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6 SEM TDC DSE GEO (CBCS) 3 (H)

2024

(May)

GEOLOGY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-3

(**Earth and Climate**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following as directed : $1 \times 5 = 5$

- (a) The ____ effect is a natural process that warms the earth by trapping outgoing solar radiation.

(Fill in the blank)

- (b) Release of flood basalts can be related to global cooling.

(Write True or False)

- (c) The obliquity of earth's axis varies every _____ years.

(Fill in the blank)

- (d) Define 'feedback' in climate system.

- (e) Name one external climate forcing.

2. Write short notes on any *five* of the following :

3×5=15

- (a) Earth's heat budget

- (b) Global atmospheric circulation

- (c) Surface ocean circulation

- (d) Marine isotope stages

- (e) Heat transfer in ocean

- (f) Sea ice and glacial ice

3. Discuss briefly about the following : 5×3=15

- (a) Milankovitch cycle

- (b) Humans and climate change

- (c) Last Glacial Maximum (LGM)

4. What is meant by 'archives' of climate change? Discuss briefly about some archive-based climate change data. 1+4=5

5. How do the earth's atmosphere and oceans interact? Discuss briefly about the global oceanic conveyor belt and its control on earth's climate. 2+5=7

6. Discuss the mechanism of monsoon and its variation through time. Add a note on the effects of monsoon. 3+3=6
