

2013

(5th Semester)

GEOLOGY

FIFTH PAPER

(**Physics and Dynamics of the Earth**)

(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

Answer **all** questions

SECTION—A

(Marks : 5)

1. Choose the correct answer and put its number within the brackets provided : 1×5=5

(a) Tombolo is a/an ——— geomorphic feature.

(i) aeolian

(ii) glacial

(iii) marine

(iv) None of the above

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(b) India is divided into — seismic zones.

(i) 3

(ii) 4

(iii) 5

(iv) 6

[]

(c) The interlimb angle of an open fold is

(i) 0°

(ii) 0°-30°

(iii) 30°-70°

(iv) 70°-120°

[]

(d) Rocks on either side are parallel in

(i) nonconformity

(ii) angular disconformity

(iii) disconformity

(iv) None of the above

[]

(3)

(e) If the sides of the cylinder are subjected to a hydrostatic pressure of 200 kg/cm^2 , whereas the ends are subjected to a tensile stress of 1000 kg/cm^2 , the stress difference is

(i) 800 kg/cm^2

(ii) 1000 kg/cm^2

(iii) 1200 kg/cm^2

(iv) None of the above

[:]

(4)

SECTION—B

(Marks : 15)

2. Write on the following in 3 or 4 sentences each :

3×5=15

(a) Endogenic geomorphic processes

(b) Trenches

(6)

(c) Beta and pi diagrams

(d) Release joints

(e) Stress-strain diagram

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(5th Semester)

GEOLOGY

FIFTH PAPER

(**Physics and Dynamics of the Earth**)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(*Marks : 35*)

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

Answer **five** questions, selecting **one**
from each Unit

UNIT—1

1. Describe the different types of geological features formed by river action. Support your answer with diagrams. 7
2. Write in detail about the various geomorphic features produced by ocean and give suitable diagrams. 7

(2)

UNIT—2

3. What is orogeny? Describe the origin and classification of mountains. 1+6=7
4. What are body waves and surface waves? Write a detailed note on body waves and explain how they are utilised for studying the earth interior. 1+6=7

UNIT—3

5. Write the different types of folds with appropriate diagrams. 7
6. Define unconformity. Describe the various types of unconformity. 2+5=7

UNIT—4

7. Define secondary lineations. Describe the various types of secondary lineations, supported with neat labelled sketches. 1+6=7

8. Write descriptive notes on any *two* of the following : 3½×2=7
- (a) Effect of faulting on the outcrop
 - (b) Stereographic projection and its application
 - (c) Cleavage and schistosity

UNIT—5

9. Define stress and strain. Add a note on Mohr's envelope. 2+5=7
10. Write notes on any *two* of the following : 3½×2=7
- (a) Ductile deformation
 - (b) Relation of rupture to strain
 - (c) Brittle failure

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