere with its significance.	**[10M]**	**CO2**
Q.8	Explain how the variation in temperature and salinity play its role in the formation of ocean currents.	**[10M]**	**CO2**
Q.9	Illustrate with neat figures the mechanism of convergent plate boundaries and the associated features that are formed in this type of plate boundaries.	**[10M]**	**CO3**
SECTION-C **(2Qx20M=40 Marks)**			
Q.10	Stratigraphy is based on a set of principles that govern the processes of sedimentation. Illustrate the following stratigraphic principles with neat figures: 1. Principle of the order of superposition. 2. Principle of uuniformitarianism 3. Principle of original horizontally 4. Principle of llateral ccontinuity	**[5×4= 20M]**	**CO4**
Q.11	Explain in detail the geomorphology of Indian subcontinent. **OR,** (i) Compare the theories of Catastrophism, Uniformitarianism and Neptunism for the earth's processes. (ii) Infer the current consensus on Earth's history.	**[20M]** **[15 +5M]**	**CO4**