

(4)

Ex:/F/GEO/XIII/82/2019

12. Write short note (any *two*)

5

(a) Rock eval pyrolysis

(b) Stratigraphic traps

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BACHELOR OF SCIENCE EXAMINATION, 2019

(3rd Year, 2nd Semester)

GEOLOGICAL SCIENCES

Fuel Geology

Paper : XIII

Time : Two hours

Full Marks : 50

Use separate answer-script for each group.

GROUP - A (25 marks)

Answer *q.no. 1* and any *four* from the rest.

1. Write short note on (any *two*) 2¹/₂ x 2 = 5
 - (a) Gieseler Plastometer.
 - (b) Different kinds of moisture present in the coal.
 - (c) General characteristics of Gondwana Coal.

2. Define 'Lithotypes' of coal. Briefly describe different types of lithotypes and their constitutive microscopic elements. 1+4

3. Write down the prerequisite conditions for development of a peat mire. 5

(Turn Over)

(2)

4. Write an account on biochemical coalification process. 5
5. What are the components of proximate analysis? What do you understand by 'coal in dmmf basis'? 3+2
6. What is coke? What are the essential characteristics of coking coal? 1+2+2
7. What are cleats in coal seam? Classify them. Why are they important? 1+2+2
8. Briefly describe the basis of 'National Coal Board' classification. 5

GROUP - B (25 marks)

Answer *all* questions.

Q. no. 9 is compulsory.

9. (a) A clean, dry sample weighed 20 grams. The sample was saturated in water of density 1.0 gram/cubic centimetre, and then reweighed in air. An increase in weight to 22.5 grams was noticed. The saturated

(3)

- sample was immersed and weighed in water of the same density, and its weight was found as 12.6 grams. What is the bulk volume of the sample? 5
- (b) Assuming a sandstone grain density of 2.65 gram/cubic centimetre, calculate the porosity of 3 inches long sandstone core sample of 1.5 inches width and breadth respectively. (the grains weighed 250 grams). 5
10. Discuss briefly about the petroleum system of Bengal Basin 5

OR

Discuss briefly about the petroleum system of Andaman and Nicobar Basin.

11. Draw the flowpath to show the origin and maturation of petroleum? 5

OR

What are the evidences in favour of organic origin of petroleum.

(Turn Over)