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+ 2 Maps

C/18/B.Sc./Part-III(H)/3T(N)/GELH(Pr.)/8

NEW

Part-III 3-Tier

2018

GEOLOGY

(Honours)

PAPER—VIII

(PRACTICAL)

Full Marks : 100

Time : 6 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer all questions.

Group—A

(50 Marks)

1. (a) Give a detailed morphological account of the given specimens (3) of the Invertebrate fossils and Indicate the diagnostic characters and Name them. 3×5

(Turn Over)

- (b) Comment on the mode of preservations of the specimens. 3
- (c) Determine the age of the assemblage. 2
2. (a) Give a detailed morphological account of the specimen (1) of plant fossil and indicate the diagnostic character and identify the specimen. 4
- (b) Comment on the mode of preservation of the specimen. 1
3. Compare the morphological characters between two given Gastropoda specimens. 5
4. (a) Interpret the given hydrogeological map. 5
- (b) An aquifer has a hydraulic conductivity of 123 ft/day, an effective porosity of 27% and is under a hydraulic gradient of 0.0003. 5
- (i) Determine the Darcy velocity.
- (ii) Determine the average linear velocity.
- (iii) The water temperature was 12°C and the mean pore diameter was 0.33 mm. Was it permissible to use Darcy's law under these circumstances? What is the reason for your answer?

(Note : For water at 12°C, $P = .99498 \text{ gm/cm}^3$
and $\mu = 0.012363 \text{ gm/sec-cm}$).

5. Interpret the given satellite imagery (given by the college).
Create a vector data file of a given raster data file and
mark the water bodies, rivers, roads and measure their
area by using appropriate GIS software. 10

Group—B

(50 Marks)

6. Seminar presented by the students. 25
7. General Viva-Voce. 20
8. Laboratory Note Book (Gr. A). 5