



Name
Enrolment No.

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Programme Name: B. Tech APE UP
Course Name: Unconventional Hydrocarbon Exploitation
Course Code: PEGS 3015P
Nos of page(s): 01
Instructions: All questions are Compulsory.

Semester: V
Time: 03 hrs.
Max. Marks : 100

SECTION A

S.No.		Marks	CO
Q 1	Differentiate between biogenic and thermogenic methane	4	CO1
Q 2	Describe elements of a successful shale gas play	4	CO2
Q 3	Discuss issues related with Tight Gas reservoirs	4	CO2
Q 4	Describe flow of gas through coal seams.	4	CO3
Q 5	Differentiate between Oil Shale and Shale Oil	4	CO3

SECTION B

Q 6	Describe factors to be considered for hydro fracturing in Shale for shale gas exploitation?	10	CO1
Q 7	Define Basin Centered/Deep Basin Gas System? Describe the characteristics commonly associated with basin centered gas accumulation	10	CO2
Q 8	Describe the characteristics of Tight Gas Reservoirs. Compare the Reserve Estimation In Tight gas reservoirs and Conventional gas reservoir	10	CO3
Q 9	Write short notes on any two: a) Coal rank and its relationship with CBM generation b) Permeability jail c) Production mechanism of methane gas from Coal seams OR Describe Langmuir Isotherm. What are the applicability of Langmuir Isotherm in CBM exploitation?	10	CO3

SECTION C

Q.10	a) Describe Gas hydrate? What are the challenges and methods used in its Exploitation? b) Describe in detail the gas hydrate related activities in India OR Describe in detail the scenario of CBM resource, reserves & exploitation of Coal Bed Methane in India	20	CO4
Q.11	a) Describe in detail the Volcanic/Basement hydrocarbon reservoirs with Indian example b) Enumerate characteristics of Heavy Oil? Describe in detail the heavy oil occurrences and production in India.	20	CO4