

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc. Summer 2018-19 Examination

Semester: 2**Subject Code: 11211151****Subject Name: Structural Geology and Tectonics****Date: 01/04/2019****Time: 10:30 am to 01:00 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)

- (a) Explain kinematics and dynamics of structural geology.
- (b) Describe primary and secondary structures in structural geology.

Q.1. B) Answer the following questions (Any two)

- (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
1. Write a note on Stress
 2. Define Strain
- (b) Write short note on objectives of structural geology (04)
- (c) Write short note on drag folds (04)

Q.2. A) Answer the following questions.

- (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
1. In _____ deformation, the rock body returns to its original shape even if the stresses are removed.
 2. _____ is the deformation caused by stress.
- (b) Short note on brittle deformation (04)

Q.2. B) Answer the following questions (Any two)

- (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
1. The vector component normal to the plane and is denoted by σ_n is called _____
 - a) Normal stress b) deviatoric stress c) shear stress d) strain
 2. The part of a fold that shows maximum curvature is called as _____
 - a) Limb b) hinge c) plunge d) axial plane
 3. _____ is an angle made by the fold axis with the horizontal plane.
 - a) Plunge b) hinge c) dip angle d) apex
- (b) Short note on genetic classification of folds. (03)
- (c) Short note on normal faults (03)

Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)

- (a) Describe geometrical classification of faults
- (b) Describe the stress on point with proper diagram

Q.3. B) Answer the following questions (Any two)

(a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)

1. What is ductile deformation? Give an example.

2. What are reverse faults? Give some examples.

(b) Short note on deformation (04)

(c) Short note on fold terminology (04)

Q.4. A) Answer the following questions.

(a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)

1. When the rotation and distortion components are zero, we have only _____

2. When the translation and distortion components are zero, we have only _____

(b) Short note on types of folds (04)

Q.4. B) Answer the following questions (Any two)

(a) Short note/ Multiple choice questions. (Each of 01 marks) (03)

1. The plane along which two blocks are displaced are called as _____

a) Fault plane b) hade c) scarp d) dip slip

2. _____ is the angle that a fault plane makes with the horizontal line in that plane.

a) Throw b) rake c) dip slip d) heave

3. The faults that radiate out from a common point are called as _____

a) Radial faults b) peripheral faults c) dip fault d) strike fault

(b) Short note on translational movement of faults (03)

(c) Short note on homogenous strain (03)