

GEOLOGY

(Paper I)

Time Allowed : Three Hours

Maximum Marks : 300

QUESTION PAPER SPECIFIC INSTRUCTIONS

(Please read each of the following instructions carefully before attempting questions)

There are EIGHT questions divided in two Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, any THREE are to be attempted choosing at least ONE question from each Section.

All questions carry equal marks.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Word limit in questions, wherever specified, should be adhered to.

SECTION 'A'

1. Write short answers (within 200 words) for any three of the following:
 - (a) What is the principle of dating very old rocks on the Earth?
 - (b) Define Peninsula and Extra-peninsula with reference to India.
 - (c) What do you understand by Geomorphic cycles?
 - (d) Draw a stress and strain ellipsoid for a deformed rock.
2. Differentiate between:
 - (a) Hawaiian and Strombolian type volcanic eruptions
 - (b) Mobile belts and shields
 - (c) Lower mantle and Upper mantle
 - (d) Primary and Secondary seismic waves
3. Describe the steps through which present configuration of the Earth have evolved. Discuss the most recent view, in this regard.
4. Briefly describe the following:
 - (a) Mid-Atlantic Ridge
 - (b) Origin of oceans and continents
 - (c) Fluvial landforms
 - (d) Monocline and Homocline

SECTION 'B'

5. Write brief answers (within 200 words) for any three of the following:
 - (a) Make a list of functional differences between vertebrates and invertebrates.
 - (b) Write the standard stratigraphic time-scale beginning from the oldest (Give most recent classification).
 - (c) What are the benthic and planktonic organisms?
 - (d) What is the origin of the following geological names: (i) Siwalik (ii) Gondwana (iii) Gondite (iv) Khondalite (v) Jurassic

6. How are the fossils formed? Describe the mechanism by which organic content of the once living matter gets preserved in rock records.
7. Discuss the reasons for absence of marine Palaeozoic rocks in Peninsular India, except for a narrow strip in central India.
8. Write short answers to the following:
 - (a) How are unfossiliferous rocks of two or more sections correlated?
 - (b) What are the major differences between Lower and Upper Gondwana flora?
 - (c) Which are the most controversial stratigraphic boundaries?
 - (d) What are the characteristic morphological differences between the gastropods and brachiopods?