2019

B.Sc.

2nd Semester Examination

GEOLOGY (Honours)

Paper - C4T

Full Marks : 40 Time : 2 Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Group - A

Answer any *five* questions of the following : 5×2

1. Define angular shear and shear strain. 2

2. What is striping lineation ? 2

3. Define ductile zone. 2

4. Differentiate between M-domain and QF-domain. 2

5. What are kink bands ? 2

[Turn Over]

6. Define principal stress ellipsoid. 2

7. What is non-plane cylindrical folds ? 2

8. Define stress slip fault. 2

Group - B

Answer any *four* questions of the following : 4×5

9. Name and describe any two primary sedimentary structures that are important to a structural geologist. 2½×2

10. Write down the effect of presence of a fluid phase on stress strain curve. 5

11. Discuss the various modes of fractures. What is the relation of joints and stylolites with principal stresses ? 3+2

12. Differentiative between any *two* of the following : 2½×2=5

    (a) Active folding vs passive folding

    (b) Schistosity vs Gneissosity

    (c) Cleavage fanning vs Cleavage refraction

13. Write down the significance of axial planar cleavage in structural analyses. 5

14. Write about different types of three-dimensional strain ellipsoids with neat sketches. 5

Group - C

Answer any *one* questions of the following : 1×10

15. (i) What parameter are used in Ramsay's classification of folds ?

(ii) Draw $t'\alpha$ vs α and $T'\alpha$ vs α graphs for the five categories of folds and describe each of them. 3+7

16. (i) Give a brief account on different types of unconformity surfaces. How would you distinguish an unconformity surface from a fault in field ?

(ii) How does stretching lineation relate to fold axis ? 3+3+4
