


Name:			
Enrolment No:			
<b>UPES, End Semester Examination, May 2024</b>			
<b>Course: Introduction to Petroleum Operations</b>		<b>Semester: II</b>	
<b>Program: B Tech APE</b>		<b>Time: 03 hrs.</b>	
<b>Course Code: PEAU 1001</b>		<b>Max. Marks: 100</b>	
<b>Instructions: Attempt all questions. There is internal choice in Q8 and Q11.</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q1	Enumerate four properties of oil reservoir which define its productivity.	4	CO1
Q2	Draw a diagram to show the position of oil water and gas in a subsurface anticline sand reservoir with shale cap rock.	4	CO1
Q3	Enumerate four functions of drilling fluid?	4	CO1
Q4	Distinguish between float collar and casing shoe?	4	CO1
Q5	Enumerate four prominent oilfields of India?	4	CO1
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q6	Explain the role of gamma ray tool in understanding subsurface lithology.	10	CO2
Q7	With suitable figures, illustrate how oil is produced, migrated and accumulated in subsurface reservoir?	10	CO2
Q8	With suitable diagram, illustrate casing plan of a typical oil and gas well. Describe in detail four functions of casing. <b>OR</b> With a suitable diagram, explain the process of cementation of casing in well bore.	10	CO3
Q9		10	CO3
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q10	With a suitable diagram, illustrate different components of drill string. Explain in brief, the utility of each of these components in efficient drilling. <b>OR</b>	20	CO4

	With suitable diagram, illustrate different types of bits used in oil and gas drilling. Illustrate different components of bit and their role in borehole construction.		
<b>Q11</b>	Explain in detail what precautions should be taken by the driller while drilling overpressure zones to avoid kick and blow out.	<b>20</b>	<b>CO5</b>