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2211N812

Candidate's Seat No : _____

Integ. M.Sc in App Geo Sem.-5 Examination**AGL 302****Fuel Geology****November-2024****Time : 2-30 Hours]****[Max. Marks : 70**

Q-I	A 1) describe the coal formation process (only by figure, no description, labelling must). 2) explain in detail why defining coal rank and grade is significant	7
	B coal quality highly depends on 6 physical properties, name them and explain the importance of any 3	7

or

Q-I	A define coal bed methane and explain the process of methane storage in coal (with fig)	7
	B define coal, state its constituents and explain in detail a comparative aspect between CBM and conventional reservoir	7

Q-II	A define crudes and state its types (only names). Write a detailed note on the different (at least 5) petroleum products and its major usage	7
	B write in detail the three (3) order wise stages of petroleum origin	7

or

Q-II	A define petroleum traps, state its types (only names). Write a detailed note on the geological importance of petroleum traps (with fig of any 2 traps)	7
	B write a note on diagenesis, catagenesis and metagenesis	7

Q-III	A write a detailed note on the relation of plate tectonics and petroleum traps (fig must)	7
	B define clastic and carbonate rocks, define reservoir rock (with fig) and write a note on the clastic and carbonate reservoir rocks	7

or

Q-III	A write a note on the important petrophysical characteristics and properties of a reservoir rock	7
	B write a note on the geological significance of timing of trap formation and hydrocarbon accumulation process (fig must)	7

Q IV	A define gas hydrates and write a note on the significance of gas hydrates in petroleum	7
	B write a detailed note on atomic minerals and state (names only) the nuclear power stations of our country and important global level stations	7

or

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Q-IV	Awrite a detailed note on hazardous waste (including all the atomic minerals), with emphasis on their impacts and mitigation measures	7
	Bdefine half-life, mean life, radioactivity, atomic minerals, bitumen, carrier bed, hypogene and supergene environment, fission, fusion	7

QV	MCQs attempt any seven out of twelve	14
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- 1) Define "sour" crude
- 2) Define cosmogenic radionuclides
- 3) With respect to kerogen maturation, state the full form of "TAI"
- 4) Which gas is also termed as a sweet gas?
- 5) Provide the figure for anticlinal traps
- 6) What is a hartree
- 7) With respect to kerogen maturation, state the full form of "LOM"
- 8) Define emulsification
- 9) With respect to aromatic hydrocarbons, state the full form of "PAH's"
- 10) Define growth domes
- 11) Define "hoodoos"
- 12) Provide figure for salt dome traps