

2019

**GEOLOGY**

( Major )

Paper : 5.2

( Indian Stratigraphy )

Full Marks : 60

Time : 3 hours

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

1. Choose the correct option from the following :

1×3=3

(a) Find the odd one from the given options :

(i) Chinji formation

(ii) Kamlial formation

(iii) Girijan formation

(iv) Panchet formation



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(b) Which one of the given statements is false ?

- (i) The 3000 Ma Peninsular Gneiss is made up of tonalite-trandhjemite-granodiorite and forms a large part of WDC.
- (ii) The name 'Peninsular Gneiss' was given by W. F. Smith in 1915.
- (iii) The Peninsular Gneiss rests unconformably on the Mangesar formation of the Kaimur Group.
- (iv) The Peninsular Gneiss is characterised by elongate belts and island like enclaves of schistose rocks.

(c) Panna shale is a part of

- (i) Tipam group
- (ii) Rewa group
- (iii) Bhander group
- (iv) Marwar group

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( Continued )

( 3 )

2. Answer the following questions :

1×4=4

- (a) Name two areas in India where you find evidences of Cretaceous marine incursions.
- (b) Which formation of Lower Gondwana is devoid of coal?
- (c) Which group of rocks does Ariyalur formation overlie in the Trichinopoly area?
- (d) Which craton in India is marked by the presence of felsic volcanic suites Cu-Pb-Zn and stromatolites?

3. Give brief answers to the following :

2×4=8

- (a) What do the presence of coal in Barakar formation and presence of hematite bands in the Barren Measures formation of Lower Gondwana indicate?
- (b) How are Deccan Traps and Reunion hot spot related to each other?
- (c) Name the members that make Shella formation along with its age.
- (d) Write very briefly about Infra-Trappeans and Inter-Trappeans.

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( Turn Over )



( 4 )

4. Answer any *three* of the following :  $5 \times 3 = 15$

- (a) Write briefly on the Closepet granite of Dharwar craton.
- (b) Write briefly about the lithology and depositional environment of the Vindhyan supergroup of Sone valley.
- (c) Write briefly on the tectonics of evolution of the Dharwar craton.
- (d) Write briefly on the Jurassic rocks of Kutch area.
- (e) Discuss very briefly the problems of correlation of Precambrian formations of India.

5. Answer the following :

- (a) Give a stratigraphic account of the Singhbhum craton on the basis of lithology, igneous activity and basin tectonics.  $6+2+2=10$

Or

Give a stratigraphic account of the Delhi supergroup and put light on its lithology, igneous activity and basin tectonics.  $6+2+2=10$

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- (b) Give the stratigraphic succession of Cuddapah supergroup. Discuss the lithology, igneous activity and tectonic evolution of the basin.  $2+3+2+3=10$

Or

Discuss the lithostratigraphy and depositional environment of the Gondwana supergroup of Peninsular India. Name the areas in North-East India where Gondwana rocks are exposed.  $4+4+2=10$

- (c) Give a stratigraphic account of the Cretaceous rocks of Meghalaya. Add a note on the depositional environment.  $6+4=10$

Or

Give a stratigraphic account of the Siwaliks emphasising its lithology, distribution and depositional environment.  $5+2\frac{1}{2}+2\frac{1}{2}=10$

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