

FS – 17 / 15-16

Geology

Paper – I

Time : 3 hours

Full Marks : 200

The figures in the right-hand margin indicate marks.

Candidates should attempt Q. No. 1 from

Section – A and Q. No. 5 from Section – B

*which are compulsory and any **three** of*

the remaining questions, selecting

*at least **one** from each Section.*

SECTION – A

1. Answer any **two** of the following in about **200** words along with neat sketches wherever necessary : 20×2 = 40

(a) Describe the internal constitution of the Earth.

(b) Discuss the geological significance of strain ellipse.

- (c) Discuss the salient characters of the Indian Remote Sensing Satellites (IRS).
2. (a) Giving neat sketches, discuss the genetic classification of faults. 20
- (b) What are the different fold types according to their interlimb angles ? Also explain the salient difference between inclined fold and reclined fold. 10+10 = 20
3. (a) Discuss the basic concepts of Geomorphology. 20
- (b) Briefly describe Global Positioning System (GPS) and its orbital constellation of satellites. Also discuss the salient aspects of Indian version of satellite based navigation system. 10+10 = 20
4. (a) Discuss the concepts of Isostasy. 20
- (b) Giving reasons describe why deep focus earthquake zones, deep sea trenches and ring of fire are found together in close vicinity. 20

SECTION – B

5. Answer any **two** of the following in about **200** words each along with neat sketches wherever necessary : $20 \times 2 = 40$
- (a) Discuss the life through geological ages.
 - (b) Describe the scheme of lithostratigraphic classification.
 - (c) Discuss the preventive measures required for landslide hazard mitigation.
6. (a) With neat sketches, describe the morphology of trilobites. 20
- (b) Describe the sutures of ammonites. Also discuss the stratigraphic utility of Ammonoidea. $8+12 = 20$
7. (a) Discuss the plate tectonic evolution of the Himalaya. 20
- (b) Discuss the Cretaceous/Tertiary boundary problems in India. 20
8. (a) Critically discuss the geological considerations for tunnels. 20
- (b) Describe the hydrological cycle. 20



SECTION - B

5. Answer any two of the following in about 500 words each along with neat sketches wherever necessary. 20x2 = 40

- (a) Discuss the life through geological ages.
- (b) Describe the scheme of lithostratigraphic classification.
- (c) Discuss the preventive measures required for landslide hazard mitigation.

6. (a) With neat sketches describe the morphology of tholites. 20

(b) Describe the sutures of ammonites. Also discuss the stratigraphic utility of Ammonites. 8+12 = 20

7. (a) Discuss the plate tectonic evolution of the Himalaya. 20

(b) Discuss the Cretaceous/Tertiary boundary problems in India. 20

8. (a) Critically discuss the geological considerations for tunnels. 20

(b) Describe the hydrological cycle. 20

