

7. How do we define the mean sea-level? Explain the causes and consequences of sea-level changes in the geological past. How can we infer the past sea level changes?
8. Explain the plate tectonic reasons for forming continental ice sheets in the Cenozoic.

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5571

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Unique Paper Code : 2192013603

Name of the Paper : DSC-18 : Paleoceanography
and Paleoclimate

Name of the Course : **B.Sc. (NEP)**

Semester : VI

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
 2. Attempt any **five** questions.
 3. **All** carry equal marks.
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1. Discuss, with examples, the distinction between weather and climate. What do you understand by climate change"? Give some examples of "climate change". What are the various consequences of "climate change"?

2. What are the various components of the "Climate System"? Which components affect the climate on a longer / shorter scale? List them and discuss the interaction between any two components.
3. (a) What is insolation, and how do factors that affect its distribution on Earth's surface influence climate change?

(b) Discuss the roles of clouds, greenhouse gases, and Earth's albedo in regulating the planet's energy budget. How do these factors influence the balance between incoming and outgoing solar radiation?
4. Answer the followings :

(a) Discuss the Geographic and Magnetic North Poles. How are they located on Earth? How does the Magnetism of the Earth shield us from cosmic bombardments? What are the Aurora Borealis and the Aurora Australis?

- (b) What are the Perihelion and Aphelion positions? How do these two positions affect the climate of the Earth? Show with neat diagrams.
5. Explain the "Reasons" for "Seasons." Also, a neat diagram will be drawn to show the Summer Solstice, Winter Solstice, and Spring and Autumn equinoxes, as well as how the variations in orbital parameters have affected Earth's climate in the past.
6. Answer briefly any **TWO** of the following :

(a) How does the specific heat of water/land moderate the climate of the coastal regions?

(b) What is the effect of a volcanic eruption on the local climate?

(c) How do marine sediments indicate past sea-level changes? Discuss the types of sedimentary evidence and their role in recording sea-level fluctuations.