UPES
End Semester Examination, Dec. 2023

Course: Coal bed methane & Shale gas exploration   Semester: III
Programme: M.Sc. (PG)   Time: 3 hrs.
Course Code: PEGS8036P   Max. Marks: 100
Instructions: All questions are compulsory

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Define the following in short. (i) Magnetic Surveying (ii) Gravity Surveying	4	CO1
Q 2	Describe induction logging methods with an example and neat sketch	4	CO3
Q 3	Differentiate laterolog and nuclear logging method used in reservoir	4	CO1
Q 4	Write a note on global and regional CBM and shale gas reserves	4	CO2
Q 5	Discuss porosity and permeability of reservoir and their effect on CBM and Shale gas production.	4	CO2

SECTION B
(4Qx10M=40Marks)

Q 6	Enumerate the effect of unconventional gas production activities on the environment. **OR** Enumerate the petroleum system analysis and modeling for unconventional reservoir.	10	CO1
Q 7	Articulate the importance of sorption analysis for successful CBM gas production with suitable example.	10	CO2
Q 8	Examine the various parameters used in determination of gas production in unconventional reservoirs.	10	CO3
Q 9	Describe the importance of adsorption/Desorption isotherm in CBM production.	10	CO2

SECTION-C
(2Qx20M=40Marks)

Q 10	Explain the regulatory regime and guidance for coal bed methane and shale gas exploration.	20	CO4

	OR Examine various impact of seismic activities on unconventional reservoir.		
Q 11	Enumerate the CBM and Shale gas production analysis using reservoir modelling and simulation approach.	**20**	**CO3**