

2014 P.U.C. LIBRARY
(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—I

1. Describe in detail about the various landforms developed by the geologic action of wind. Give suitable diagrams. 7
2. Write the descriptive notes on the erosional and depositional landforms produced by glaciers with appropriate diagrams. 7

G15—150/162a

(Turn Over)

UNIT—II

3. Who proposed the theory of continental drift? Describe the continental drift theory with various supporting evidences. 1+6=7
4. Define plate. Describe the various types of plate boundaries with suitable diagrams. 1+6=7

UNIT—III

5. Describe in detail about the genetic and geometric classification of faults with proper diagrams. 7
6. Write notes on the following : $3\frac{1}{2}\times 2=7$
- (a) Causes of folding
 - (b) Development of unconformity

UNIT—IV

7. Write on any *two* of the following : $3\frac{1}{2}\times 2=7$
- (a) Effect of faulting on topography
 - (b) Types of cleavage
 - (c) Boudinage

8. Give the geometric classification of joints with neat sketches. 7

UNIT—V

9. Write short notes on any *two* of the following : $3\frac{1}{2} \times 2 = 7$

- (a) Relationship of rupture and stress
- (b) Brittle failure
- (c) Stress-strain diagram

10. Write the descriptive notes on Mohr's circle and Mohr's envelop. 7

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(PART : A—OBJECTIVE)

(Marks : 20)

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Answer **all** questions

SECTION—A

(Marks : 5)

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

(a) Zeugen is a geomorphic feature produced by the action of

(i) wind

(ii) river

(iii) glacier

(iv) None of the above

[]

(b) North-East India falls under the Earthquake zone of

(i) II

(ii) III

(iii) IV

(iv) V

[]

(c) Horst topography is produced by

(i) folding of strata

(ii) block faulting of strata

(iii) erosion of the overlying strata

(iv) None of the above

[]

(d) Joints which are developed perpendicular to the fold axis are called

(i) extension joints

(ii) released joints

(iii) tension joints

(iv) shear joints

[]

(e) The algebraic difference between the greatest and the least principle stresses is called

(i) tangential stress

(ii) tensile stress

(iii) stress difference

(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) Erosional landforms produced by rivers

(b) Mid-oceanic ridges

(c) Significance of unconformity (d)

(Marks: 15)

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

3×5=15

(a) Erosional landforms produced by rivers

(d) Mullions

(e) Stress and strain

(5th Semester)

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(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 : 1x5=5

(a) Zeugen is a geomorphic feature produced by the action of

(i) wind

(ii) river

(iii) glacier

(iv) None of the above

(e) Stress and strain ellipsoid

(c) Relief topography is produced by

- (i) folding of strata
- (ii) block faulting of strata
- (iii) erosion of the overlying strata
- (iv) Mass of the strata

(d) Joints which are developed perpendicular to the rock beds are called

- (i) extensional joints
- (ii) released joints
- (iii) tension joints
- (iv) shear joints
