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UG/5th Sem/Geolo(H)/T/19

2019

B.Sc. (Honours)

5th Semester Examination

**GEOLOGY**

Paper - DSE-1T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

**(Earth and Climate)**

**Group - A**

Answer any *five* questions from the following.

5×2=10

1. Define global oceanic conveyor belt.
2. What are Milankovitch cycles.
3. Define thermocline.

[ Turn Over ]

( 2 )

4. How does ocean current affect the temperature of nearby land ?
5. Name the various sources of Earth's heat.
6. What is Coriolis effect ?
7. Name the major ice ages that occurred in the Earth's history.
8. What is albedo ?

**Group - B**

Answer any *four* questions from the following.

4×5=20

9. Write a short note on the factors controlling monsoonal intensity.
10. Discuss the role of oxygen isotope in paleoclimatic interpretation.
11. Write a short note on Earth's heat budget.
12. Describe the external forcing factors of the climate system.

( 3 )

13. Write a short note on the layered structure of the atmosphere with a neat sketch.
14. Write short note on Younger Dryas.

**Group - C**

Answer any *one* of the following questions.

1×10=10

15. Write about the natural and anthropogenic effects on climate change.
  16. Discuss the mechanisms of surface and deep oceanic circulation patterns and their control on the Earth's climate.
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[ Turn Over ]

( 4 )

**(Introduction to Geophysics)**

**Group - A**

Answer any *five* questions from the following.

5×2=10

1. What is geophysics ?
2. What is the relation between signal and noise ?
3. What is the difference between a positive and a negative anomaly ?
4. What is the main purpose of stacking ?
5. What type of scale is used to measure the intensity of a Earthquake ?
6. What is cross over distance ?
7. What is two-way time (TWT) ?
8. Write the names of corrections incorporated at the time of seismic refraction method.

( 5 )

**Group - B**

Answer any *four* of the following questions.

4×5=20

9. Determine the travel time of refracted seismic ray for three different layers with neat sketch.
10. Write a short note on detection method of low velocity layer by seismic refraction.
11. Write a short note on Common Depth Point Stacking.
12. Describe with sketch, the anomaly of a buried sphere and vertical ore body with induced magnetisation at their magnetic pole.
13. (a) What is vertical electrical sounding ?  
  
(b) Describe the Wenner array with diagram. 2+3
14. Write a short note on induced polarization method in geophysics.

[ Turn Over ]

( 6 )

**Group - C**

Answer any *one* of the following questions.

1×10=10

15. (a) Write a note about the corrections on gravity anomaly.
- (b) Describe gravitational effect on buried sphere over subsurface. 5+5
16. (a) Write a short note on sonic logging.
- (b) Describe the use of reflected seismology for searching hydrocarbons. 4+6
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