

1904N276
MSc Applied Geology SEM 2
AGL 409 TH

Candidate's Seat No : _____

APRIL 2024

Structural Geology

Time: 2-30 Hrs. Total Marks: 70

Q.1 Write the following.

- (i) What is plastic deformation, and how does it occur? Describe its mechanism. 07
- (ii) What are the indicators of strain observed in rocks that have undergone natural deformation? 07

OR

- (i) Can you explain the nature and effects of compression and tensional forces? 07
- (ii) Describe the characteristics and formation process of en echelon gravity faults. 07

Q.2 Write the following.

- (i) Describe the concept of erosion thrust, supported by a clear diagram. 07
- (ii) What are the mechanisms behind the formation of gravity faults? 07

OR

- (i) Can you explain the geological formations known as graben and horsts? 07
- (ii) Explain the characteristics and formation processes of shear and bedding thrusts. 07

Q.3 Write the following.

- (i) Discuss the process of folding. 07
- (ii) Elaborate on the orientation and geological features commonly found in association with salt domes? 07

OR

- (i) What are the factors contributing to the formation and composition of salt domes? 07
- (ii) Explain system and process of folding. 07

Q.4 Write the following.

- (i) Explain the structural interactions between plutons and the rocks they intrude into. 07
- (ii) Can you elaborate on the timing of intrusion in relation to plutons? 07

OR

- (i) What are the various classifications of shear zones? 07
- (ii) Describe the internal characteristics and formations within plutons. 07

(P.T.O.)

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Q.5 Attempt any seven out of twelve.

(14)

- 1) Define fault in structural geology.
 - 2) Give examples of strike-slip faults.
 - 3) Explain the concept of jointing in rocks.
 - 4) What is the difference between jointing and faulting?
 - 5) Define foliation in metamorphic rocks.
 - 6) State the geological process responsible for the formation of anticlines.
 - 7) Provide examples of fold mountains.
 - 8) Explain the term "thrust fault" and its significance.
 - 9) Describe the formation process of a monocline.
 - 10) What are the characteristics of a dome structure?
 - 11) Define cleavage in relation to rock structures.
 - 12) State the geological significance of unconformities.
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