Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May, 2020

Programme Name: B. Tech (Geoscience Engineering)   Semester   : VIII
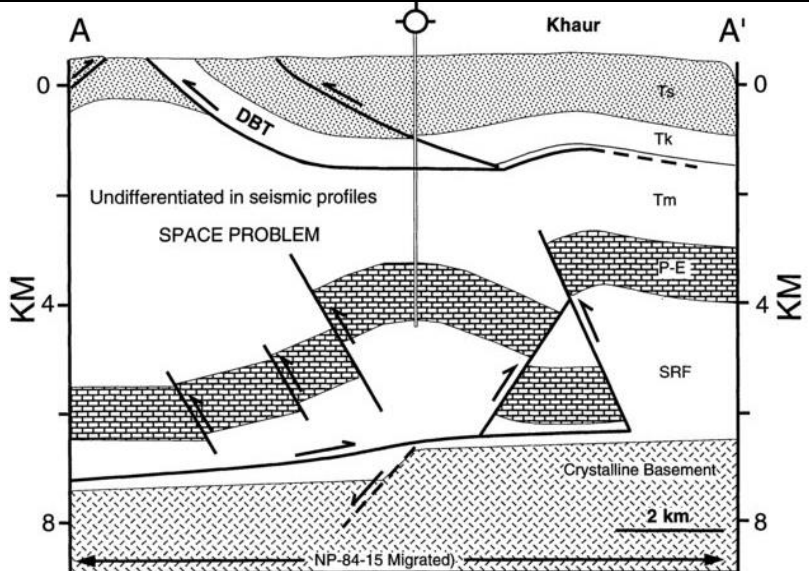**Course Name   : Resource Economics and Risk Management in Exploration**   Time   : 03 h
Course Code   : PEEO 402   Max. Marks : 100
Nos. of page(s)   : 2 (two)
Instructions: Internal Choice for Questions 9, 10 and 11

	SECTION A		
S. No.		**Marks**	**CO**
1.	When a Development Project is defined to produce oil from an accumulation that also contains a significant gas cap, what action(s) need to be taken by a Petroleum Economist based on gas availability?	**5**	**CO4**
2.	If an industry is facing High start-up costs, expensive fixed capital, and proprietary knowledge and patents etc., what are the usual management practices to avert risk?	**5**	**CO2**
3.	From the adjacent figure, interpret role of seismic method(s) used and specific outcome after using the method? (Figure is taken from *https://www.researchgate.net /publication/288445219_Tria ngle_zone_in_the_Himalaya n_foreland_north_Pakistan/fi gures?lo=1* for academic purpose)	**5**	**CO4**
4	Identify suitable reasons for Recovery Factor being affected?	**5**	**CO2**
5.	What conditions will imply that Shared Risks become absolute?	**5**	**CO3**
6.	List challenges for Forecasting a) Conventional and b) Unconventional Resources?	**5**	**CO1**

	SECTION B		
7.	Contingent Resources may be assigned for Projects that are dependent on Technology under Development Examine Guidelines?	**10**	**CO2**
8.	Statement: Economic limit is defined as the production rate beyond which the net operating cash flows (net revenue minus direct operating costs) from a project are negative, a point in time that defines the project's economic life. Differentiate Project Capital Cost from Project Operating Cost?	**10**	**CO3**
9a.	Explain Reservoir Characteristics Risk & Uncertainty for Extra heavy Oil?	**10**	**CO2**
	(OR)		
9b.	Explain Reservoir Characteristics Risk & Uncertainty for Bitumen?	**10**	**CO2**
10a.	How Exploration & Development differ for CBM to Conventional Hydrocarbons?	**10**	**CO2**
	(OR)		
10b.	How Classification and Reporting Issues are shaping for CBM resource management?	**10**	**CO2**
11a.	Explain how traditional methods used in the estimation of gas reserves might overstate recoverable shale gas reserves?	**10**	**CO3**
	(OR)		
11b.	Justify with reasons on why economic viability of producing shale gas is questioned?	**10**	**CO3**
	SECTION-C		
The following list are the identified risks associated with Shale Gas Production in Different Project Phases that include, a) Site identification and preparation, b) Well design drilling casing, cementing, c) Fracturing, Well Completion, d) Production, e) Well abandonment and post abandonment and f) Overall rating of the project.			
Ground water contamination Surface water contamination Water resources	Released air Land take Risk to biodiversity	Noise impacts Visual impacts Seismicity and Traffic	
12.	Give scores to different types of risks and Design Risk Matrix?	**20**	**CO4**