

Roll No: -----



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

End Semester Examination, April 2018

Program: B. Tech. (Geo Science Engineering) Semester – VIII  
Subject (Course): Petroleum Economics & Risk Management  
in Exploration Max. Marks : 100  
Course Code : PEE0402 Duration : 3 Hrs  
No. of page/s: Two(2)

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**PAPER CONTAINS 3 (THREE) SECTIONS , ALL THE SECTIONS ARE  
CUMPULSARY**

**ASSUME ANY MISSING DATA**

**SECTION A (20 Marks)**

**There are Five (05) questions of 4(Four) marks each.All the questions are compulsory  
Limit your answer to maximum of 60 words**

**Question- 1**

Discuss if Oil Industry Risk that pertains to Project Maturity.

**Question-2**

Drive mechanisms, EOR and I OR are the elements of Reserve Uncertainty, please justify.

**Question-3**

Enlist and briefly and describe any four major/essential steps related to technological schemes.

**Question-4**

Can credibility may be considered as a function of Economic Standards? Express your views.

**Question-5**

Enlist the factors for Economic viability of an Oil & Gas project.

**Section B & C is on Page-2**

**SECTION - B (40 Marks)**

**There are Five (04) questions of 10(Twelve) marks each, all the questions are compulsory  
Limit your answer to maximum of 200 words**

**Question-1:**

**What do you understand by the term “Expected Value” of a Hydrocarbon Project?  
Also explain the principle variables of Basic Equation used for Project Evaluation.**

**Question-2:**

**Discuss the uncertainty in E&P, also discuss the application of statistics to characterize uncertainty in terms of Hydrocarbon discoveries in consistent with SEC / SPE / WPC guidelines.**

**Question-3:**

**“Techno economics in hydrocarbon industry is coherent with specific transformation”  
Please make your comment on the statement and also discuss the Techno Economic -  
Indices related to it.**

**Question-4:**

**Describe the Valuation of Oil and Gas Properties, Also enlist Valuation Indicators.**

**SECTION - C (40 Marks)**

**There is only Two (02) question of 20(Twenty) marks and the questions is compulsory  
Limit your answer to maximum of 500 words**

**Question-1:**

**What is Decision making including the main characteristics in oil industry? Also discuss the role of Geoscience in the process of positive decision making, in Oil Industry.**

**OR**

**Discuss “Decision Tree Analysis”. Also explain the methods which help to evaluate and reduce the uncertainties and improve the risk management.**

**Question-2:**

**“Estimating Geological Prospect Resources and its success - depends on specific critical factors termed as Prospect or Play Evaluation”. Discuss the salient features of the statement along with suitable remarks.**

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SECTION –A ( 20Marks)

There are Five (05) questions of 4(Four) marks each all the questions are compulsory  
Limit your answer to maximum of 60 words

Question-1:

What are the assumptions that are made while applying Decline Curve Analysis?

Question-2:

Define Net Present VALUE and its relevance in Hydrocarbon Risk Management.

Question-3:

Enlist and describe economic viability parameters that must be included to establish success of hydrocarbon project?

Question-4:

Discuss the different steps involved with the field development plan?

Question-5:

Indicate the salient features of Decline Relationship.

Section B & C is on Page-2

**SECTION - B- (40 Marks)**

**There are Four (04) questions of 10 (Ten) marks each, all the questions are compulsory  
Limit your answer to maximum of 200 words**

**Question-1:**

**Discuss the uncertainty in E&P, together with the application of statistical method used Geoscience Engineering to characterize uncertainty.**

**Question-2:**

**What are the steps involved in a case study (may be imagined at your end pl.) regarding Economic Analysis & Investment Decisions - particularly in Hydrocarbon Exploration?**

**Question-3:**

**What is Sensitivity analysis and also define a Tornado Plot**

**Question-4:**

**Correlate Economic Yield with Economic Uncertainties with respect following parameters:**

- (i) Size of accumulation**
- (ii) Recovery method**

**SECTION - C- (40 Marks )**

**There is only One (2) question of 20(Twenty) marks and the questions is compulsory  
Limit your answer to maximum of 500 words**

**Question-1:**

**Figure given in Annexure 1, represents the flow chart for decision analysis, complete the missing elements and discuss its application in oil industry.**

**OR**

**Estimating Prospect Resources and the Assessment of Success depends on Critical Factors of Prospect or Play Evaluation , discuss the same with suitable remarks.**

**Question-2:**

**(a) Discuss the Time Value of money and calculate effective of interest if nominal annual rate of 12% compounded continuously.**

ANNEXURE-1

**The flowchart for Decision Analysis  
(Related to Question No.-1 of Section C)**

