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3 SEM TDC GEO M 1

2019

(November)

GEOLOGY

(Major)

Course : 301

(Structure and Tectonics)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

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

(Structural Geology)

(Marks : 30)

1. Define unconformity. Write about different types of unconformity with neat diagrams. Explain different stages in the formation of an unconformity. 1+3+5=9

(2)

2. Write notes on any *two* of the following :

$$4\frac{1}{2} \times 2 = 9$$

- (a) Classification of folds based on dip isogons
- (b) Definition and resolution of forces
- (c) Refolded folds and fold interference patterns
- (d) Diastrophic and non-diastrophic structures

3. Define wrench fault. Write about genetic classification of faults. What are horsts and grabens?

$$1 + 5 + 3 = 9$$

Or

Write in brief about any *two* of the following :

$$4\frac{1}{2} \times 2 = 9$$

- (a) Drag folds
- (b) Joints and its types
- (c) Stress ellipsoid and strain ellipsoid

4. Fill in the blanks :

$$1 \times 3 = 3$$

- (a) The time interval not represented in an unconformity is called a ____.
- (b) The Rake is the angle made by a line on an inclined surface with respect to the _____. (vertical/horizontal)
- (c) A fold which closes sideways is called _____.

(3)

(Tectonics)

(Marks : 18.)

5. Write about different types of plate boundaries with suitable diagrams. 8

Or

Describe the tectonic framework of India with respect to the physiographic divisions.

6. Write on any *two* of the following : 4×2=8

- (a) Plate tectonic theory
- (b) Triple junction
- (c) Deep-sea trenches and mid-oceanic ridges

7. (a) Fill in the blank : 1

The imbricately faulted mountain belt of NE India is called ____.

- (b) What is an island arc? 1

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