

2019

Part – II

**GEOLOGY**

(Honours)

**Paper – III**

*Full Marks – 90*

*Time : 4 Hours*

*The figures in the right-hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

***Result must be recorded in tabular form as far as possible.***

**GROUP – A**

**A. Answer the following questions: (any five)**

1. Write the dentition pattern of pelecypoda with proper example. 5
2. Describe the different types of suture pattern of cephalopod with neat sketches. 5

3. (i) What is periproct and peristrome ? 2
- (ii) What is umbilicus and columella ? 2
- (iii) What is siphuncle ? 1
4. (i) What is glabella ? 1
- (ii) Write the different types of feature of anterior margin of brachiopoda with diagram. 4
5. Write about the facial suture of trilobite. 5
6. Describe different modes of preservation of fossil record. 5
7. What are the causes for anisometric growth of organisms ? 5
8. (i) What is mass extinction ? Name the five major mass extinction events. 2
- (ii) What is the difference between sympatric speciation and allopatric speciation ? 2

- (iii) What is the significance of fossil lagerstätten ? 1

**B. Answer the following questions : (any one)**

1. (i) Write the names of vertebrate fossils of siwalik with proper stratigraphic sequences. 6
- (ii) Write a short note on upper gondwanaflora of India. 4
2. Discuss briefly about evidences of early life in Precambrian. What is 'Cambrian Explosion' ? 9+1

**GROUP – B**

**Answer the following questions : (any three)**

1. Write a short note on Goldsmith classification of elements. 5
2. Describe briefly r and p process. 5

3. (i) What are the differences between chondrite and achondrite ? 2
- (ii) What is meteorite ? 1
- (iii) What is the significance of meteorite composition ? 2
4. Write a short note on K-Ar dating method. 5
5. (i) What is radioactive decay constant ?
- (ii) Why continental crust is enriched in Rb ? Explain. 2+3
6. Describe about different types of meteorite. 5

### GROUP – C

A. Answer the following questions : (any two)

1. (i) Define the term specific yield, transmissivity. 2
- (ii) Write a short note on perched water table. 3

2. (i) What is the relation between porosity and permeability ? 1
- (ii) What is confined and unconfined aquifer ? 2
- (iii) What is hydraulic conductivity ? 2
3. Write a short note on earthquake prediction. 5
4. (i) What is acid mine drainage ? 2
- (ii) Write the precaution measures of soil pollution. 2+3

**B. Answer the following questions : (any one)**

1. (i) Describe the zonal distribution pattern of subsurface water.
- (ii) In which way an influent and an effluent stream affects the local ground water table ? 6+4
2. (i) Write a short note on impact of human activities on landuse pattern.
- (ii) Write a short note on prediction of volcanic eruption. 5+5

## GROUP – D

A. Answer the following questions : (any two)

1. (i) What is along track and across track scanner ?
- (ii) What is scattering and describe different types of scattering. 2+3
2. (i) What is the difference between geobotanical prospecting and biogeochemical prospecting ?
- (ii) Write a short note on lithogeochemical prospecting. 2+3
3. (i) What is induced polarization method ?
- (ii) Write different types of resistivity survey. 2+3
4. Write the factors affecting on the stability of a reservoir. 5

**B. Answer the following questions : (any one)**

1. (i) Write about the different types of dam according to their construction material.
- (ii) Describe how does the orientation of the basement rock controls the stability of a dam. 5+5
2. (i) Write the name of different types of geophysical prospecting in a tabular form and what kind of ore deposits are investigated by those processes. 5
- (ii) Write the prevention measures of landslide briefly. 5
-