



Name:
Enrolment No:

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

Course: Oil Field Asset management
 Semester : VIII
 Program: B. Tech. APE UPSTREAM
 Course Code : MDSO 344
 Nos. of page(s) : 4

Time : 03 hrs.
Max. Marks : 100

Instructions: All Questions are Mandatory.
Section- A MCQ, T/F and Fill in the Blanks.
Section- B Answers required in few sentences without diagram. 4 questions are compulsory 1 question has internal choice
Section- C 1 Question compulsory with internal choice. Descriptive without Diagram .

| Sl. No. | Statement of question | Marks |
|------------------|--|-------|
| SECTION A | | |
| Q 1 | <p><u>Tick the correct answer. Each MCQ carries ONE marks.</u></p> <p>i) Risk management is responsibility of the</p> <p>a) Customer b) Investor c) Developer d) Project team e) Production team</p> <p>ii) Which of the following technique will ensure that impact of risk will be less?</p> <p>a) Risk avoidance technique b) Risk Mitigation technique c) Risk contingency technique d) All of the above</p> <p>iii) Which country is not currently a member of OPEC</p> <p>a) Saudi Arabia b) Angola c) Nigeria d) Brazil</p> <p>iv) Which country was the top oil producing country in 2019</p> <p>a) Saudi Arabia b) Russia</p> | 5 |

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| | <p>c) USA d) Canada</p> <p>v) About how many gallons of gasoline are produced from one barrel of crude oil?</p> <p>a. 55 b. 19 c. 42 d. 5</p> | |
| Q 2 | <p><u>FIB question a) carries ONE marks and b) carries FOUR marks.</u></p> <p>a) ----- look at how a specific organization could maximize its production and capacity, minimize its operating cost so it could lower prices, and better compete in its industry.</p> <p>b) The Process of -----Identification, ----- Analysis, ----- -- Analysis, ----- and Communication and ----- and Action are involved in ----- Risk Analysis.</p> | 5 |
| Q 3 | <p><u>FIB question a) carries TWO marks and b) carries THREE marks.</u></p> <p>a) -----technology makes it possible to implant -----& ----- sensors in the well which can provide ----- recording of this data for better ----- and to shut-off zones when they start producing large volumes of water or gas along with oil.</p> <p>b) ----- entity, ----- Measurement/stable monetary unit, ----- Concern, ----- Cost -----/conservatism and ----- are few constituents of -----</p> | 5 |
| Q 4 | <p><u>FIB question a) carries TWO marks and b) carries THREE marks.</u></p> <p>a) These key elements like Establish a hierarchy of decisions, Develop and design the system architecture , Use the system to conduct a -----risk analysis, Build a structure to support the system and Focus on the impact belong to -----</p> <p>b) From -----, Government decided to use ----- mechanism where in the price will be fixed as 80:20 ratio i.e. 80% ----- and 20% ----- (which is almost equal to the respective percentages of ----- and -----).</p> | 5 |

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| Q 5 | <p><u>Tick the correct answer. Each True/False carries ONE marks.</u></p> <p>a) Risk is expressed in terms of probability and impact. (True/False)</p> <p>(b) Post Drill assessments, performance tracking is a part of Exploration Evaluation Process (True/False)</p> <p>(c) P10 is the value on distribution for which there is a 90% probability. (True/False)</p> <p>(d) Containment is not an independent chance factor multiplied together to yield Pg. (True/False)</p> <p>(e) Decline curve analysis is not a method of reserve estimation (True/False)</p> | 5 |
| Q 6 | <p><u>Tick the correct answer. Each True/False carries ONE marks.</u></p> <p>a) Analysis of series of connected decisions is called Sensitivity Analysis (True/False)</p> <p>(b) Field Size is determined by drilling development wells (True/False)</p> <p>(c) Horizontal wells are most suitable for the production of thin lenticular reservoirs (True/False)</p> <p>(d) In NELP, beyond 250M water depth was defined as Deepwater Blocks. (True/False)</p> <p>(e) Reorder Point(ROP) is the level of inventory which triggers an action to replenish that inventory stock (True/False)</p> | 5 |
| Q 7 | <p>(a) How an Asset Management Plan helps in optimization of an oil & gas asset (3Marks)</p> <p>(b) Life Cycle stages of Oil Field (3Marks)</p> <p>(c) Discuss Risk Mitigation Plan (4Marks)</p> | 10 |

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| Q 8 | <p>a) Discuss Expected Monetary Value (EMV) (3 Marks)</p> <p>b) Calculate EMV from decision tree with the following assumptions for two projects:</p> <p>i) Project 1: The outcome from project 1 is 300,000 if it is successful, otherwise loss of \$40,000. The probability of success is 0.2 for project 1.</p> <p>ii) Project 2: The probabilities (success) are 0.2, 0.1, 0.7 for project 2, and the outcomes are 50,000, -10,000, 150,000, -20,000, 60,000 and -12,000 respectively. Find out which project is economically viable? (All outcomes in \$)</p> <p style="text-align: right;">(7 Marks)</p> | 10 |
| Q 9 | <p>a) Discuss in brief Elements of Smart wells. (5 Marks)</p> <p>b) Describe Oil and Gas SCADA Application (5 Marks)</p> | 10 |
| Q 10 | <p>(a) Define Inventory Control (3 Marks)</p> <p>(b) Describe EOQ model of Inventory Control. (4 Marks)</p> <p>(c) Explain Reorder Point (ROP) (3 Marks)</p> | 10 |
| Q 11 | <p>(a) What are the Fiscal Systems of India for petroleum Industry (4 Marks)</p> <p>(b) Define Production Sharing Contract (3 Marks)</p> <p>(c) Mention minimum three differences between NELP and OALP (3 Marks)</p> <p style="text-align: center;">OR</p> <p>Describe the role of Information Technology in Database Management</p> | 10 |
| Q 12 | <p>(a) How the crude oil price volatility impact economy of India (10 Marks)</p> <p>(b) What is the current price structure of petrol and diesel in India (10 Marks)</p> <p style="text-align: center;">OR</p> <p>Describe the fundamental cost analysis in Upstream Petroleum Industry</p> <p style="text-align: right;">(20 Marks)</p> | 20 |