

2018

GEOLOGY - PAPER-I

Time Allowed : 3 Hours

Full Marks : 200

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

Answers may be given either in English or in Bengali but all answers must be in one and the same language.

ANSWER ANY FIVE QUESTIONS.

1. a) Describe five basic concepts of geomorphology.
b) Describe five aeolian landforms.
c) State Fundamental Principles of remote sensing and describe advantages and limitations of this technique.
10+10+20
2. a) What are lineations ? State different types of lineations. What is the effectiveness of slickenside lineation ?
b) Give the classification of fold on the basis of interlimb angle.
c) State five criteria of recognition of folding.
20+10+10
3. a) Give the Precambrian stratigraphy of Northern Singhbhum.
b) Give the Palaeozoic stratigraphy of Kashmir.
c) State the Proterozoic stratigraphy.
20+10+10
4. a) Give an account of different types of
i) Sutures of cephalopods
ii) Dentition in Pelecypods
b) Define Index fossil and state their significance.
c) Give an outline of evolution of Proboscidae.
20+10+10
5. a) Define Earthquake. How are they caused ?
b) Give an idea of Earthquake belts in the earth.
c) Give an idea of floral composition in Upper Gondwana.
d) Briefly describe of cosmic abundance of elements.
10+10+10+10
6. i) Give an account of hydrological cycle.
ii) What do you mean by
a) secondary porosity b) Aquiland
c) transmissivity d) perched Watertable
20+20
7. a) Define 'Landslids'. Give an idea of causes and remedies of landslids.
b) Which site is more suitable for erection of dam and why ?
i) Beds are dipping towards the upstream
ii) Beds are dipping towards the downstream
c) What are 'compressive strength' and 'shear strength' of a building stone and state their value in case of basalts and granites.
20+10+10
8. a) State how are landforms controlled by geologic structure and lithology.
b) What are (hol) and (okl) joints. State with diagrams.
c) Give an idea of marine rocks in Gondwana.