TDC (CBCS) Even Semester Exam., 2024

GEOLOGY

(6th Semester)

Course No. : GELDSE–601T

(Fuel Geology)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—1

1. Answer any *three* of the following : 1×3=3

(a) Name the reactive constituents of coal.

(b) Write one evidence of drift theory.

(c) Name the bright bands of coal.

(d) Name the non-volatile constituents of coal.

2. Write on any *one* of the following briefly : 2

(a) Vitrinite

(b) Types of ash

3. *(a)* Discuss the petrography of coal. 5

Or

(b) Write a note on analysis of coal.

UNIT—2

4. Answer any *three* of the following : 1×3=3

(a) Name the country where CBM activities was first initiated.

(b) Where UCG operation is applicable?

(c) Name the processes of liquefaction.

(d) Name the stratigraphic horizons of CBM in India.

5. Write briefly on any *one* of the following : 2

(a) Advantages of CBM

(b) Pyrolysis

6. *(a)* Write a note on Indian scenario of CBM. 5

Or

(b) Write in detail about the underground coal gasification.

UNIT—3

7. Answer any *three* of the following very briefly : 1×3=3

(a) Which type of kerogen is best suited for oil production?

(b) What is the specific gravity of crude oil?

(c) What is the odour of crude oil?

(d) Who proposed the inorganic theory of petroleum?

8. Write a short note on any *one* of the following : 2

(a) Porphyrin

(b) Catagenesis

9. *(a)* Discuss the biogenic and thermal effects on maturation of kerogen. 5

Or

(b) Describe the organic theory of origin of petroleum.

UNIT—4

10. Answer any *three* of the following : 1×3=3

(a) Name one source rock.

(b) Define trap.

(c) Define primary pores.

(d) How are structural traps formed?

11. Write a short note on any *one* of the following : 2

(a) Permeability

(b) Cap rock

12. (a) Write a note on classification of hydrocarbon traps. 5

Or

(b) Write an explanatory note on the types of source rock.

UNIT—5

13. Answer any *three* of the following : 1×3=3

(a) Write the principal stratigraphic horizon of atomic minerals.

(b) Write one important place of occurrence of uranium in NE India.

(c) Write one example of pore-space hydrates.

(d) Write one effect of mining of atomic minerals on environment.

14. Write briefly on any *one* of the following : 2

(a) Geo-signatures

(b) Thorium

15. (a) Write a detailed note on gas hydrate. 5

Or

(b) Write an explanatory note on radioactive minerals.

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