

Ref. No.: PU/SOE/PET/EB/WPM/2022-23/CIR/01

Date: 16/12/2022

<u>Circular</u>

Academic Year: 2022 – 2023

Course: PET2024

Semester: 4th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET2024 Wellbore Problems and Mitigation** is schedule on 26/12/2022, from 03:55 AM to 04:45 AM (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Dr. Abhinav Kumar Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Dtd: 16/12/2022					
Circular Date and No.	PU/SOE/PET/EB/WPM/2022- 23/CIR/01	Date of Event	26/12/2022			
Type of learning	Employability	Event Type:	Problem Solving			
Mode of Event:	Offline	No. of Participant(s):	15			
Course Code/Course Name	PET2024 Wellbore Problems and Mitigation					
Department	Department of Petroleum Engineer	Department of Petroleum Engineering				
Instructor In charge	Dr. Abhinav Kumar Assistant Professor, Department o	Dr. Abhinav Kumar Assistant Professor, Department of Petroleum Engineering				
Event objective	The event was conducted to test the application of principle of su objective of improving the problen	perposition in petroleum	industry with a primary			
Topic discussed	Numerical on Kick Tolerance					
Outcome of the event						
Assessment	 i. Type of Assessment: Prob ii. Task Assigned: As following parameters are given 9 5/8" casing =14,500 ft; Nex shoe = 16 ppg; Temperature hole =14.5 ppg; Max formation 8 1/2" and there is 5" drillpipe gradient (G) = 0.1 psi/ft; Surfa a. Volume of the kick fluid at b. Kick tolerance volume with c. Kick tolerance volume with d. Comment on the values considering temperature) iii. Sample answers by studer 	for a well: t TD = 17000 ft; Fracture gradient = 0.02 F°/ft; M n pressure at next hole= 1 e from surface to TD. Als ace Temperature = 60 F° casing shoe. nout considering the temp n considering temperature of kick tolerance volume	ax. mud weight for next 4 ppg; Assume next hole so assume gas pressure . Calculate perature gradient.			



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All way - Monat Sile way - Monat Sile 1900 - 100001 Part 1900 - 100001 Mar 10 way - 1000 Mar 10 - 1000 Mar 10 - 1000 Mar 10 - 1000 Mar 10 - 1000 Mar 1000 Ma H= 2405-184 Bt V = 619.83 +1-9 = 619483 × 1 HI = 110:36 HI 1661=5-165 Rt3 gos It good = or prilley Siden compilate. 5-K5151 =1 8+2 P + Pg+ Med wat. For Payles Law? 16 + (120.)(+ (...) cost 1250.) = (0.021 x 1250 $P_1 V_1 = P_2 V_2$ 0.052× 14.5× (13000 - 14500) 0.05/ 16 x 11x 500 = 25011 x 10 2 11 x 2010 h= 0-052 8 ~ (TD-(SD) + FORY (SD x0-052- Py = 16× 14C×110:38 = V2 0-0528m-61-14 × 190 > 0-052 (14:5) (2500) + 15× 14500× 0-052 - 0.052700000 107.59 bb1 = V2 0.032×(14.5) - 0-1 =) the pussite. 1° == 460R Teup bradent = 0.02°F/Rt 43 VA. at anoshe V= +4 / 21 h) = V=019-3800 At casting shee, is= (607 + 0.00°F ×14500 +4600° (13) - - (1) 2 (1) - (1) 2 (1) - (1) 2 (1 1245 = 8108 2/4/ 11) The value of white Idenance (Thereards) At port 2) (T2) + 60°F + 0.02 x10000 1000 wells having before temp good will be wells having before temp good will have before the tal wate of all other = 860°R (2) " FOOL PIVI = POV2 pavaueters are kept coustant. TI T2 200 ×16 × 10500× 10038 - 0:052 ×10× 1000 810 8600 N2 = 0:05 2 ×16 × 1500 × 110:38 × 860 0.05 2 XIU X 12000 810 V2 = 107.59 × 860 810 V2=114.23661 ----V2= 107.59 bb1 [with and ton good] V_ 114.2366/ ELOPHEL temp good anne REGISTRAR Registra



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Event photo			Dibbur, Karnataka, India G9M+G75 PRESIDENCY UNIVERSITY, Di Karnataka 560089, India Lat 13.168665° Long 77.53337° 26/12/22 04:21 PM GMT +05:30	
	SI. No.	ID No.	Student Name	Attendance
	1	20211PET0001	MOHAMED SAADULLAH S	Р
	2	20211PET0002	ROSHAN T	Р
	3	20211PET0004	BELIM MOH SAAD MOHAMMEDBHAI	Р
	4	20211PET0006	FAHAD ALI KHAN	Р
Attendance sheet	5	20211PET0008	VANKALA JAI SPHOORTHI	Р
	6	20211PET0012	MOHAMED NAIF NIHAD ALI	Р
	7	20211PET0016	ASMA	Р
	8	20211PET0018	SANDEEP IYAGAR	Р
	9	20211PET0019	KIRAN EKIRAN	P ENCY UNIL
	10	20211PET0021	MAYUR P	



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11	20211PET0022	YASHWANTH S	Р
12	20211PET0024	BOLLAMA REDDY HIMAVENKATA MANKANTHA	Ρ
13	20211PET0027	SYED USMAN	Р
14	20221LPE0001	Shaikh Tabish Riyazahmed	Р
15	20201PET0027	YARRAMSETTI CHAITANYA SRI	Р

unal

Signature of Instructor In charge Dr. Abhinav Kumar Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





Ref. No.: PU/SOE/PET/EB/DAOGE/2021-22/CIR/01

Date: 12/05/2022

<u>Circular</u>

Academic Year: 2021 – 2022

Course: PET1003

Semester: 4th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET1003 Data Analytics for Oil and Gas Exploration** is schedule on 17/05/2022 (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Mr. Utkarsh Lall Instructor In-charge





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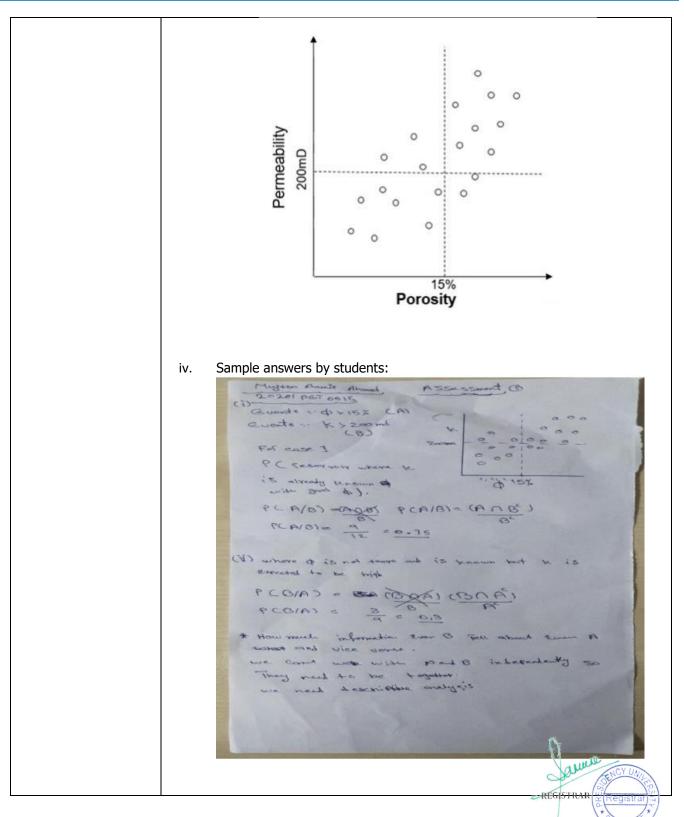
REPORT ON PROBLEM SOLVING

Circular Date and No.		Date of Event			
	PU/SOE/PET/EB/DAOGE/2021 -22/CIR/01	Date of Event	17.05.2022		
Type of learning	Employability	Event Type:	Problem Solving		
Mode of Event:	Offline	No. of Participant(s):	13		
Course Code/Course Name	PET1003 Data Analytics for Oil and Gas Exploration				
Department	Department of Petroleum Engineering				
	Utkarsh Lall Assistant Professor, Department of Petroleum Engineering				
Event objective	The event was conducted to test t the Conditional Probability Problem improving the problem-solving skill	in petroleum industry wi			
Topic discussed	Conditional Probability Problem				
Outcome of the event	i. Solve Conditional Probabilit	y Problem on Real Life F	iled Data		
Assessment	 i. Type of Assessment: Proble ii. Task Assigned: solve one p iii. Sample report by student The graph mentioned below repressivells. There are 2 events : one rep percent, the other event represents the analysis of wells , good permea 200md . Calculate the probability o already known with good porosity . the reservoir is known to have poor be high Figure: Production and pressure his	problem eents the porosity and per resent porosity is good a s the reservoir with good ability means the permeal f a reservoir where perm Also, calculate the probat r porosity but where perr	nd is greater than 15 permeability . Here in polity is greater than eability is good and is pility of a reservoir where		



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		Chudant ID Na	Nama
	SI. No.	Student ID No	Name
	1	20201PET0004	RACHAN BALAKRISHNA SHETTY
	2	20201PET0006	PRAVEEN B
	3	20201PET0008	NALLABHOTULA DUSHYANTH
	4 20201PET0009 KOTISHWARAN V	KOTISHWARAN V	
	5	20201PET0010	PRADEEP KUMAR RATHOD
Attendance sheet	6	20201PET0011	A M RIZWAN
Attenuance sheet	7	20201PET0012	MOHAMMED SHAZAN
	8	20201PET0015	MUJTBA AAMIR AHMED
	9	20201PET0016	SIDHARTH MURALI
	10	20201PET0017	BHOOMIKA SATISH
	11	20201PET0023	PRATHIVRAJ S
	12	20201PET0026	AJMAL AKBAR BABU
	13	20201PET0034	KOMMINENI HEMANTH

Signature of Instructor In charge

Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Head Department of Petroleum Engineering





Ref. No.: PU/SOE/PET/SD/NGH/2022-23/CIR/01

Date: 10/12/2022

Circular

Academic Year: 2022 – 2023

Course: PET2017

Semester: 5th

Dear students of 6PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET2017 Natural Gas Hydrates** is schedule on 23/12/2022, from 10:40 AM to 11:30 AM (OFFLINE MODE). It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Nech

Dr. Deepjyoti Mech

Instructor In-charge





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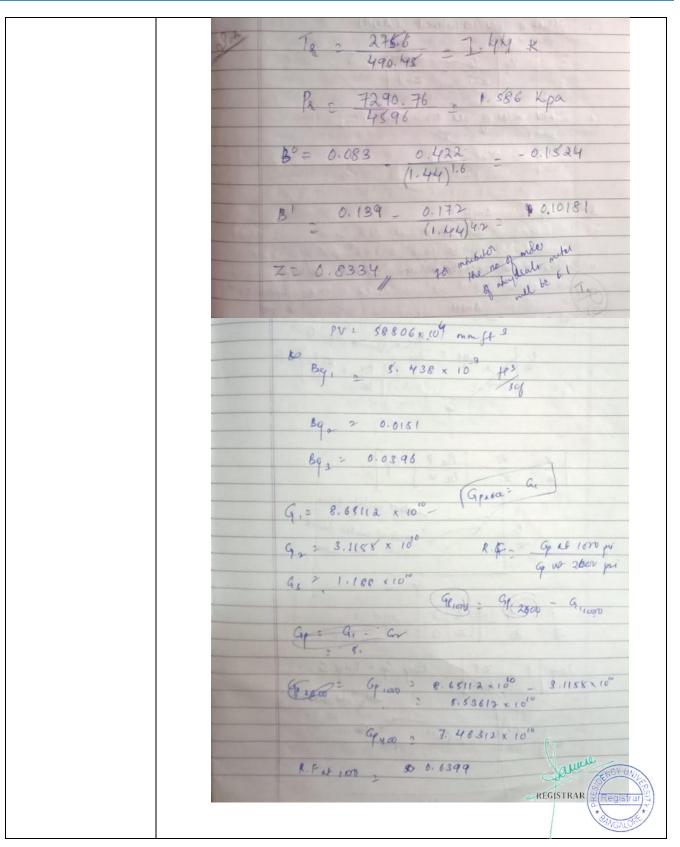
REPORT ON PROBLEM SOLVING

	Dtd: 10/12/2022		
Circular Date and No.	PU/SOE/PET/SD/NGH/2022- 23/CIR/01	Date of Event	23.12.2022
Type of learning	Skill development Event Type: Proble		Problem Solving
Mode of Event:	Offline No. of Participant(s):		13
Course Code/Course Name	PET2017 Natural Gas Hydrates		
Department	Department of Petroleum Enginee	ring	
Instructor In charge	Dr. Deepjyoti Mech Assistant Professor, Department o	f Petroleum Engineering	
Event objective	The event was conducted to test the knowledge of students on the topic related to the application of kinetics studies of gas hydrates in petroleum industry with a primary objective of improving the problem solving skills of students.		
Topic discussed	Kinetics of Gas Hydrates		
Outcome of the event	i. Improvement in problem s ii. Improvement in identifyin		
Assessment	 i. Type of Assessment: Problem Solving ii. Task Assigned: A polymer is used to prevent the methane hydrate formation using 377.34 mL pressinside the high pressure chamber at average temperature around 263.4 K wit volume of gas is 813 cm³. Calculate all the parameters to verify the gas stor capacity of the hydrate structure for the initial and final pressure of 5371.79 kP 3608.669 kPa with an initial & final temperature of 1.5°C & -9.6°C. The following data can be used- <i>Pc=4596 kPa</i>, <i>Tc=190.45 K and w=0.0115</i>. iii. Sample answers by students: 		around 263.4 K with a powerify the gas storage assure of 5371.79 kPa & -9.6°C.



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8	20201PET0019	PRANAV. A	Р
9	20201PET0031	BANDLA HAREESH	Р
10	20201PET0033	SHEKAR	Р
11	20201PET9001	MOHAMMED SHAHID	Р
12	20191PET0009	C S NISHANT	Р
13	20211LPE0001	MUHAMMED SWALIH V P	Р

Mech

Signature of Instructor In charge Dr. Deepjyoti Mech Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





Ref. No.: PU/SOE/PET/EB/QMPOGI/2021-22/CIR/01

Date: 20/05/2022

<u>Circular</u>

Academic Year: 2021 – 2022

Course: PET2029

Semester: 4th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET2029 Quality Management Practices in Oil and Gas Industry** is schedule on 14/06/2022 (ONLINE MODE).

It is mandatory for all the student to submit the asignment without fail.

Ms. Jain Mariyate Wilson Instructor In-charge





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REPORT ON PROBLEM SOLVING

Circular Date and No.	Dtd: 20-05-2022 PU/SOE/PET/PS/2021- 22/4PET1/CIR/01	Date of Event	14-06-2022	
Type of learning	Skll devlopment	Event Type:	Problem Solving	
Mode of Event:	Online	No. of Participant(s):	12	
Course Code/Course Name	PET 2029 QUALITY MANAGEMENT	PRACTICES IN OIL & GA	S INDUSTRY	
Department	Department of Petroleum Engineering			
Instructor In charge	MS. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering			
Event objective	The event was conducted to test the application of Reservoir Manag with a primary objective of improv	gement for field optimizati	on in petroleum industry	
Topic discussed	Reservoir Management for field op	otimization		
Outcome of the event	i. It facilitates the exploratic variety of data sources	on of a real issue within a	defined context, using a	
Assessment	 Type of Assessment: solve ii. Task Assigned: Analyze the Problem 1: Reservoir management process that matches the plan to technological context under which possible plans is wide, and building on the operator's knowledge. As p the reservoir optimization of East the factors that heavily influenced for East Randolph field. 	t might also be thought of the reservoir at hand a the operator manages the the optimum reservoir ma er the reference paper da Randolph Field, Eastern C d the development of rese	f as the decision-making nd to the business and e reservoir. The range of anagement plan depends ta provided, explain how DH is done. Also, explain	



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	PET:2029 Quality Management Practices
	Case Study on Reservoir Management
	What is reservoir management? What is its importance? Reservoir management is different things to different people, but it is the way an operator chooses to manage assets, Thakur defined reservoir management as the "judicious use of available resources to maximize economic recovery." Other definitions, such as that offered by Wiggins and Startzman,3 view reservoir management as an "application of state-of-the-art technology to a known reservoir system within a given management."
•	Reservoir management might also be thought of as the decision-making process that matches the plan to the reservoir at hand and to the business and technological context under which the operator manages the reservoir. The range of plans is wide, and building the optimum reservoir management plan depends on the operator's knowledge of -The reservoir and its facilities. -The availability and use of both common and state of the art technologies. -The general business environment.
	-The company's business context and attitudes. The reservoir management plan itself may specify a condition or set of conditions that indicate when the plan should be reevaluated. These criteria may include such items as cumulative volume, relative volume, or rate of production or injection of a specified fluid, passage of a stated period, or reaching a certain stage of reservoir development.
	What are various management techniques that have been included or implemented in future for reservoir optimization? East Randolph Field, Eastern OH. Since 1992, PEP Drilling Company and Belden and Blake Corporation have developed this unique but significant oil reservoir in the Cambrian Rose Run formation in Portage County, OH. One of few fields producing oil from the Rose Run, the East Randolph field covers about <u>1500 acres</u> , lies at a depth of about 7,200 R, and contains an average of 15 ft of pay in the upper three of five marginal marine sand zones typically present.
	The field contains just over 30 wells and had produced about 450,000 bbl. of 42* API oil and 1.2 Bcfg as of June 1996. Two factors heavily influenced the development of the reservoir management plan for East Randolph field: The field has been and continues to be developed by small independent operators. The proposed strategy included identifying optimum development and infill well locations, evaluating viable improved recovery process options, and defining related operational and facility requirements. Additional strategies addressed problems with field operations, such as paraffin buildup, hydraulic fracture stimulation, pumping system optimization, and production treatment requirements.
	How Reservoir Characterization? Reservoir characterization played a significant role in arriving at the reservoir management plan, particularly in selecting the highest priority targets, i.e., defining development and infill well locations and selecting an optimum secondary recovery method. The team performed a series of incremental and sometimes iterative steps to analyze existing data, identify data insentiences, obtain, and incorporate latest information into the emerging model, and test the predictive limits of the model before arriving at the final reservoir characterization model. The operator gained a better estimate of the resources
	contained in the East Randolph reservoir because of this research. OOIP is now thought to be at least twice as high as before. Estimate prior to the start of the project This revelation will have a significant impact on everyone. Field development and recovery initiatives in the future, What the operator discovered about the company's internal structure layering, fluid distribution, and other aspects of the reservoir. The ability to continue development through expansion and infill drilling, as well as into the secondary recovery phase, will be aided by the presence of faults and fractures.





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	1	20201PET0001	SOHAEL K S	Submitted
	2	20201PET0006	PRAVEEN B	Submitted
	3	20201PET0009	KOTISHWARAN V	Submitted
	4 20201PET0011 A M RIZWAN Su	Submitted		
	5	20201PET0012	MOHAMMED SHAZAN	Submitted
Attendance sheet 6 20201PET0018 NUTHAN M S	Submitted			
Attendance sneet	7	20201PET0021	R JANARDHAN REDDY	Submitted
	8	20201PET0029	1PET0029 PAVAN GOUD Submitted	
	9	20201PET0030	AQIB AHMED SHARIEEF	Submitted
	10	20201PET0033	SHEKAR	Submitted
	11	20201PET9001	MOHAMMED SHAHID	Submitted
	12	20201PET9002	NITIN	Submitted

Signature of Instructor In charge

MS. Jain Mariyate Wilson

Assistant Professor

Department of Petroleum Engineering

Paul

Dr. Suman Paul Head Department of Petroleum Engineering





Ref. No.: PU/SOE/PET/EB/AWE/2022-23/CIR/01

Date: 07/10/2022

<u>Circular</u>

Academic Year: 2022 – 2023

Course: PET3004

Semester: 5th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET3004 Advanced Well Engineering (AWE)** is schedule on 14/10/2022 (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Dr. Kalpajit Hazarika Instructor In-charge





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REPORT ON PROBLEM SOLVING

	Dtd: 07/10/2022				
Circular Date and No.	PU/SOE/PET/EB/AWE/2022- 23/CIR/01	Date of Event	14/10/2022		
Type of learning	Skill development	Event Type:	Problem Solving		
Mode of Event:	Offline No. of 14		14		
Course Code/Course Name	PET3004/Advanced Well Engineering (AWE)				
Department	Department of Petroleum Engineering				
Instructor In charge	Dr. Kalpajit Hazarika Assistant Professor, Department of Petroleum Engineering				
Event objective	The event was conducted to test the knowledge of students on the topic related to the application of determination of safety factor in drilling in petroleum industry with a primary objective of improving the problem-solving skills of students.				
Topic discussed	Determination of safety factor in drilling				
Outcome of the event	i. Improvement in problem s ii. Improvement in identifying				
Assessment		pe is used, determine th esulting safety factor. The drops to 6000ft below the 95 grade X95 drill pipe has weight of dc is 160 and B factor during drilling ude of shock loading or when shock loading is i tion and pressure history	e mud density is 75pcf. If e rotary table, determine been selected, weight of F= 0.84.		



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20201PETOd6 Numerical If 1018 It deill pipe is used, determine the max -> pressure that can be encountered and the resulting safety factor. The muddensity is 75 pcf. It the fluid lew inside the dailpipe drops to b,000 of below the Sotary table, determine the new safety factor in college Juale - New dep ×95 AND) L= 10,000 J+ L= 10,000 JF Here max collepie prime at empty dillplace; Ap= 21 => 10,000 x 75 5208.33 psi 144. 144 Sayety Jacker => 12,010 => 2.306 5208.33 fivid level is at to b,000g+ When . La brooft 6000 × 75 Do= 3125 ps 144 0 -144





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Jayety Jachu => 12010 => 3.84 3125 => 3.84 Phouse loading) casing design Fs = 3200 × wt deill pipe 202010EI Doll6 202010ET 0016 Assuming 10,000 1+ y quale x95 drill pipe their been selected. W+ I diupire = 19.5 ft, Lyde = 600 ft wit of hir when is 160. B.F. = 0.84. Determine the Sefety facter dury divillog. (i) Detamine the magnitude Shade deadly - (iii) Determine ropety fator when shale law ts included . $SF = YP \times 0.9$ ns (Lupwdp + Ldcwdc) x B.F =) 501090 × D.9 (10,000 × 19.5 + 600×160) V D.84 =) 1.8463 FS = 3200x wightinghe (11) Fg = 62,400 16 S.F => V.P × 0.9 1.33 Chap wap + Ldc wde) × D.F + FS REGISTRAR



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1 20201PET0004 RACHAN BALAKRISHNA SHETTY P 2 20201PET0006 PRAVEEN B P 3 20201PET0008 NALLABHOTULA DUSHYANTH P 4 20201PET0009 KOTISHWARAN V P 5 20201PET0011 A M RIZWAN P 6 20201PET0016 SIDHARTH MURALI P 7 20201PET0017 BHOOMIKA SATISH P 8 20201PET0023 PRATHIVRAJ S P 9 20201PET0029 PAVAN GOUD P 11 20201PET0030 AQIB AHMED SHARIEEF P 12 20201PET0031 BANDLA HAREESH P 13 20201PET0011 Fayas Pasha

Signature of Instructor In charge

Dr. Kalpajit Hazarika Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering

1 Mars REGISTRAR Regist



Ref. No.: PU/SOE/PET/SD/NGRE/2022-23/CIR/01

Date: 08/12/2022

Circular

Academic Year: 2022 – 2023

Course: PET3009

Semester: 5th

Dear students of 6PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET3009 Natural Gas Reservoir Engineering** is schedule on 19/12/2022, from 3:00 PM to 4:00 PM (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Mech

Dr. Deepjyoti Mech

Instructor In-charge





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REPORT ON PROBLEM SOLVING

	Dtd: 08/12/2022			
Circular Date and No.	PU/SOE/PET/SD/NGRE/2022- 23/CIR/01	Date of Event	19.12.2022	
Type of learning	Skill development	Event Type:	Problem Solving	
Mode of Event:	Offline	No. of Participant(s):	13	
Course Code/Course Name	PET3009 Natural Gas Reservoir Engin	eering		
Department	Department of Petroleum Engineer	ring		
Instructor In charge	Dr. Deepjyoti Mech Assistant Professor, Department of	f Petroleum Engineering		
Event objective	The event was conducted to test the knowledge of students on the topic related to the application of Inflow Performance Relationship (IPR) curve in petroleum industry with a primary objective of improving the problem solving skills of students.			
Topic discussed	IPR Construction			
Outcome of the event	i. Improvement in problem s ii. Improvement in identifying	-		
Assessment	 i. Type of Assessment: Problem Solving ii. Task Assigned: Construct IPR of a vertical well in an unsaturated oil reservoir using generalized Vogel's equation. The following data are given: Porosity, f = 0.25 Effective horizontal permeability, k = 100 md Pay zone thickness, h = 55 ft Reservoir pressure, p = 5,000 psia Bubble point pressure, pb = 3,000 psia Fluid formation volume factor, Bo = 1:2 Fluid viscosity, mo = 1.8 cp. Total compressibility, ct = 0:000013 psi⁻¹ Drainage area, A = 640 acres (re ¼ 2,980 ft) Wellbore radius, rw = 0.328 ft Skin factor, S = 5.5. iii. Sample answers by students: 			



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	unsaluated oil reservoir reserve generalised
	Vogel's equation. The following date are quer-
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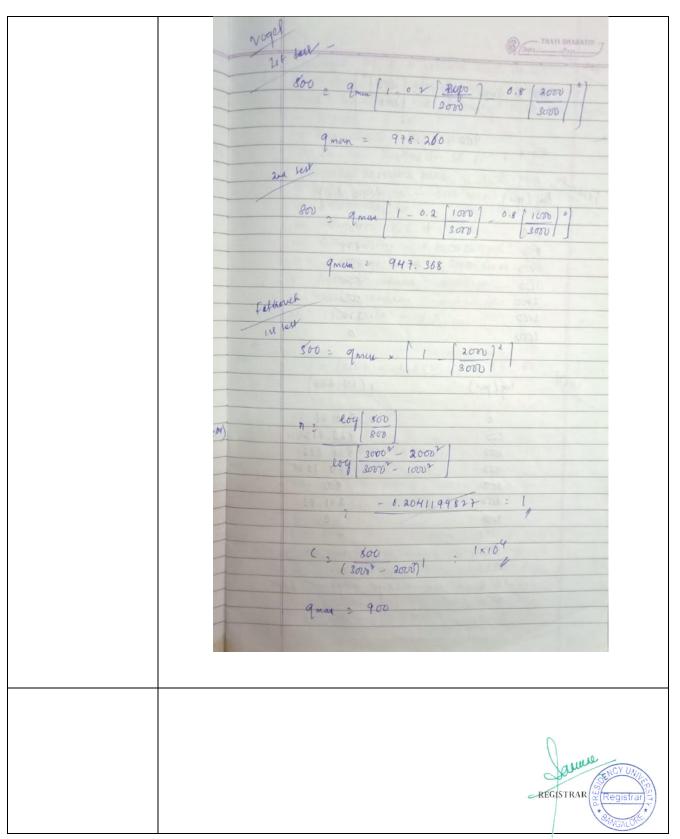
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Event photo					
	SI. No.	ID No.	Student Name	Attendance	
	1	20201PET0001	SOHAEL K S	Р	
	2	20201PET0010	PRADEEP KUMAR RATHOD	Р	
	3	20201PET0012	MOHAMMED SHAZAN	Р	
	4	20201PET0014	ZAHEED AHMED	Р	
Attendance sheet	5	20201PET0015	MUJTBA AAMIR AHMED	Р	
	6	20201PET0018	NUTHAN M S	Р	
	7	20201PET0019	PRANAV. A	Р	
	8	20201PET0022	MOHAMMED SHADIM D K	Р	
	9	20201PET0026	AJMAL AKBAR BABU	and P ENCY UNIC	
	10	20201PET0033	SHEKAR		



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

11	20201PET9001	MOHAMMED SHAHID	Р
12	20191PET0009	C S NISHANT	Р
13	20211LPE0001	MUHAMMED SWALIH V P	Р

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Signature of Instructor In charge Dr. Deepjyoti Mech Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





Ref. No.: PU/SOE/PET/EB/IFDP/2022-23/CIR/01

Date: 16/02/2023

<u>Circular</u>

Academic Year: 2022 – 2023

Course: PET2018

Semester: 6th

Dear students of 6PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET2018 Integrated Field Development and Planning** is schedule on 03/03/2023, from 10:50 AM to 11:40 AM (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Dr. Abhinav Kumar Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Dtd: 16/02/2023			
Circular Date and No.	Date of Event		03/03/2023	
Type of learning	Employability	Event Type:	Problem Solving	
Mode of Event:	Offline	No. of Participant(s):	14	
Course Code/Course Name	PET2018 Integrated Field Developme	nt and Planning		
Department	Department of Petroleum Engineer	ring		
Instructor In charge	Dr. Abhinav Kumar Assistant Professor, Department of	f Petroleum Engineering		
Event objective	The event was conducted to test the knowledge of students on the topic related to the application of principle of superposition in petroleum industry with a primary objective of improving the problem-solving skills of students.			
Topic discussed	Numerical problems on porosity and permeability			
Outcome of the event	i. Improvement in problem solving skill.ii. Improvement in identifying problem statement.			
Assessment	 i. Type of Assessment: Problem Solving ii. Task Assigned: Being a petroleum engineers you have been given the following data of core (obtained from sidewall coring method): Weight of the clean dried core sample in air: Wt (dry) =20.0 gm; Weight of the core sample saturated with water: Wt (sat) =22.5 gm; Density of water: ρw=1.0 gm/cc; diameter and length of the core sample is 2.34 cm. Estimate the pore volume and porosity of the core sample. iii. Sample answers by students: 			





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Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064





Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

	SI. No.	ID No.	Student Name	Attendance
	1	20191PET0011	FAYAZ PASHA	Р
	2	20201PET0004	SHETTY RACHAN BALAKRISHNA	P
	3	20201PET0008	NALLABHOTULA DUSHYANTH	Р
	4	20201PET0009	KOTISHWARAN V	Р
	5	20201PET0010	PRADEEP KUMAR RATHOD	Р
	6	20201PET0011	A M RIZWAN	Р
Attendance sheet	7	20201PET0012	MOHAMMED SHAZAN	Р
	8	20201PET0014	ZAHEED AHAMED	Р
	9	20201PET0017	BHOOMIKA SATISH	Р
	10	20201PET0018	NUTHAN M S	P
	11	20201PET0021	REGALLA JANARDHAN REDDY	Р
	12	20201PET0022	MOHAMMED SHADIM D K	Р
	13	20201PET0029	ALUVALA PAVAN KUMAR GOUD	P
	14	20201PET0034	KOMMINENI HEMANTH	P

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Signature of Instructor In charge Dr. Abhinav Kumar Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering

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Ref. No.: PU/SOE/PET/SD/OGWT/2022-23/CIR/01

Date: 16/05/2023

Circular

Academic Year: 2022 – 2023

Course: PET2019

Semester: 6th

Dear students of 6PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET2019 Oil and Gas Well Test Analysis** is schedule on 29/05/2023, from 3:10 PM to 4:00 PM (OFFLINE MODE). It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

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Dr. Abhinav Kumar Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

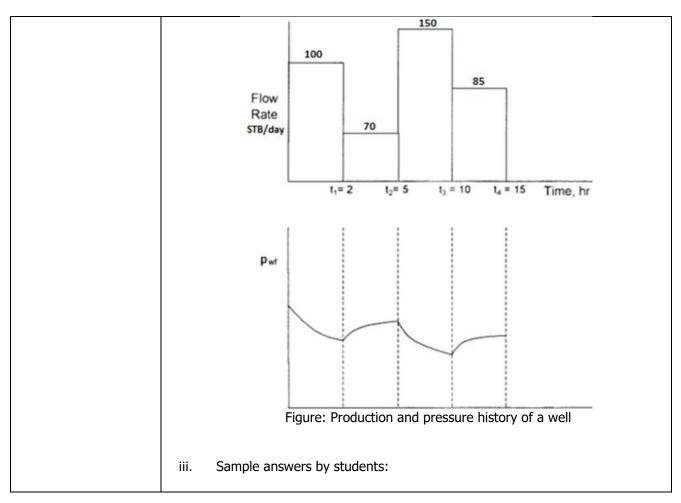
REPORT ON PROBLEM SOLVING

	Dtd: 16/05/2023			
Circular Date and No.	PU/SOE/PET/SD/OGWT/2022- 23/CIR/01	Date of Event	29.05.2023	
Type of learning	Skill development	Event Type:	Problem Solving	
Mode of Event:	Offline	No. of Participant(s):	27	
Course Code/Course Name	PET2019 Oil and Gas Well Test Analys	is		
Department	Department of Petroleum Engineer	ing		
Instructor In charge	Dr. Abhinav Kumar Assistant Professor, Department of	Petroleum Engineering		
Event objective	The event was conducted to test the knowledge of students on the topic related to the application of principle of superposition in petroleum industry with a primary objective of improving the problem-solving skills of students.			
Topic discussed	Principle of Superposition			
Outcome of the event	i. Improvement in problem solving skill.ii. Improvement in identifying problem statement.			
Assessment	i. Type of Assessment: Problem Solving ii. Task Assigned: Figure shows the rate history of a well that is producing under transient flow condition for 15 hours. Given the following data: pi = 5000 psi; h = 20'; B = 1.1 bbl/STB; ϕ = 15%; μ = 2.5 cp; rw = 0.3'; ct = 20 X 10-6 psi-1; s = 0; k = 40 md. Calculate the sand face pressure after 15 hours.			





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Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

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Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Event photo	Google	5G9M+G Karnataka Lat 13.168 Long 77.5 29/05/23	533432° 03:23 PM GMT +05:30	Part 1
	SI. No.	ID No.	Student Name	Attendance
	1	20201PET0001	Sohael K S	Р
	2	20201PET0004	Rachan Balakrishna Shetty	Р
	3	20201PET0006		
		202011 210000	Praveen B	Р
	4	20201PET0008	Praveen B Nallabhotula Dushyanth	P P
	4			
Attendance sheet		20201PET0008	Nallabhotula Dushyanth	Р
Attendance sheet	5	20201PET0008 20201PET0009	Nallabhotula Dushyanth Kotishwaran V	P
Attendance sheet	5	20201PET0008 20201PET0009 20201PET0010	Nallabhotula Dushyanth Kotishwaran V Pradeep Kumar Rathod	P P P
Attendance sheet	5 6 7	20201PET0008 20201PET0009 20201PET0010 20201PET0011	Nallabhotula DushyanthKotishwaran VPradeep Kumar RathodA M Rizwan	P P P P
Attendance sheet	5 6 7 8	20201PET0008 20201PET0009 20201PET0010 20201PET0011 20201PET0012	Nallabhotula Dushyanth Kotishwaran V Pradeep Kumar Rathod A M Rizwan Mohammed Shazan Zaheed Ahmed	P P P P P



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

12	20201PET0017	Bhoomika Satish	Р
13	20201PET0018	Nuthan M S	Р
14	20201PET0019	Pranav A	Р
15	20201PET0021	R Janardhan Reddy	Р
16	20201PET0022	Mohammed Shadim D K	Р
17	20201PET0023	Prathivraj S	P
18	20201PET0026	Ajmal Akbar Babu	P
19	20201PET0029	Pavan Goud	P
20	20201PET0030	Aqib Ahmed Sharieef	P
21	20201PET0031	Bandla Hareesh	P
22	20201PET0033	Shekar	P
23	20201PET0034	Kommineni Hemanth	P
24	20201PET9001	Mohammed Shahid	P
25	20191PET0009	C S Nishant	P
26	20191PET0011	Fayaz Pasha	P
27	20211LPE0001	Muhammed Swalih V P	P

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Signature of Instructor In charge Dr. Abhinav Kumar Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering

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Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Dtd:02/05/2022					
Circular Date and No.	PU/SOE/PET/EB/ CST/2021-22/CIR/01	Date of Submission	09/05/202			
Type of learning	Entrepreneurial Skills	Event Type:	Problem Solving			
Mode of Event:	Offline No. of 13					
Course Code/Course Name	PET2027 Corrosion Science Technolo	ogy				
Department	Department of Petroleum Enginee	ering				
Instructor In charge	Dr. Rohit Sharma Assistant Professor, Department c	of Petroleum Engineering				
Event objective	The event was conducted to test the Corrosion in petroleum ind problem-solving skills of students.	ustry with a primary obj				
Topic discussed	Corrosion Characteristics and its r	emedial methods				
Outcome of the event	i. Improvement in problem ii. Improvement in identifyir					
Assessment	 i. Type of Assessment: Prob ii. Task Assigned: Prepare an assignment on Corrosi iii. Sample answers by stud 	on characteristics of Petro	eum industry: case study			



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& Loronan in Petrolaum industry (UPSTREAMS). PRESSDENIN The Rebalance indicatory carbon a with manife of reasons. Earliancearts from of these as maying to this reductly. This of its converticat to going of all them Earliancearts legither. UNSWERSETY. Protection of the property of the property of the and the property of the territory prompts values and the property of the series of the and the property of the series of the and the the property defines the series of the and the the property defines the series of the series and the the territory of the series of the series and the territory of the series of the series and the territory of the series of t BARMALORE ASS 3 LANMENT =1 Percoloum Leronson Truncachy" panged out the wall to first up to oil. boodwards will boudle fluids (gen carboning dividend HC) at premise upper 1.70% in No Depths and upper 1592 on Carbon algories and in the addit accounts against and the conduction to the attack. Againmental, 70% of the caronin academist will account cloudition on fillow? I diplo grade have 12% on 12% bottom that boyardstor down free and premise above 262,05% they on a lardow divid fattel freemen above 262,05% they on (4) a wall have fill be than 544. Sebentted by Submitted by Ditention of the Dr. Deprodict Made Measure Land A Dr. Deprodict Made 2019 6 1052 A Becaming Moundary herot-zold Kersenialt. Conversion characteristic of a well are determined by (1) respection of shefter equipment, 13) and you for devices released, any organic and see (1) compare organic these, and (2) delay - color diverger Determination of the control and halong radius diverger are used to measure the effectiveness of christian temberd. or the starring in the spin pair of the well when the spin is filled with you back upon another the this own and public up that and Co. Janonia la seduced la children ad co. Janonia la seduced la children adal an opilit contractor presedenti la depuding a la la contractor filiale dellarge presede many calcular conservedy problem dellarge presede many calcular const appendia la bana chi deve ada the come fine-ter han is demanded la so pos any an function. Instante filiper are unde for each an for secher times. are used to meaning the effectioner of while have tarking practices another caldetter of mattering starting as another to the Cos Sahim hyperate and tarking disease, but New was replaced as a any case by asymptic additions, and the source of the balls was by asymptic and hills prove at the balls and the alley that have been replaced the and the above appears alley that have before the analytic for all and the assessment of shell be ablent of the and the assessment of shell be and the above appears and all a starter of shell be and the above appearing a shell be ballened to a shell be the above and allow wallhast path ballenes and for when and allow wallhast path ballenes above and appearing and a field because descende and appearing and a field because descended another and the conductioning with an and panet. A variety of descence quarter methods on und a basis therefores them and do if didding induction to the thyman demonstre between bound and carriers to allow products, with therefore another as in grand carriers of all mathematic the therefore (3) product out allow argument of underson the therefore (3) product out allow argument in the ten and the ten and the ten the cleatings to justice exposed structure above the splace your (1) Mould charley at the control of the point. Bus parties of affilia structures on the and surgelille It appears but consisten in high per flowing calls but produce profiles and have been about converse free in many more. These prefiles are avail to consider their conversion -control hidrong, militation and alters. Later to their the find need product, and when the hearty, having and find and the hear would for about all contry articlation. Air-duced and backed typing server an new word as servering smarch. to rapid conon partes END Bibility-sphys Cornerson Premens The Patencian INDUSTRY AND THESE SHUTTENS . Innerthy and Institute, R. Sough Bathich, R. Owalley. Addre S. San Roman practice, R. Sough Bathich, R. Owalley. In Briddles, M. Boolington, Abdalamand M. Hoden has at wells have wells handle at with higher differ content than some welk and squared a more somewire avalanment. In high Hall alle then may be done attack and 8 vajendian' Janue Ċ REGISTRAR



Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

SI. No.	Student ID No	Name
1	20201PET0004	RACHAN BALAKRISHNA SHETTY
2	20201PET0008	NALLABHOTULA DUSHYANTH
3	20201PET0010	PRADEEP KUMAR RATHOD
4	20201PET0014	ZAHEED AHMED
5	20201PET0015	MUJTBA AAMIR AHMED
6	20201PET0016	SIDHARTH MURALI
7	20201PET0017	BHOOMIKA SATISH
8	20201PET0019	PRANAV. A
9	20201PET0022	MOHAMMED SHADIM D K
10	20201PET0023	PRATHIVRAJ S
11	20201PET0026	ajmal akbar babu
12	20201PET0031	BANDLA HAREESH
13	20201PET0034	KOMMINENI HEMANTH



Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064



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Dr. Rohit Sharma **Instructor In-charge**

Peel

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





DEPARTMENT OF PETROLEUM ENGINEERING

Ref. No.: PU/SOE/PET/EB/OHS/2021-22/CIR/02

Date: 09/06/2022

<u>Circular</u>

Academic Year: 2021 – 2022

Course: PET 2030

Semester: 4th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / assignment" for the course **PET 2030**

Occupational Health Safety is scheduled 16/06/2022. The assignment (numerical) will be

based on the topic discussed in the previous lectures about the risk analysis.

It is mandatory for all the student to attend in the assignment without fail.

Anter Neoz

Mr. Ankur Neog Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Dtd: 09/06/2022		
Circular Date and No.	PU/SOE/PET/EB/ OHS/2021-22/CIR/02	Date of Event	16/06/2022
Type of learning	Employability Skills Event Type:		Problem Solving
Mode of Event:	Offline	No. of Participant(s):	20
Course Code/Course Name	PET2030 Occupational Health Safety		
Department	Department of Petroleum Enginee	ring	
Instructor In charge	Mr. Ankur Neog Assistant Professor, Department c	f Petroleum Engineering	
Event objective	The event was conducted to test the Risk Analysis with a primar skills of students.		
Topic discussed	Numerical on the Risk Analysis		
Outcome of the event	i. Improvement in problem ii. Improvement in identifyin		
Assessment	 i. Type of Assessment: Prob ii. Task Assigned: Quiz on the Assesment of the risk iii. Sample answers by stud 		REGISTRAR



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$ \begin{array}{c} $	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$									
$\frac{252 + 15}{90} + 162 + 90 = 72$ $\frac{314 - 124}{168 - 367} = 90$ $\frac{162 - 90}{1(1 - (-107))} = 271$ $\frac{231 - 287}{231 - 287} = -57 + 162 - (-177) = 245$ $\frac{214 - 169}{372 - 210} = 162$ $\frac{162 - (115)}{162 - (115)} = 0$ $\frac{150 - 184}{2 - 54} = 162$ $\frac{162 - (-174)}{162 - (-174)} = 216$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{725} = \frac{116}{36} = \frac{116}{36}$	$\frac{314 - 1124}{316} \stackrel{?}{=} \frac{90}{10} \frac{162 - 90}{162 - 90} \stackrel{?}{=} \frac{72}{2211}$ $\frac{317 - 367}{231 - 287} \stackrel{?}{=} \frac{57}{57} \frac{162 - (-157)}{527} \stackrel{?}{=} \frac{2271}{231}$ $\frac{231 - 287}{231 - 287} \stackrel{?}{=} \frac{57}{57} \frac{162 - (-157)}{527} \stackrel{?}{=} \frac{242}{57}$ $\frac{332 - 210 \stackrel{?}{=} 162}{150 - 184} \stackrel{?}{=} \frac{162}{55} \frac{162 - (-157)}{162 - (-174)} \stackrel{?}{=} \frac{216}{216}$ $\frac{150 - 184}{525} \stackrel{?}{=} \frac{162}{725} \frac{162 - (-174)}{525} \stackrel{?}{=} \frac{216}{525}$ $\frac{11114 - 285661 + 100}{528} \stackrel{?}{=} \frac{72}{725} \frac{38 - 84757}{325}$ $\frac{1114 - 285661 + 100}{528} \stackrel{?}{=} \frac{325}{325} \frac{38 - 84757}{325}$ $\frac{1114 - 285661 + 100}{528} \stackrel{?}{=} \frac{36}{56} \frac{1457}{515}$		- F	1 491		298 8	1000		VI	A AL
$\frac{252 + 15}{90} + 162 + 90 = 72$ $\frac{314 - 124}{168 - 367} = 90$ $\frac{162 - 90}{1(1 - (-107))} = 271$ $\frac{231 - 287}{231 - 287} = -57 + 162 - (-177) = 245$ $\frac{214 - 169}{372 - 210} = 162$ $\frac{162 - (115)}{162 - (115)} = 0$ $\frac{150 - 184}{2 - 54} = 162$ $\frac{162 - (-174)}{162 - (-174)} = 216$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{72}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{5 - 184} = \frac{115}{325}$ $\frac{1114 - 985 (61 + 100)}{725} = \frac{116}{36} = \frac{116}{36}$	$\frac{314 - 124}{317 - 367} \stackrel{?}{=} \frac{90}{10} \qquad 162 - 90 \qquad : 72$ $\frac{357 - 367}{231 - 287} \stackrel{.}{=} -109 \qquad I(12 - (-107)) : 2271$ $\frac{231 - 287}{231 - 287} \stackrel{.}{=} -57 \qquad : 162 - (-157) : 2472$ $\frac{372}{372} - 210 : 162 \qquad : 162 - (105) : 2472$ $\frac{372}{150 - 184} \stackrel{.}{=} -57 \qquad : 162 - (-174) : 216$ $\frac{11114}{312} : 150 : 162 : (-174) : 216$ $\frac{1114}{325} : 0 : 162 : (-174) : 216$ $\frac{1114}{325} : 0 : 162 : (-174) : 216$ $\frac{1114}{325} : 0 : 162 : (-174) : 216$ $\frac{1114}{325} : 0$	_	1		1000	De Star				
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$\frac{167 - 364}{231 - 287} = -109 \qquad ((1 - (-103)) = 271$ $\frac{1231 - 287}{231 - 287} = -57 \qquad (82 - (-153)) = 245$ $\frac{217 - 149}{342 - 210} = 115 \qquad (62 - (115)) = 472$ $\frac{147}{150 - 184} = -59 \qquad (62 - (100)) = 0$ $\frac{150 - 184}{50 - 184} = -59 \qquad (62 - (-174)) = 216$ $\frac{1116 - (2856) + (100)}{525} = -59$ $\frac{1116 - (2856) + (2856) + (2856)}{525} = -59$	$\frac{1487 - 367}{231 - 288} = -109 \qquad ((1 - (-103)) = 231 \\ 231 - 288 = -57 \qquad (62 - (-773)) = 282 \\ 284 - 149 = 115 \qquad 168 - (115) = 242 \\ 332 - 210 = 162 \qquad (62 - 162) = = 0 \\ 150 - 184 = -54 \qquad 162 - (-74) = 216 \\ \hline 825 - \\ \hline 825$				= 90	and the subs	162 - 9	0	: 72	15
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Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Event photo				
	SI No	Roll no.	Name	Attendance
	1	20201PET0001	SOHAEL KS	Р
	2	20201PET0004	SHETTY RACHAN BALAKRISHNA	Р
	3	20201PET0008	NALLABHOTULA DUSHYANTH	Р
	4	20201PET0009	KOTISHWARAN V	Р
	5	20201PET0010	PRADEEP KUMAR RATHOD	Р
	6	20201PET0011	A M RIZWAN	Р
	7	20201PET0015	MUJTBA AAMIR AHMED	Р
	8	20201PET0016	SIDHARTH MURALI	Р
	9	20201PET0017	BHOOMIKA SATISH	Р
Attendance sheet	10	20201PET0018	NUTHAN M S	Р
	11	20201PET0019	PRANAV A.	Р
	12	20201PET0021	R JANARDHAN REDDY	Р
	13	20201PET0026	AJMAL AKBAR BABU	Р
•	14	20201PET0029	PAVAN GOUD	Р
	15	20201PET0030	AQIB AHMED SHARIEEF	Р
	16	20201PET0031	BANDLA HAREESH	Р
	17	20201PET0033	SHEKAR	Р
	18	20201PET0034	KOMMINENI HEMANTH	Р
	19	20201PET9001	MOHAMMED SHAHID	Р
	20	20201PET9002	NITIN	Р

Antur Neog

Mr. Ankur Neog **Instructor In-charge**

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Dr. Suman Paul Professor and Head Department of Petroleum Engineering

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DEPARTMENT OF PETROLEUM ENGINEERING

Ref. No.: PU/SOE/PET/EB/MHWT/2022-23/CIR/01

Date: 17/05/2023

<u>Circular</u>

Academic Year: 2022 – 2023

Course: PET3005

Semester: 6th

Dear students of 6PET-1,

It is to inform you all that a "problem solving" activity for the course **PET3005 Multilateral and Horizontal Well Technology** is scheduled on 22/05/2023.

It is mandatory for all the students to remain present during the activity session and take part in numerical solving.

Gauver Kundu

Mr. Gaurav Kundu Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Date: 17/05/2023					
Circular Date and No.	PU/SOE/PET/EB/MHWT/2022- 23/CIR/01	Date of Event	22.05.2023			
Type of learning	Skill development	Problem Solving				
Mode of Event:	Offline No. of 13					
Course Code/Course Name	PET3005 Multilateral and Horizonta	al Well Technology				
Department	Department of Petroleum Engineer	ring				
Instructor In charge	Dr. Gaurav Kundu Assistant Professor, Department o	f Petroleum Engineering				
Event objective	The event was conducted to test the Comparison of horizontal and primary objective of improving the	vertical well test with the	oretical approach with a			
Topic discussed	Comparison of horizontal and vertical well test with theoretical approach.					
Outcome of the event	i. Improvement in problem solving skill. ii. Improvement in identifying problem statement.					
	 i. Type of Assessment: Problem Solving ii. Task Assigned: Comparison of horizontal and vertical well test with theoretical approach. 					
Assessment	iii. Sample answers by studer					





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Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

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Event photo	ID No.	Student Name	22-05-2023	01-06-2023
Event photo	ID No. 20201PET0001	Student Name		
Event photo	20201PET0001	SOHAEL K S	22-05-2023 A P	01-06-2023 P P
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Event photo	20201PET0001 20201PET0006 20201PET0015	SOHAEL K S PRAVEEN B MUJTBA AAMIR AHMED SIDDHARTH	A P A	P P P
Event photo	20201PET0001 20201PET0006 20201PET0015 20201PET0016	SOHAEL K S PRAVEEN B MUJTBA AAMIR AHMED SIDDHARTH MURALI	A P A P	P P P P
Event photo Attendance sheet	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019	SOHAEL K S PRAVEEN B MUJTBA AAMIR AHMED SIDDHARTH MURALI PRANAV A	A P A P P	P P P P P
	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019 20201PET0023	SOHAEL K S PRAVEEN B MUJTBA AAMIR AHMED SIDDHARTH MURALI PRANAV A PRATHIVRAJ S AJMAL AKBAR	A P A P P P P	P P P P P P
	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019 20201PET0023 20201PET0026	SOHAEL K SPRAVEEN BMUJTBA AAMIRAHMEDSIDDHARTHMURALIPRANAV APRATHIVRAJ SAJMAL AKBARBABUAQIB AHMED	A P A P P P P P	P P P P P P P P
	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019 20201PET0023 20201PET0026 20201PET0030	SOHAEL K SPRAVEEN BMUJTBA AAMIRAHMEDSIDDHARTHMURALIPRANAV APRATHIVRAJ SAJMAL AKBARBABUAQIB AHMEDSHARIEEF	A P A P P P P P A	P P P P P P P P P
	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019 20201PET0023 20201PET0026 20201PET0030 20201PET0031	SOHAEL K SPRAVEEN BMUJTBA AAMIRAHMEDSIDDHARTHMURALIPRANAV APRATHIVRAJ SAJMAL AKBARBABUAQIB AHMEDSHARIEEFBANDLA HAREESHSHEKARMOHAMMED	A P A P P P P P A A	P P P P P P P P P P
	20201PET0001 20201PET0006 20201PET0015 20201PET0016 20201PET0019 20201PET0023 20201PET0026 20201PET0030 20201PET0031 20201PET0033	SOHAEL K SPRAVEEN BMUJTBA AAMIRAHMEDSIDDHARTHMURALIPRANAV APRATHIVRAJ SAJMAL AKBARBABUAQIB AHMEDSHARIEEFBANDLA HAREESHSHEKAR	A P A P P P P P A P A P P	P P P P P P P P P P P



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

equer Kundu

Signature of Instructor In charge Mr. Gaurav Kundu Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





DEPARTMENT OF PETROLEUM ENGINEERING

Ref. No.: PU/SOE/PET/SD/APRE/2022-23/CIR/01

Date: 24/04/2023

Circular

Academic Year: 2022 – 2023

Course: PET3006

Semester: 6th

Dear students of 6PET-1,

It is to inform you all that a "problem solving / numerical solving" activity for the course **PET3006 Advanced Petroleum Reservoir Engineering** is schedule on 02/05/2023, from 1:20 PM to 2:10 PM (OFFLINE MODE).

It is mandatory for all the student to remain present during the activity session and take part in numerical solving.

Vech

Dr. Deepjyoti Mech

Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	C	otd: 24/04/2023					
Circular Date and No.	PU/SOE	E/PET/SD/APRE/2022 23/CIR/01	Date of Ex	vent	02.05.2023		
Type of learning	Sk	ill development	Event Ty	pe:	Problem Solving		
Mode of Event:		Offline	No. of Participan		27		
Course Code/Course Name	PET3006 Advanced Petroleum Reservoir Engineering						
Department	Departme	nt of Petroleum Eng	jineering				
Instructor In charge	Dr. Deepj Assistant	•	ent of Petroleum Eng	ineering			
Event objective	the applic	ation of material b	test the knowledge o alance equation in p oblem solving skills o	etroleum indu			
Topic discussed	Water Infl	ux					
Outcome of the event		nprovement in prob nprovement in ident	lem solving skill. tifying problem stater	ment.			
	ii. Ta A com of the 0.25. 1 MM	original gas-cap vo The initial reservoir STB of oil, 1100 MM e time the reservoi	Problem Solving voir contains 10 MMS dume to the original of pressure is 3000 psia scf of 0.8 specific gra r pressure dropped t	oil volume, i.e a at 150°F. The avity gas, and	., m, is estimated as e reservoir produced 50,000 STB of water		
Assessment			3000 psi	2800	psi		
Assessment		Bo, bbl/STB	1.58	1.48	3		
		Rs, Scf/STB	1040	850			
		Bg, bbl/scf	0.00080	0.000	92		
		Bt, bbl/STB	1.58	1.65	ANCT ON		
		Bw, bbl/STB	1.000	1.00			
	The follow Swi = 0.2	ving data is also ava 0, cw = 1.5 X 10		X 10-6 psi-1	* *		



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Interpret the following: a) Cumulative water influx b) Net water influx iii. Sample answers by students:							
b) Net water influx							
	b) Net water influx						
III. Sample answers by students:							
N= 10 N0 ⁶ STB N= 1000 R= 1000 R= 1005 R=							





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100 10° stb Np= 1×10° stb Np= 1040 Rs Rp= 1100 set stb B+ = 1.655 = 50,000 sth. Bu = 1. Bti = 1.58 By = 0.00092 = 0.008 Bgi m= 0.25_ Rp= 1100×106 Rp= 1100scf |stb. - (ap-upBN N= Np (B++ Bg (Rp-Psi))) (Bt-Btr)+ mBo; (Bg - 1)+(1+m) BD; DP 10×10 = 1×10 (1.655 + 0.000 42(1100-1010) - (we- 500000) (1.695-1.58) + 0.251.58 0.00092 -1 + (1+0.25) 158-0. 223×100 0.013,42 =1710200 (we-sobal) -L182005tb Net worth mflup =) we -WPBW. = 418200 = 368200 5'B anne REGISTRAR Registr



Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Event photo	Google	Presidency Ittagallpur Lat 13.168 Long 77.53 02/05/23 0	33615° 01:28 AM GMT +05:30	UNIVERSITY,
	SI. No.	ID No.	Student Name	Attendance
	1	20201PET0001	Sohael K S	Р
	2	20201PET0004	Rachan Balakrishna Shetty	Р
	3	20201PET0006	Praveen B	Р
	4	20201PET0008	Nallabhotula Dushyanth	Р
Attendance sheet	5	20201PET0009	Kotishwaran V	Р
Attenuance sneet	6	20201PET0010	Pradeep Kumar Rathod	Р
	7	20201PET0011	A M Rizwan	Р
	8	20201PET0012	Mohammed Shazan	Р
	9	20201PET0014	Zaheed Ahmed	Р
	10	20201PET0015		SENCY UNIT
	11	20201PET0016	Siddharth Murali	Registrar



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

12	20201PET0017	Bhoomika Satish	Р
13	20201PET0018	Nuthan M S	Р
14	20201PET0019	Pranav A	Р
15	20201PET0021	R Janardhan Reddy	Р
16	20201PET0022	Mohammed Shadim D K	Р
17	20201PET0023	Prathivraj S	Р
18	20201PET0026	Ajmal Akbar Babu	Р
19	20201PET0029	Pavan Goud	Р
20	20201PET0030	Aqib Ahmed Sharieef	Р
21	20201PET0031	Bandla Hareesh	Р
22	20201PET0033	Shekar	Р
23	20201PET0034	Kommineni Hemanth	Р
24	20201PET9001	Mohammed Shahid	Р
25	20191PET0009	C S Nishant	Р
26	20191PET0011	Fayaz Pasha	Р
27	20211LPE0001	Muhammed Swalih V P	Р

Mech

Signature of Instructor In charge Dr. Deepjyoti Mech Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering

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DEPARTMENT OF PETROLEUM ENGINEERING

Ref. No.: PU/SOE/PET/EB/OHS/2021-22/CIR/02

Date: 09/06/2022

<u>Circular</u>

Academic Year: 2021 – 2022

Course: PET 2030

Semester: 4th

Dear students of 4PET-1,

It is to inform you all that a "problem solving / assignment" for the course **PET 2030**

Occupational Health Safety is scheduled 16/06/2022. The assignment (numerical) will be

based on the topic discussed in the previous lectures about the risk analysis.

It is mandatory for all the student to attend in the assignment without fail.

Anter Neoz

Mr. Ankur Neog Instructor In-charge





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

	Dtd: 09/06/2022									
Circular Date and No.	PU/SOE/PET/EB/ OHS/2021-22/CIR/02	Date of Event	16/06/2022							
Type of learning	Employability Skills	Event Type:	Problem Solving							
Mode of Event:	Offline	No. of Participant(s):	20							
Course Code/Course Name	PET2030 Occupational Health Safety									
Department	Department of Petroleum Enginee	Department of Petroleum Engineering								
Instructor In charge	Mr. Ankur Neog Assistant Professor, Department c	f Petroleum Engineering								
Event objective		The event was conducted to test the knowledge of students on the topic related to the Risk Analysis with a primary objective of improving the problem-solving skills of students.								
Topic discussed	Numerical on the Risk Analysis									
Outcome of the event	i. Improvement in problem ii. Improvement in identifyin									
Assessment	 i. Type of Assessment: Prob ii. Task Assigned: Quiz on the Assesment of the risk iii. Sample answers by stud 		REGISTRAR							



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$\frac{1}{100} \frac{1}{100} \frac{1}$	$\frac{c}{c} + \frac{c}{c} + \frac{c}$				the second s	and the second se	and the second se	Concession in the local division of the loca		
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Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Event photo				
	SI No	Roll no.	Name	Attendance
	1	20201PET0001	SOHAEL KS	Р
	2	20201PET0004	SHETTY RACHAN BALAKRISHNA	Р
	3	20201PET0008	NALLABHOTULA DUSHYANTH	Р
	4	20201PET0009	KOTISHWARAN V	Р
	5	20201PET0010	PRADEEP KUMAR RATHOD	Р
	6	20201PET0011	A M RIZWAN	Р
	7	20201PET0015	MUJTBA AAMIR AHMED	Р
	8	20201PET0016	SIDHARTH MURALI	Р
	9	20201PET0017	BHOOMIKA SATISH	Р
Attendance sheet	10	20201PET0018	NUTHAN M S	Р
Attendance Sheet	11	20201PET0019	PRANAV A.	Р
	12	20201PET0021	R JANARDHAN REDDY	Р
	13	20201PET0026	AJMAL AKBAR BABU	Р
	14	20201PET0029	PAVAN GOUD	Р
	15	20201PET0030	AQIB AHMED SHARIEEF	Р
	16	20201PET0031	BANDLA HAREESH	Р
	17	20201PET0033	SHEKAR	Р
	18	20201PET0034	KOMMINENI HEMANTH	Р
	19	20201PET9001	MOHAMMED SHAHID	Р
	20	20201PET9002	NITIN	Р

Antur Neog

Mr. Ankur Neog **Instructor In-charge**

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Dr. Suman Paul Professor and Head Department of Petroleum Engineering

REGISTRAR

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Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2022-23/7PET1/CIR/01

Date: 10-12-2022

CIRCULAR

It is to inform all the students that they need to solve the following problem and upload in One drive on or before 16-12-2022.

Problem 1: The head and efficiency versus capacity data for a centrifugal pump with a 10 in. impeller is as shown below.

Q, gal/min	0	800	1600	2400	3000
H, ft	3185	3100	2900	2350	1800
E, %	0.0	55.7	78.0	79.3	72.0

The pump is driven by a constant-speed electric motor at a speed of 3560 RPM.

(a) Determine the performance of this pump with an 11 in. impeller, using Affinity Laws.

(b) If the pump drive were changed to a variable frequency drive (VFD) motor with a speed range of 3000 to 4000 RPM, calculate the new H-Q curve for the maximum speed of 4000 RPM with the original 10 in. impeller.

Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 10-12 PU/SOE/PET/ 23/7PET1/(PS/2022-	Date of Event	16-12-2022				
Type of learning		Problem S	olving	Event Type:	Course based problem				
Mode of Event:		Offlin	e	No. of Participant(s):	16				
Course Code/Course Name	PET20	003 Pipeline E	Engineering						
Department	Depar	tment of Peti	roleum Enginee	ring					
Instructor		Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering							
Event objective	2. App		e on Fundamen	tals of Drilling to solve pro	oblems				
Name of the topic	1. To	analyze the H	1-Q Curve in Pu	mp Design.					
Outcome of the event	i.	i. Solve Centrifugal Pump Design Problem.							
Assessment	i. ii. iii.	ii. Task Assigned: Solve one problem							
Sample student report			Attac	ned in the ANNEXURE					
	SI. No.	ID No.		Student Name	Submission status				
	1	20191PET 0001	AHIL SHA MC		Submitted				
	2	2 20191PET 2 0002 AKASH S Submitted							
Attendance sheet	3	20191PET 0005	ASWIN K S		Submitted				
	4	20191PET 0012	FEROZ AHME	d Khudavand	Submitted				
	5	20191PET 0013	FIROZA SHEI	КН					



Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

6	20191PET 0016	HARI GOVIND V	Not Submitted
7	20191PET 0019	KADIRI LALITHA	Submitted
8	20191PET 0021	KRITIKA	Submitted
9	20191PET 0027	MOHAMED SUHAIL	Submitted
10	20191PET 0033	MOHAMMED REEHAN AZHAR	Submitted
11	20191PET 0034	MOHAMMED TAHA NAJEEB BASHA	Submitted
12	20191PET 0035	MOHAMMED UZMAIR M	Submitted
13	20191PET 0052	SHAIKH ADNAN ZAKIRHUSAIN	Submitted
14	20191PET 0055	TANIYA K G	Submitted
15	20191PET 0067	SHAIK MUJEEB UR REHAMAN	Submitted
16	20191PET 0068	RIZWAN	Submitted

Signature of Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering

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Department of Petroleum Engineering Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Course Code/Course Name	PET 303 Pi	ipeline En	gineering]			
Event Type	Problem so	olving					
Task	Course bas	sed exerc	ise				
Instructor	Mr Utkarsh Assistant P		Departm	ent of Pe	troleum	Engineerin	g
Submission Date	16-12-202	2					
Name of the student	МОНАММЕ	ED UZMAI	IR M				
ID number	20191PET	0035					
Problem statement	impeller is Q, gal/min H, ft E, % The pump (a) Determ Laws. (b) If the p	as showr 0 3185 0.0 is driven hine the p ump driv nge of 30	800 3100 55.7 by a cons performa re were c 000 to 400	1600 2900 78.0 stant-spe nce of th hanged t	2400 2350 79.3 ed electr is pump o a varia calculate	3000 1800 72.0 ric motor a with an 11 ble freque the new H	trifugal pump with a 10 in. t a speed of 3560 RPM. L in. impeller, using Affinity ncy drive (VFD) motor with I-Q curve for the maximum
Student solution							





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Mohammed Uzmair M Roll no > 20151PETO 035 Problem Solving Assignment A efficiency curve versus copacity data for gal pump with a 10 in impeller is as shown a centr 3000 below. 800 1600 2400 R gal/min 1800 2350 2900 3100 7185 72 55.7 78.0 7.9.2 0.0 The pump is driven by a constant -speed electric motor at a speed of 3560 RPM. a) Determine the performance of this pump with on 11 in impelling Lusing Affinity Lows. If fump drive were changed to a variable requiry drive (VFD) motor with a speed range calculate the new 11-Q aure 3000-4000RPM the maximum speed of 4000 RPM with the briginal 12 in impeller. [Using Affinity haws for impeller diometer the multiply peto for low tote 11/10 = 1.1 with generate a new set of Q FM us infeller R value by 1.1 A 14 by 1.21 the 1760 2840 2200 3859 3751 3509 2849 278 Using affinity lows for speech the multiplying forton for flow rate is forton = 4000/0000000 = 11236 of for Head is 1267



Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

19 11226 4 actor Ullow 1798 2097 327/ 3661 2967 2273 899 3914 The evaluation was done by the students itself by exchanging their problem solutions so that they can learn about the simple calculation errors that can take place while **Evaluation** solving the problems.

Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2022-23/5PET1/CIR/01

Date: 25-11-2022

CIRCULAR

It is to inform all the students that they need to solve the following problem and upload in One drive on or before 01-12-2022.

Problem 1: A gas lift valve with dome pressure 400 psi and spring pressure 150 psi is being used as operating valve at 7500 ft depth. The fluid in the tubing, with density 7.49 ppg, is causing a pressure 120 psi at the valve depth. If the valve area and bellow area is .21 sq inch and 1.71 sq inch, then determine the following : a) Opening and closing pressure for this valve, b) Spread.

Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 25-11 PU/SOE/PET/F 23/5PET1/C	PS/2022-	Date of Event	01-12-2022				
Type of learning		Problem So	•	Event Type:	Course based problem				
Mode of Event:		Offline	2	No. of Participant(s):	27				
Course Code/Course Name	PET20	06 Fundamer	ntals of Oil and	Gas Production Technolo	gy				
Department	Depar	tment of Petr	oleum Enginee	ring					
Instructor		Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering							
Event objective	2. App		e on Fundamen	tals of Drilling to solve pro					
Name of the topic		1. To analyze the opening and closing pressure of gas lift valve along with determination of spread.							
Outcome of the event	i.	i. Solve Artificial Lift Problem on Gas Lift Design							
Assessment	i. ii. iii.	ii. Task Assigned: Solve one problem							
Sample student report			Attac	hed in the ANNEXURE					
	SI. No.	ID No.		Student Name	Submission status				
	1	20201PET 0001		SOHAEL K S	Submitted				
	2	2 20201PET 0004 SHETTY RACHAN BALAKRISHNA Submitted							
Attendance sheet	3	20201PET 0006		PRAVEEN B	Submitted				
	4	20201PET 0008	NALLABI	IOTULA DUSHYANTH	Submitted				
	5	20201PET 0009	KC	TISHWARAN V	RECSUBMITECTEGISTAT				



6	20201PET 0010	PRADEEP KUMAR RATHOD	Submitted
7	20201PET 0011	A M RIZWAN	Submitted
8	20201PET 0012	MOHAMMED SHAZAN	Submitted
9	20201PET 0014	ZAHEED AHMED	Submitted
10	20201PET 0015	MUJTBA AAMIR AHMED	Submitted
11	20201PET 0016	SIDHARTH MURALI	Submitted
12	20201PET 0017	BHOOMIKA SATISH	Submitted
13	20201PET 0018	NUTHAN M S	Submitted
14	20201PET 0019	PRANAV A.	Submitted
15	20201PET 0021	R JANARDHAN REDDY	Submitted
16	20201PET 0022	MOHAMMED SHADIM D K	Submitted
17	20201PET 0023	PRATHIVRAJ S	Submitted
18	20201PET 0026	AJMAL AKBAR BABU	Submitted
19	20201PET 0029	PAVAN GOUD	Submitted
20	20201PET 0030	AQIB AHMED SHARIEEF	Submitted
21	20201PET 0031	BANDLA HAREESH	Submitted
22	20201PET 0033	SHEKAR	Submitted
23	20201PET 0034	KOMMINENI HEMANTH	
1	· · ·		WGALOS



24	20201PET 9001	MOHAMMED SHAHID	Submitted	
25	20191PET 0009	C S NISHANT	Submitted	
26	20191PET 0011	FAYAZ PASHA	Submitted	
27	20211LPE 0001	MUHAMMED SWALIH V P	Submitted	

Signature of Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





Course Code/Course Name	PET2006 Fundamentals of Oil and Gas Production Technology
Event Type	Problem solving
Task	Course based exercise
Instructor	Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering
Submission Date	01-12-2022
Name of the student	Zaheed Ahmed
ID number	20201PET0014
Problem statement	A gas lift valve with dome pressure 400 psi and spring pressure 150 psi is being used as operating valve at 7500 ft depth. The fluid in the tubing, with density 7.49 ppg, is causing a pressure 120 psi at the valve depth. If the valve area and bellow area is .21 sq inch and 1.71 sq inch, then determine the a) Opening and closing pressure for this valve, b) Spread.





Student solution	20201PE10014
	Zaheed Ahamed acastretiony Production -
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1	Q. A gas lift value with dome pressure to pri
1	es being used as operating value at Boo f. app.
2	The fluid in the tuberg aum assisting the value Ag
2	Q. A gas lift value with dome pressure 400 psi es being used as operating value at 7500 ft dep th. The fluid in the tubery with density 7.49 Ptg is causing a pressure 120 psi at the value fore is the walve area and bellow area
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	luation was done by the students itself by exchanging their problem solutions
	they can learn about the simple calculation errors that can take place while
solving	the problems.



Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





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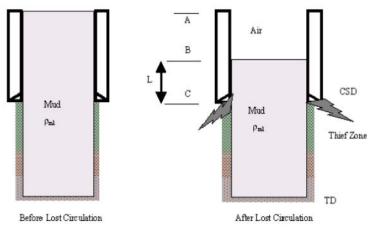
Ref. No.: PU/SOE/PET/PS/2022-23/3PET1/CIR/01

Date: 25-11-2022

CIRCULAR

It is to inform all the students that they need to solve the following problem and upload in One drive on or before 04-12-2022.

Problem 1: Conductor casing was run in a well at 200 ft depth. The casing was run in the well with 11 ppg mud. To drill the next section 13 ppg mud was being used. But due to lost circulation the length of mud column in casing is reduced. Based on the above data , determine the collapse pressure for 3 cases : Point A , Point B and Point C (mentioned below in the figure).



Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 25-11 PU/SOE/PET/ 23/3PET1/0	PS/2022-	Date of Event	04-12-2022				
Type of learning	Problem Solving			Event Type:	Course based problem				
Mode of Event:		Offlin	е	No. of Participant(s):	30				
Course Code/Course Name	PET20	PET2003 Fundamentals of Oil and Gas Well Drilling Technology							
Department	Depar	tment of Peti	oleum Enginee	ring					
Instructor		karsh Lall ant Professor	, Department o	f Petroleum Engineering					
Event objective	2. App		e on Fundamen	tals of Drilling to solve pro					
Name of the topic	1. To	analyze the c	ollapse pressur	e at different depths for c	asing design.				
Outcome of the event	i.	i. Solve Casing Design Problem.							
Assessment	i. ii. iii.	ii. Task Assigned: Solve one problem							
Sample student report	Attached in the ANNEXURE								
	SI. No.	ID No.		Student Name	Submission status				
	1	20211PET 0001	MOHAMED SA	ADULLAH S	Submitted				
	2	20211PET 0002	ROSHAN T		Submitted				
Attendance sheet	3	20211PET 0003	SYED LUQMA	ŊĴ	Submitted				
	4	20211PET 0004	BELIM MOH S	aad mohammedbhai	Submitted				
	5	20211PET 0005	MOHAMMAD	SUHAIL					



6	20211PET 0006	FAHAD ALI KHAN	Not Submitted
7	20211PET 0008	VANKALA JAI SPHOORTHI	Submitted
8	20211PET 0009	AFEEZ	Submitted
9	20211PET 0010	HITHESH T	Submitted
10	20211PET 0011	ganuga Roshan	Submitted
11	20211PET 0012	MOHAMED NAIF NIHAD ALI	Submitted
12	20211PET 0013	DEEPAK JADHAV	Submitted
13	20211PET 0014	DARSHAN D P	Submitted
14	20211PET 0015	Mohammad Yasir Byakod	Submitted
15	20211PET 0016	ASMA THASNIM	Submitted
16	20211PET 0017	IBRAHIM NAWAZ M	Submitted
17	20211PET 0018	SANDEEP IYAGAR	Submitted
18	20211PET 0019	KIRAN EKIRAN	Submitted
19	20211PET 0020	YASHWANTH GOWDA M	Submitted
20	20211PET 0021	MAYUR P	Submitted
21	20211PET 0022	YASHWANTH S	Submitted
22	20211PET 0023	MOHAMMED SHABAZ KHALANDER D	REGISTRAR
-			



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23	20211PET 0024	BOLLAMA REDDY HIMAVENKATA MANKANTHA	Submitted
24	20211PET 0025	FAZIL SHAREEF H A	Submitted
25	20211PET 0026	PATEL MOHAMMED ADNAN MOHAMMED GOUS	Submitted
26	20211PET 0027	SYED USMAN	Submitted
27	20211PET 0001	MOHAMED SAADULLAH S	Submitted
28	20211PET 0002	ROSHAN T	Submitted
29	20211PET 0003	SYED LUQMAN J	Submitted
30	20211PET 0004	BELIM MOH SAAD MOHAMMEDBHAI	Submitted

Signature of Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Professor and Head Department of Petroleum Engineering





Course Code/Course Name	PET2003 Fundamentals of Oil and Gas Well Drilling Technology						
Event Type	Problem solving						
Task	Course based exercise						
Instructor	Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering						
Submission Date	04-12-2022						
Name of the student	Roshan T.						
ID number	20211PET0002						
Problem statement	Conductor casing was run in a well at 200 ft depth. The casing was run in the well with 11 ppg mud. To drill the next section 13 ppg mud was being used. But due to lost circulation the length of mud column in casing is reduced. Based on the above data , determine the collapse pressure for 3 cases : Point A , Point B and Point C (mentioned below in the figure).						
Student solution	Denote Loss on distion Aref Loss Officiation						





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- ASSIGNMENT-Name: Roshan.T Roll No: 20211PETOUO2 COURSE CODE = PET 2003 DATE : 04-12-2022) Conductor lasing well at 200 ft depth with 11/phg mud; ato drill the next section 13/phg mud was being 05ed. Due the lost circulation, The dength of the mud Column an Caring ato reduced. Determine the Collapse pressure at point A, B, C.) Egure: Conductor AIR Air Casing (200 ft) Mod BIL Mud Sand [: A = External Pressure- Internal Pressure) A=0-0 Pressure Gladient= Psylt) 0.052x 8.65x 200x1.1 > 6.465 psil ft OP for Selt Water = 0-465 psi/1t and REGISTRAR Registr



Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

B= 0+13×0.052×2= [200×0.465] L= 1381+ From B to E= 130 ft : A= 200-138 = 62 ft A= 62 1t. B= 0.052 x 62 [11-0] 5 0P D= 35.46 Psi - @ C= [6.052x 200×11] - (138× 13× 0.052)]) 21.11 psi [= 21-11/psi Collapse Pressure at Pt. A= 0 ps; Collapse Pressure at Pt. B= 35-46 ps; Collapse Pressure at Pt. C= 21.11 ps; Collapse Pressure at Pt. C= 21.11 ps; Result: The evaluation was done by the students itself by exchanging their problem solutions **Evaluation** so that they can learn about the simple calculation errors that can take place while solving the problems.



Instructor Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





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Ref. No.: PU/SOE/PET/PS/2022-23/7PET1/CIR/01

Date: 01-12-2022

CIRCULAR

It is to inform all the students that then need to solve the following case study and upload in One drive on or before 05-12-2022.

Problem 1: Means San Andres Unit. Stiles48 documented a comprehensive surveillance program used at the Means San Andres Unit. A detailed surveillance program was developed and implemented in 1975. It included monitoring production (oil, gas, and water) and water injection, controlling injection pressures with step-rate tests, pattern balancing with computer balance program, running injection profiles to ensure optimum distribution, selecting specific production profiles, and choosing fluid levels to ensure pump off of producing wells. Analyze and Find out what can be implemented during tertiary recovery (water-alternating-gas in- "Effective waterflood management requires a multidisciplinary team approach. "injection), but they also apply to waterflood surveillance. Identify the steps that can be implemented to increase vertical sweep and ultimate recovery.

Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





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REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 23/7PET1/C	PS/2022-	Date of Event	05-12-2022				
Type of learning		Problem So	olving	Event Type:	Course based proble	em			
Mode of Event:		Online	2	No. of Participant(s):	15				
Course Code/Course Name	PET 3	19 Oil Field D	evelopment an	d Reservoir Management					
Department	Depar	Department of Petroleum Engineering							
Instructor		in Mariyate V ant Professor,		f Petroleum Engineering					
Event objective	2. App	ly knowledge		nsing to solve problems					
Name of the topic	Ca	se Study on `	Surveillance To	echniques-A Reservoir Ma	nagement Approach"				
Outcome of the event	i. It facilitates the exploration of a real issue within a defined context, using a variety of data sources								
Assessment	 i. Type of Assessment: solve the case study with suitable parameters ii. Task Assigned: Analyze the problem and solve iii. Sample Report by students 								
Sample student report	Attached in the ANNEXURE								
	SI. No.	ID No.		Student Name	Submission status				
	1	20191PET 0004	ŀ	SHWIN RAJ R	Not Submitted				
	2	20191PET 0014	GANES	5h kumar pothan	Submitted				
Attendance cheet	3	20191PET 0018	J	ESWIN JAVAD	Submitted				
Attendance sheet	4	20191PET 0023	M M	DHAMED ALFIATH	Submitted				
	5	20191PET 0025	MI	DHUN SUBHASH	Submitted				
	6	20191PET 0028	МО	HAMMED ADNAN		in the second se			
	7	20191PET 0029	MC	HAMMED AFZAL		Ð			



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8	20191PET 0030	MOHAMMED ISHAQ	Submitted	
9	20191PET 0032	MOHAMMED MUZAMMIL PATVEGAR	Submitted	
10	20191PET 0041	P SUHAIL AHMED	Submitted	
11	20191PET 0053	SHRAVAN KUMAR M	Submitted	
12	20191PET 0058	TAUSIF AHMED	Submitted	
13	20191PET 9004	ANSTIN SUNNY	Submitted	
14	20191PET 9006	SHABEER AHMED	Submitted	
15	20201LPE 0002	SYED SADIQ PASHA K	Submitted	

Signature of Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering



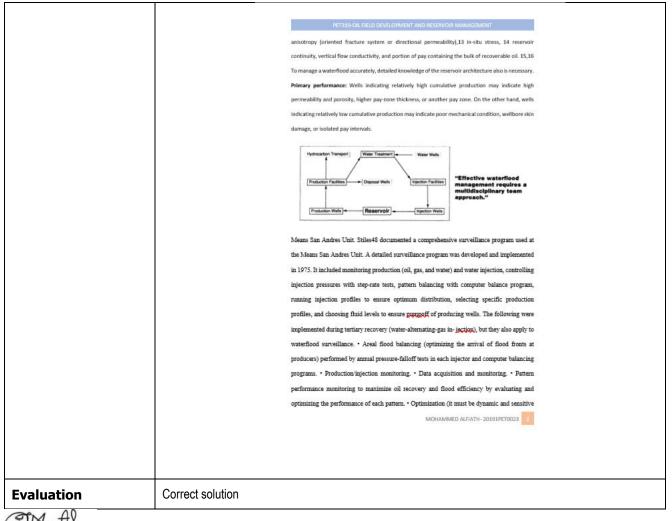


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Course	PET 319 Oil Field Development and Reservoir Management						
Code/Course Name							
Event Type	Problem solving						
Task	Course based exercise						
Instructor	Ms. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering						
Submission Date	05-12-2022						
Name of the student	MOHAMMED ALFIATH						
ID number	20191PET0023						
Problem statement Student solution	Problem 1: Means San Andres Unit. Stiles48 documented a comprehensive surveillance program used at the Means San Andres Unit. A detailed surveillance program was developed and implemented in 1975. It included monitoring production (oil, gas, and water) and water injection, controlling injection pressures with steprate tests, pattern balancing with computer balance program, running injection profiles to ensure optimum distribution, selecting specific production profiles, and choosing fluid levels to ensure pump off of producing wells. Analyze and Find out what can be implemented during tertiary recovery (water-alternating-gas in-"Effective waterflood management requires a multidisciplinary team approach."injection), but they also apply to waterflood surveillance. Identify the steps that can be implemented to increase vertical sweep and ultimate recovery.						
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Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2022-23/3PET1/CIR/01

Date: 01-12-2022

CIRCULAR

It is to inform all the students that then need to solve the following case study and upload in One drive on or before 05-12-2022.

Problem 1: Albacore is a highly migratory tuna which supports important United States commercial and recreational fisheries. The migration, distribution, availability, and catchability of albacore are influenced by oceanographic conditions in the North Pacific. A small area around single albacore located by ultrasonic tracking and observed movements constrained by local temperature boundaries. Using the data provided, explain how boundaries for albacore aggregations and optimum fishing regions indicated

Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





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REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 23/3PET1/0	PS/2022-	Date of Event	05-12-2022					
Type of learning		Problem So	-	Event Type:	Course based problem					
Mode of Event:		Offline	2	No. of Participant(s):	15					
Course Code/Course Name	PET 2	PET 2013 Introduction to Geoinformatics								
Department	Depar	tment of Petr	oleum Enginee	ring						
Instructor		in Mariyate V ant Professor,		f Petroleum Engineering						
Event objective		ly knowledge		nsing to solve problems						
Name of the topic	1.		Funa Catch D rom satellites.	istributions relative to	environmental features					
Outcome of the event	i.	i. It facilitates the exploration of a real issue within a defined context, using a variety of data sources								
Assessment	i. ii. iii.	ii. Task Assigned: Analyze the problem and solve								
Sample student report		Attached in the ANNEXURE								
	SI. No.	ID No.		Student Name	Submission status					
	1	20211PET 0003	S	YED LUQMAN J	Submitted					
	2	20211PET 0005	MOI	HAMMAD SUHAIL	Submitted					
Attendance sheet	3	20211PET 0009		AFEEZ	Submitted					
	4	20211PET 0010		HITHESH T	Submitted					
	5	20211PET 0011	GA	NUGA ROSHAN	Submitted					
	6	20211PET 0013	D	EEPAK JADHAV						
	7	20211PET 0014	I	DARSHAN D P						



8	20211PET 0015	Mohammad Yasir Byakod	Submitted	
9	20211PET 0017	IBRAHIM NAWAZ M	Submitted	
10	20211PET 0020	YASHWANTH GOWDA M	Submitted	
11	20211PET 0023	Mohammed Shabaz Khalander D	Submitted	
12	20211PET 0025	FAZIL SHAREEF H A	Submitted	
13	20211PET 0026	PATEL MOHAMMED ADNAN MOHAMMED GOUS	Submitted	
14	20191PET 0050	SHAIK GOUSPEER VALI	Submitted	
15	20211PE T0028	ZOYA FALAK	Submitted	

Signature of Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Course Code/Course Name	PET 2013 Introduction to Geoinformatics
Event Type	Problem solving
Task	Course based exercise
Instructor	Ms. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering
Submission Date	05-12-2022
Name of the student	Zoya Falak
ID number	20211PET0028
	Problem 1: Albacore is a highly migratory tuna which supports important United States commercial and recreational fisheries. The

Student solution	
Problem statement	important United States commercial and recreational fisheries. The migration, distribution, availability, and catchability of albacore are influenced by oceanographic conditions in the North Pacific. A small area around single albacore located by ultrasonic tracking and observed movements constrained by local temperature boundaries. Using the data provided, explain how boundaries for albacore aggregations and optimum fishing regions are indicated





	Results and Conclusion: The coastal water is seen as a mass characterised by low temperature and high phytoplankton pigments to the north of pt. conception. The large plume of this water extending offshore to the south was a feature present for most of the year in the region. Fishing activity during 18 to 23 August was concentrated east of the plume in warm and blue oceanic water, as measured from the satellites. Only small catches were reported within the coastal water plume. The largest catches were in two pockets of oceanic water on the eastern edge of the plume. In the northern pocket, large catches were located close to the thermal front at the oceanic-coastal boundary. Fishing activity in the northern pocket peaked on 20 August, while activity in the southern pocket peaked on 17 August. Eastward movement of the southern pocket between 17 August. 	
	 pocket between 17 August and the satellite passes may explain the greater apparent separation between fishing activity and the front. An intense and meandering frontal boundary extended south from Cape Mendocino, possibly associated with upwelling there and off PL Arena to the south. The SST and color fronts correspond almost exactly, although the 29 September color front was more diffuse than the 30 September SST front. Differences between concurrent images are due primarily to displacement of small-scale features and to the linear enhancement algorithms. The basic pattern of the front changed sliphty over the 1-week period between the two sets of images. Note the changes in the shapes of the two pockets of warm, low-pigment water just south of Cape Mendocino. During 19 to 24 September and 27 September to 2 October, fishing boats were aggregated and took the largest catches in these two pockets of oceanic water. Some small catches were reported on the coastal side of the front and within the narrow cold-water plume northwest of Cape Mendocino. Sea surface temperature increased gradually from 12°C at 48°N to 20°C at 40°N, and no temperature fronts were visible in the AVH8R image. However, a diffuse and broken color front is apparent in the center of the CZCS image. The oceanographic boundary defined by the color front marks an area of high fishing activity and large mean catches in relatively productive water. The concentration of fish in the lower right corner of the images, in a region obscured by clouds, was near the cast of northern California and most likely represents the same type of aggregation observed in the costal images. The satellite images and concurrent albacore catch data clearly show that the distribution and availability of albacore are related to oceanic fronts. They also substantiate the conventional wisdom of many fishermen who use temperature or color breaks' to locate potentially productive fishing areas for albacore are found in warm, blue oceanic wate	
Evaluation Co	orrect solution	

Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





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Ref. No.: PU/SOE/PET/PS/2022-23/5PET1/CIR/01

Date: 10-10-2022

CIRCULAR

It is to inform all the students that then need to solve the following numericals and upload in One drive on or before 14-10-2022.

Problem 1: If 10,000ft of drill pipe is used, determine the max collapse pressure that can be encountered and the resulting safety factor. The mud density is 75pcf. If the fluid level inside the drill pipe drops to 6000ft below the rotary table, determine the new safety factor for grade- X95

Problem 2: Assuming 10,000ft of grade X95 drill pipe has been selected, weight of dp = 19.5ft, Length of dc= 600ft, weight of dc is 160 and BF= 0.84.

- 1. Determine the safety factor during drilling
- 2. Determine the magnitude of shock loading
- 3. Determine safety factor when shock loading is included

Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





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REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 23/5PET1/C	PS/2022-	Date of Event	14-10-2022		
Type of learning		Problem So	olving	Event Type:	Course based problem		
Mode of Event:		Offline No. of 12					
Course Code/Course Name	PET 3	PET 3004 ADVANCED WELL ENGINEERING					
Department	Depar	tment of Petr	oleum Enginee	ring			
Instructor		iin Mariyate V ant Professor,		f Petroleum Engineering			
Event objective	1. Dev	elop computa	ational ability				
Name of the topic	1.	Design of D	Drill String				
Outcome of the event	ideas 2. And	 Problem solving places the focus on the student making sense of mathematical ideas And it basically encourages the students to believe in their ability to think mathematically. 					
Assessment	i. ii. iii.	ii. Task Assigned: Analyze the problem and solve					
Sample student report		Attached in the ANNEXURE					
	SI. No.	ID No.		Student Name	Submission status		
	1	20201PET 0004	RACHAN	BALAKRISHNA SHETTY	Submitted		
	2	20201PET 0006		PRAVEEN B	Submitted		
Attendance sheet	3	20201PET 0008	NALLABI	HOTULA DUSHYANTH	Submitted		
	4	20201PET 0009	КС	DTISHWARAN V	Submitted		
	5	20201PET 0011		A M RIZWAN	Submitted		
	6	20201PET 0016	SID	HARTH MURALI	Submitted		



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7	20201PET 0017	BHOOMIKA SATISH	Submitted	
8	20201PET 0021	R JANARDHAN REDDY	Submitted	
9	20201PET 0023	PRATHIVRAJ S	Submitted	
10	20201PET 0029	PAVAN GOUD	Submitted	
11	20201PET 0030	AQIB AHMED SHARIEEF	Submitted	
12	20201PET 0031	BANDLA HAREESH	Submitted	
13	20201PET 0034	KOMMINENI HEMANTH	Submitted	
14	20191PET 0011	FAYAZ PASHA	Submitted	

Signature of Instructor Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Course Code/Course Name	PET3004/Advanced Well Engineering (AWE)
Event Type	Problem Solving
Task	Numerical
Instructor	Ms. Jain Mariyate Wilson
Submission Date	14-10-2022
Name of the student	Sidharth Murali
ID number	20201PET0016
Problem statement	 Problem 1: If 10,000ft of drill pipe is used, determine the max collapse pressure that can be encountered and the resulting safety factor. The mud density is 75pcf. If the fluid level inside the drill pipe drops to 6000ft below the rotary table, determine the new safety factor for grade- X95 Problem 2: Assuming 10,000ft of grade X95 drill pipe has been selected, weight of dp = 19.5ft, Length of dc= 600ft, weight of dc is 160 and BF= 0.84. 1. Determine the safety factor during drilling 2. Determine the magnitude of shock loading 3. Determine safety factor when shock loading is included





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Student solution 20201PETOd6 Numerical > If 1015 ft deill pipe is used, determine the man collapse prenew that can be encountered and the resulting safety factors. The mud density is 75 pcf. It the fluid land inside the deil pipe drops to b,000 of below the Sotary table, determine the new sayety factor in collegue Juale - New dep ×95 ANS) L= 10,000 J+ L= 10,000 Jt Here man collepse preved at empty dillplace: Ap= 19 => 10,000 x 75 = 5208.33 psi 144. 144 Sayety Jacker => 12,010 => 2.306 5208.33 when flivid level is at to b,000gt :. L: 6,000 ft 600 x 75 De= 3125 ps 144 0 -144





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Sayey Jacha => 12010 => 3.84 3125 => 3.84 3125 Shouk bading Fs = 3200 × w+ deill pipe 202010ET 0016 Assuming 10,000 1+ y quale x95 drill give thes been selected . with dispire = 19.5 ft , Lyde = 600 ft wit of hir when is 160. B.F. = 0.94. Determine the Sepety factor dury divilly. (i) Detamine the magniture of Sheede deady. (iii) Determine refety fator when she leads ts included . SF= YPXD9 ns (Lupwdp+ Ldcwdc) x B.F =) 501090 × D.9 (10,000 × 19.5 + 600×160) V D.84 =) 1.84 63 (1) F3 = 3200x wt grinn Apre Fs = 62,400 lb 5 S.F => V.P × 0-9 1.33 (Ldp wap + Ldc wde) × D.F + FS REGISTRAR REGI



Evaluation	Answer is Correct

Instructor

Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Course Code/Course Name	PET 320 Remote Sensing & GIS
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Ms. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering
Submission Date	14-06-2022
Name of the student	Taniya K G
ID number	20191PET0055
Problem statement	Problem 1: Albacore is a highly migratory tuna which supports important United States commercial and recreational fisheries. The migration, distribution, availability, and catchability of albacore are influenced by oceanographic conditions in the North Pacific. A small area around single albacore located by ultrasonic tracking and

	observed movements constrained by local temperature boundaries.						
	Using the data provided, explain how boundaries for albacore						
	aggregations and	l optimum f	ishing reg	jions a	are indicated		
Student solution							





	Des Reveal Constants
	 Results and Conclusion: The coastal water is seen as a mass characterised by low temperature and high phytoplankton pigments to the north of pt. conception. The large plume of this water extending offshore to the south was a feature present for most of the year in the region. Fehring activity during 18 to 23 August was concentrated east of the plume in warm and blue occaritivity and the measured from the satellitte. Only small catches were reported within the costal water plume. The largest tatches were in two pockets of occaritivity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity in the northwer pocket peaked on 20 August, while activity is sociated with upwelling there and OTR. A near to the south the southern pocket peaked on 17 August are there and the gravity and and the southern pocket peaked on 17 August. Eastward movement of the southern pocket peaked on 17 August and the front. An interes and meandering frontal boundary extended south from Cape Mendozino, possibly associated with upwelling three and OTR. A near the south. The SST and cage fronts correspond almost exactly, atthocupt the changes in the shapes of the two pockets of warm, low-pigment water just south of Cape Mendozino. During 19 to 24 September and 2 Catches, finiting boats were aggregated and took the largest catches in these two pockets of cosmic water. Some small catches were reported on the coastal water of the catches interesting the cape. Some the changes in the source and the some were reported on the coastal water in the coastal of a cosmic water. Some small catches were reported on the coastal alware of the throw source and to the largest catches
	 edges of the productive coastal water mass where such organisms are most abundant. We see that both i.g. and visible color data from satellites can define environmental limits on the spatial distribution of fishable aggregations of albacore and can do so more effectively than ship or aircraft data as used in the past.
Evaluation Corre	ct solution
(MA)	

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Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





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Ref. No.: PU/SOE/PET/PS/2021-22/6PET1/CIR/01

Date: 07-06-2022

CIRCULAR

It is to inform all the students that then need to solve the following case study and upload in One drive on or before 14-06-2022.

Problem 1: Albacore is a highly migratory tuna which supports important United States commercial and recreational fisheries. The migration, distribution, availability, and catchability of albacore are influenced by oceanographic conditions in the North Pacific. A small area around single albacore located by ultrasonic tracking and observed movements constrained by local temperature boundaries. Using the data provided, explain how boundaries for albacore aggregations and optimum fishing regions indicated

Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 22/6PET1/C	PS/2021-	Date of Event	14-06-2022		
Type of learning		Problem So	olving	Event Type:	Course based problem		
Mode of Event:		Offline	Offline No. of 17				
Course Code/Course Name	PET 3	PET 320 REMOTE SENSING & GIS					
Department	Depar	Department of Petroleum Engineering					
Instructor In charge		ain Mariyate V ant Professor,		f Petroleum Engineering			
Event objective		bly knowledge		ensing to solve problems			
Name of the topic	1.	1. Albacore Tuna Catch Distributions relative to environmental features observed from satellites.					
Outcome of the event	i.	i. It facilitates the exploration of a real issue within a defined context, using a variety of data sources					
Assessment	i. ii. iii.	ii. Task Assigned: Analyze the problem and solve					
Sample student report		Attached in the ANNEXURE					
	SI. No.	ID No.		Student Name	Submission status		
	1	20191PET 0003	AM	AN TAHASILDAR	Submitted		
	2	20191PET 0008	BIRAJDAR	SAURABH SURYAKANT	Submitted		
Attendance sheet	3	20191PET 0009		C S NISHANT	Submitted		
	4	20191PET 0021		KRITIKA	Submitted		
	5	20191PET 0024		MIDHUN M M	Submitted		
	6	20191PET 0028	МО	Hammed Adnan	Submitted CY 4		
	7	20191PET 0034	MOHAMME	d taha najeeb basha			



	8	20191PET 0035	MOHAMMED UZMAIR M	Submitted	
	9	20191PET 0036	MOHAMMED ZAIN Y C	Submitted	
	10	20191PET 0040	NAGAM VENKATA MAHARSHI VASISTA	Submitted	
	11	20191PET 0053	SHRAVAN KUMAR M	Submitted	
	12	20191PET 0055	TANIYA K G	Submitted	
	13	20191PET 0057	TAUSEEF NAZIR	Submitted	
	14	20191PET 0060	THUFAIL MAJEED A MA M	Submitted	
	15	20191PET 9006	SHABEER AHMED	Submitted	
	16	20191PET 9007	JAFFAR SADIQ M R	Submitted	
	17	20201LPE 0002	SYED SADIQ PASHA K	Submitted	

Signature of Instructor In charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2021-22/2PET1/CIR/01

Date: 04-06-2022

CIRCULAR

It is to inform all the students that then need to solve the following problems and upload in One drive on or before 03-06-2022.

Problem 1: It is required to reduce mud weight from 25.1 ppg to 22.6 ppg in order to combat a lost circulation problem. Calculate the volumes of water and oil required to bring about this reduction. Also, if oil is used, what is the percentage of oil in mud if the initial volume of mud is 629 bbl. The density of oil is 6.87 ppg.

Problem 2:

It is desired to increase the density of 200 bbl of 10 ppg mud to 12 ppg mud using API Barite of density 35 ppg. The final volume is not limited. [1 bbl = 42 gallons]

The amount of API Barite required is lbm.

Instructor In-charge Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	Dtd: 20-05-2022 PU/SOE/PET/PS/2021- 22/2PET1/CIR/01			Date of Event	03-06-2022				
Type of learning		Problem So	olving	Event Type:	Course based problem				
Mode of Event:		Offline	5	No. of Participant(s):	26				
Course Code/Course Name	PET 2	PET 2001 DRILLING FLUID TECHNOLOGY							
Department	Depar	tment of Petr	oleum Enginee	ring					
Instructor In charge		airab Jyoti Go ant Professor,	•	f Petroleum Engineering					
Event objective			ational ability e on Drilling flui	d technology to solve pro	blems				
Name of the topic		-	ease calculation ease calculation						
Outcome of the event	i.	i. Solve GATE MCQ on Drill Fluid							
Assessment	i. ii. iii.	ii. Task Assigned: Solve two problem							
Sample student report		Attached in the ANNEXURE							
	SI. No.	ID No.		Student Name	Submission status				
	1	20211PET 0001	MOHA	MED SAADULLAH S	Submitted				
	2	20211PET 0002		ROSHAN T	Submitted				
	3	20211PET 0003	S	YED LUQMAN J	Submitted				
Attendance sheet	4	20211PET 0004	BELIM MOH	I SAAD MOHAMMEDBHAI	Submitted				
	5	20211PET 0005	MO	HAMMAD SUHAIL	Submitted				
	6	20211PET 0006	F/	AHAD ALI KHAN	Subtrittee cy u				
	7	20211PET 0008	VANKA	ALA JAI SPHOORTHI					



8	20211PET 0009	AFEEZ	Submitted	
9	20211PET 0010	HITHESH T	Submitted	
10	20211PET 0011	GANUGA ROSHAN	Submitted	
11	20211PET 0012	MOHAMED NAIF NIHAD ALI	Submitted	
12	20211PET 0013	DEEPAK JADHAV	Submitted	
13	20211PET 0014	DARSHAN D P	Submitted	
14	20211PET 0015	MOHAMMAD YASIR BYAKOD	Submitted	
15	20211PET 0016	ASMA THASNIM	Submitted	
16	20211PET 0017	IBRAHIM NAWAZ M	Submitted	
17	20211PET 0018	SANDEEP IYAGAR	Submitted	
18	20211PET 0019	KIRAN EKIRAN	Submitted	
19	20211PET 0020	YASHWANTH GOWDA M	Submitted	
20	20211PET 0021	MAYUR P	Submitted	
21	20211PET 0022	YASHWANTH S	Submitted	
22	20211PET 0023	MOHAMMED SHABAZ KHALANDER D	Submitted	
23	20211PET 0024	BOLLAMA REDDY HIMAVENKATA MANKANTHA	Submitted	
24	20211PET 0025	FAZIL SHAREEF H A	Submitted	
25	20211PET 0026	PATEL MOHAMMED ADNAN MOHAMMED GOUS	Submitted	
26	20211PET 0027	SYED USMAN	Submitted	

Signature of Instructor In charge Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering Ċ REGISTRAR Registra



Course Code/Course Name	PET 2001 Drilling Fluid Technology
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Mr Bhairab Jyoti Gogoi Assistant Professor, Department of Petroleum Engineering
Submission Date	03-06-2022
Name of the student	V Jai Sphoorthi
ID number	20211PET0008
Problem statement	It is required to reduce mud weight from 25.1 ppg to 22.6 ppg in order to combat a lost circulation problem. Calculate the volumes of water and oil required to bring about this reduction. Also, if oil is used, what is the percentage of oil in mud if the initial volume of mud is 629 bbl. The density of oil is 6.87 ppg.
Student solution	





	Dit is requised to redue with weight from 25-1PP3 to 22-6ppg in order to combat a lost dividation Problem. Calculate the volones of water and silvequised to bring about this reduction. About 8 for 195 and, what is the parentage of oil in mad if the initial volume of mud is 629 bbl. The density of all is 6-84 PP3. $M_1 = (S_3-S_1)$ $M_2 = (26418)(22-6-25-1)$ $V_2 = (26418)(22-6-25-1)$ $V_1 = 629 bbl$ $V_2 = (26418)(22-6-25-1)$ $V_2 = (26418)(22-6-25-1)$ $V_2 = (26418)(22-6-25-1)$ $V_2 = (26418)(22-6-25-1)$ $V_3 = 22-6$ $V_4 = (26418)(22-6-25-1)$ $V_5 = (26418)(22-6-25-1)$ $V_6 = 0il = (198.66)/(22-6)$ = 4108.664 gal for oil 1 $V_2 = (26418)(22-6-25-1)/(26-25-1)$ $V_3 = (26418)(22-6-25-1)/(26-25-25-1)/(26-25-1)/(26-25-1)/(26-25-1)/(26-25-1)/(26-25-1)/(26-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-1)/(26-25-25-1)/(26-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-25-1)/(26-25-1)/(26-25-25-1)/(26-25-$
Evaluation	Correct solution

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Instructor In-charge Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering

anne REGISTRAR Regist



Course Code/Course Name	PET 2001 Drilling Fluid Technology
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Mr Bhairab Jyoti Gogoi Assistant Professor, Department of Petroleum Engineering
Submission Date	03-06-2022
Name of the student	V Jai Sphoorthi
ID number	20211PET0008
Problem statement	It is desired to increase the density of 200 bbl of 10 ppg mud to 12 ppg mud using API Barite of density 35 ppg. The final volume is not limited. [1 bbl = 42 gallons] The amount of API Barite required is lbm.
Student solution	() It is desired to therease the density of 200651 % 10 property and to 12 ppg much using AP1 Barite of density 35 ppg. The Gral volume is not limited. The amount of API Barite required is ibm. Sais $g = 10ppg$ $g_2 = 35 ppg$ $\frac{M_2}{V_1} = \frac{g_2(g_2 - g_1)}{(g_2 - g_3)} = \frac{(35^-)(12 - 10)}{(35 - 12)}$ Phoo $M_2 = \frac{35(2)(Bucc)}{23} = 255565 \cdot 21 g lib = 588000 \int 7$
Evaluation	Correct solution

month

Instructor In-charge Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering

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Ref. No.: PU/SOE/PET/PS/2021-22/6PET1/CIR/01

Date: 23-05-2022

CIRCULAR

It is to inform all the students that then need to solve the following numerical in the class and submit a report on or before 10-06-2022.

Problem 1: (a) A polydisperse sample of polystyrene is prepared by mixing three monodisperse samples in the following proportions:

- 1 g 10,000 molecular weight
- 2 g 50,000 molecular weight
- 2 g 100,000 molecular weight

Using this information, calculate the number-average molecular weight, weight-average molecular weight, and PDI of the mixture.

Problem 2: Calculate the mobility ratio for the fluid used in water flooding project, when if permeability of oil is 0.85D and permeability water is 0.35D, and viscosity of oil is 7.5cP and water is 1cP. If viscosity is increased by adding polymer to the water to 5cP, calculate the mobility ratio? In which case is the mobility ratio favourable?

Prathibha Pilla

Instructor In-charge Ms. Prathibha Pillai Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	Р	Dtd: 23-05-2022 U/SOE/PET/PS/202 22/6PET1/CIR/01	21-	Date of Event	10-06-2022			
Type of learning		Problem Solving		Event Type:	Course based problem			
Mode of Event:		Offline		No. of Participant(s):	30			
Course Code/Course Name	PET 40	6 Polymer Tech	NOLOGY		-			
Department	Depart	ment of Petroleum	n Engineer	ing				
Instructor In charge	-	athibha Pillai ant Professor, Depa	artment of	Petroleum Engineering				
Event objective	1. Dev	elop computationa	l ability					
Name of the topic	1.	Polymer Flooding)					
Outcome of the event	ideas 2. And	 Problem solving places the focus on the student making sense of mathematical ideas And it basically encourages the students to believe in their ability to think mathematically. 						
Assessment	i. ii. iii.	ii. Task Assigned: Analyze the problem and solve						
Sample student report	Attached in the ANNEXURE							
	SL.	ID NUMBER	NAME		SUBMISSION STATUS			
	No.	20191PET0001	AHIL SH	A MC	SUBMITTED			
	2	20191PET0002	AKASH		SUBMITTED			
	3	20191PET9004		SUNNY	SUBMITTED			
Attendance sheet	4	20191PET0004	ASHWI		SUBMITTED			
	5	20191PET0005	ASWIN	K S	SUBMITTED			
	6	20191PET0013	FIROZA	SHEIKH	SUBMITTED			
	7	20191PET0014	GANES	H KUMAR POTHAN	SUBMITZED			
	8	20191PET0015	GILAKA	PAVAN	SUBMITTED			
	9	20191PET0016	HARI G	OVIND V	SUBM TED *			
	10	20191PET9007	JAFFAR	SADIQ M R	SUBMITTED			



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11	20191PET0018	JESWIN JAVAD	SUBMITTED	
12	20191PET0019	KADIRI LALITHA	SUBMITTED	
13	20201LPE0001	MALIPEDDU SAI PRANAV	SUBMITTED	
14	20191PET0025	MIDHUN SUBHASH	SUBMITTED	
15	20191PET0026	MOHAMED MUNAWAR HUSSAIN M	SUBMITTED	
16	20191PET0027	MOHAMED SUHAIL	SUBMITTED	
17	20191PET0030	MOHAMMED ISHAQ	SUBMITTED	
18	20191PET0038	MOIDEEN ANSAF	SUBMITTED	
19	20191PET0064	MUHAMMED SAFAL S	SUBMITTED	
20	20191PET0041	P SUHAIL AHMED	SUBMITTED	
21	20191PET9002	PILLI KALYAN KUM	SUBMITTED	
22	20191PET0043	RISHU SINGH	SUBMITTED	
23	20191PET0068	RIZWAN	SUBMITTED	
24	20191PET0046	SAI DINESH M	SUBMITTED	
25	20191PET0048	SAMEER MUHAMMED	SUBMITTED	
26	20191PET0051	SHAIK MUSTAK	SUBMITTED	
27	20191PET0053	SHRAVAN KUMAR M	SUBMITTED	
28	20191PET0059	THOTA GUNA NAGA MURARI	SUBMITTED	
29	20191PET0062	VEMULA PRASHANTH	SUBMITTED	
30	20191PET0063	YADAVALI VENKAT	SUBMITTED	

Prathibha Rillai

Signature of Instructor In charge Ms. Prathibha Pillai Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

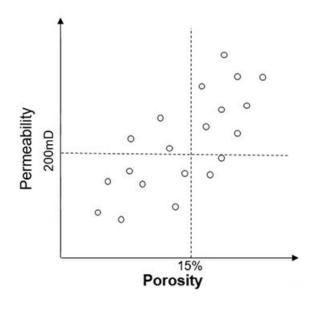
Ref. No.: PU/SOE/PET/PS/2021-22/4PET1/CIR/01

Date: 12-05-2022

CIRCULAR

It is to inform all the students that then need to solve the following problem and upload in One drive on or before 17-05-2022.

Problem 1: The graph mentioned below represents the porosity and permeability data for 20 wells. There are 2 events : one represent porosity is good and is greater than 15 percent, the other event represents the reservoir with good permeability . Here in the analysis of wells , good permeability means the permeability is greater than 200md . Calculate the probability of a reservoir where permeability is good and is already known with good porosity . Also, calculate the probability of a reservoir where the reservoir is known to have poor porosity but where permeability is expected to be high.



Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	Dtd: 12-05-2022 PU/SOE/PET/PS/2021- 22/4PET1/CIR/01			Date of Event	17-05-2022			
Type of learning		Problem Sc	olving	Event Type:	Course based problem			
Mode of Event:		Offline	2	No. of Participant(s):	13			
Course Code/Course Name	PET 1	PET 1003 Data Analytics for Oil and Gas Exploration						
Department	Depar	tment of Petr	oleum Enginee	ring				
Instructor In charge		karsh Lall ant Professor,	. Department o	f Petroleum Engineering				
Event objective		velop computa bly knowledge		tics to solve problems				
Name of the topic	1. Cor	nditional Proba	ability Problem					
Outcome of the event	i.	i. Solve Conditional Probability Problem on Real Life Field Data						
Assessment	i. ii. iii.	ii. Task Assigned: Solve one problem						
Sample student report		Attached in the ANNEXURE						
	SI. No.	ID No.		Student Name	Submission status			
	1	20201PET 0004	SHETTY R.	ACHAN BALAKRISHNA	Submitted			
	2	20201PET 0006		PRAVEEN B	Submitted			
Attendance sheet	3	20201PET 0008	NALLABI	IOTULA DUSHYANTH	Submitted			
	4	20201PET 0009	KC	TISHWARAN V	Submitted			
	5	20201PET 0010	PRADE	EP KUMAR RATHOD	RECSUBMILLECTEGISTAT			



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6	20201PET 0011	A M RIZWAN	Submitted	
7	20201PET 0012	MOHAMMED SHAZAN	Submitted	
8	20201PET 0015	MUJTBA AAMIR AHMED	Submitted	
9	20201PET 0016	SIDHARTH MURALI	Submitted	
10	20201PET 0017	BHOOMIKA SATISH	Submitted	
11	20201PET 0023	PRATHIVRAJ S	Submitted	
12	20201PET 0026	AJMAL AKBAR BABU	Submitted	
13	20201PET 0034	KOMMINENI HEMANTH	Submitted	

Signature of Instructor In charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

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Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Courses	
Course Code/Course Name	PET 1003 Data Analytics for Oil and Gas Exploration
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering
Submission Date	03-06-2022
Name of the student	Mujtba Aamir Ahmed
ID number	20201PET0015
Problem statement Student solution	The graph mentioned below represents the porosity and permeability data for 20 wells. There are 2 events : one represent porosity is good and is greater than 15 percent, the other event represents the reservoir with good permeability . Here in the analysis of wells , good permeability means the permeability is greater than 200md . Calculate the probability of a reservoir where permeability is good and is already known with good porosity . Also, calculate the probability of a reservoir where permeability is expected to be high.
	Mugther Annual Assessment (B) 2020(per 0015 Guente : d>15% (A) Cuente : d>15% (A) Cuente : k>200 md (B) For case I P(reservent where k is already known at with god b). P(A/B) = (A/B) = (A/B) = (A/B^C) P(A/B) = -12 (i) where a is known but k is
	Ettrated to be high PCBIAD = EAR (DAA) (BAA) PCBIAD = 3 = 0.3 * How much informatic Even B Fell about Even A cohost and vice vorce. We count were with Part B independenty so They need to be togettor. we need descriptive analysis



Evaluation The evaluation was done by the students itself by exchanging their problem soluti so that they can learn about the simple calculation errors that can take place will solving the problems.

Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2021-22/4PET1/CIR/01

Date: 30-05-2022

CIRCULAR

It is to inform all the students that then need to solve the following problem and upload in One drive on or before 03-06-2022.

Problem 1: The deviated well has an inclination of 30 degrees in tangent section and planned mud weight is 12 ppg. Safety factor for this is 25%. Determine the parameter that provides WOB for drilling and keep the drill string from buckling. WOB desired is 50klb.

Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	Dtd: 30-05-2022 PU/SOE/PET/PS/2021- 22/4PET1/CIR/01			Date of Event	03-06-2022		
Type of learning	Problem Solving			Event Type:	Course based problem		
Mode of Event:		Offline	5	No. of Participant(s):	25		
Course Code/Course Name	PET 2	003 Fundame	entals of Oil and	d Gas Well Drilling Techno	blogy		
Department	Depar	tment of Petr	oleum Enginee	ring			
Instructor In charge		karsh Lall ant Professor,	, Department o	f Petroleum Engineering			
Event objective		elop numeric bly knowledge		tals of Drilling to solve pro	oblems		
Name of the topic	1. To (analyze the D	C Weight to pr	event buckling of DP			
Outcome of the event	i.	Solve Drillir	ng Problem on	Buckling of Drill Pipe			
Assessment	i. ii. iii.	ii. Task Assigned: Solve one problem					
Sample student report	Attached in the ANNEXURE						
	SI. No.	ID No.		Student Name	Submission status		
	1	20201PET 0001		SOHAEL K S	Submitted		
	2	20201PET 0004	SHETTY R	ACHAN BALAKRISHNA	Submitted		
Attendance sheet	3	20201PET 0006		PRAVEEN B	Submitted		
	4	20201PET 0008	NALLABI	HOTULA DUSHYANTH	Submitted		
	5	20201PET 0009	КС	DTISHWARAN V	REGSUBMILLEC egistral -		



6	20201PET 0010	PRADEEP KUMAR RATHOD	Submitted
7	20201PET 0011	A M RIZWAN	Submitted
	20201PET		
8 0012 20201PET		MOHAMMED SHAZAN	Submitted
9	0014	ZAHEED AHMED	Submitted
10	20201PET 0015	MUJTBA AAMIR AHMED	Submitted
11	20201PET 0016	SIDHARTH MURALI	Submitted
12	20201PET 0017	BHOOMIKA SATISH	Submitted
13	20201PET 0018	NUTHAN M S	Submitted
14	20201PET 0019	PRANAV A.	Submitted
15	20201PET 0021	R JANARDHAN REDDY	Submitted
16	20201PET 0022	MOHAMMED SHADIM D K	Submitted
17	20201PET 0023	PRATHIVRAJ S	Submitted
18	20201PET 0026	AJMAL AKBAR BABU	Submitted
19	20201PET 0029	PAVAN GOUD	Submitted
20	20201PET 0030	AQIB AHMED SHARIEEF	Submitted
21	20201PET 0031	BANDLA HAREESH	Submitted
22	20201PET 0033	SHEKAR	Submitted
23	20201PET 0034	KOMMINENI HEMANTH	RECISUBINITED
			* ANGALOS



24	20201PET 9001	MOHAMMED SHAHID	Submitted	
25	20201PET 9002	NITIN	Submitted	

Signature of Instructor In charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Course	
Code/Course Name	PET 2003 Fundamentals of Oil and Gas Well Drilling Technology
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Mr Utkarsh Lall Assistant Professor, Department of Petroleum Engineering
Submission Date	03-06-2022
Name of the student	Mohammed Shadim DK
ID number	20201PET0022
Problem statement	The deviated well has an inclination of 30 degrees in tangent section and planned mud weight is 12 ppg. Safety factor for this is 25%. Determine the parameter that provides WOB for drilling and keep the drill string from buckling. WOB desired is 50klb.
Student solution	Nore: Morrisments Shadin DA Well No. 2020 IPETBOD22



Evaluation	The evaluation was done by the students itself by exchanging their problem solutions so that they can learn about the simple calculation errors that can take place while solving the problems.

Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Course Code/Course Name	PET 2014 Geophysical methods for Oil & Gas Exploration
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Ms. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering
Submission Date	18-06-2022
Name of the student	Zaheed Ahmed
ID number	20201PET0014
Problem statement	 Problem 1: A gravity reading is taken in a stationary helicopter hovering 1 km above mean sea level at a particular location. The difference in value in g measured in helicopter and at mean sea level vertically beneath the helicopter is Problem 2: if gravity determination is made at a elevation of 150m above sea level, the BC required for density contrast of 250 kg/m3 with surroundings is Problem 3: Two survey vessels with shipborne gravimeters are streaming at 6 knots in opposite directions along an east-west course. If the difference in gravity read by the two meters is 63.5 mgals as the ship pass, what is the latitude? Problem 4: A loose deposit of over consolidated clay is underlain by bedrock. Previous subsurface investigations in the area suggest that the bedrock is almost horizontal. During a seismic reflection survey, the receiver marks the arrival time of waves as 41 ms and 267 ms as a result of impact loading at 37m from the receiver. a) Determine the P-wave velocity and thickness of above clay layer. b) Later using poisons ratio of 0.3, find out S-Wave velocity





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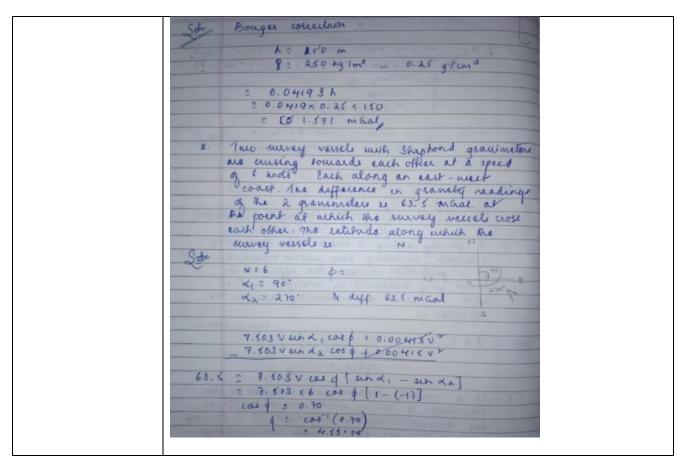
Student solution Numericals - PET-2014 - Geophysical Methods for oil & Gas Exploration A granity reading is haken in a shalamary housing I kn about mean sea level helicoples at a particular location. The difference in value in g measured in relicoptes and at mean sea level saw verbually beneath the helecopter is 1km : 1000 m ohn FAC 2 0.3086 x h C 0.3086 × 1000 308.6 mgals A a granity determination is made at an A. 130 m above mean sed level, elecration a bouger concellion hequired for a density the 250 kg/m3 with selesverdings contrast is.





Presidency University, Bengaluru

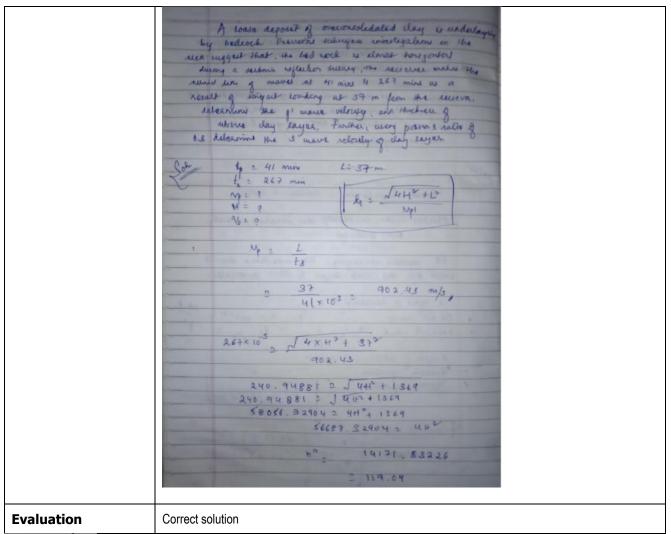
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Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2021-22/4PET1/CIR/01

Date: 14-06-2022

CIRCULAR

It is to inform all the students that then need to solve the following numericals and upload in One drive on or before 17-06-2022.

Problem 1: A gravity reading is taken in a stationary helicopter hovering 1 km above mean sea level at a particular location. The difference in value in g measured in helicopter and at mean sea level vertically beneath the helicopter is ____

Problem 2: if gravity determination is made at a elevation of 150m above sea level, the BC required for density contrast of 250 kg/m3 with surroundings is _____

Problem 3: Two survey vessels with shipborne gravimeters are streaming at 6 knots in opposite directions along an east-west course. If the difference in gravity read by the two meters is 63.5 mgals as the ship pass, what is the latitude?

Problem 4: A loose deposit of over consolidated clay is underlain by bedrock. Previous subsurface investigations in the area suggest that the bedrock is almost horizontal. During a seismic reflection survey, the receiver marks the arrival time of waves as 41 ms and 267 ms as a result of impact loading at 37m from the receiver.

a) Determine the P-wave velocity and thickness of above clay layer.

b) Later using poisons ratio of 0.3, find out S-Wave velocity

Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 22/4PET1/0	PS/2021-	Date of Event	17-06-2022					
Type of learning		Problem So	Course based problem							
Mode of Event:		Offline No. of 12								
Course Code/Course Name	PET 2014 GEOPHYSICAL METHODS FOR OIL & GAS EXPLORATION									
Department	Depar	Department of Petroleum Engineering								
Instructor In charge		MS. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering								
Event objective	1. Dev	elop comput	ational ability							
Name of the topic	1. 2.	,	, ,							
Outcome of the event	 Problem solving places the focus on the student making sense of mathematical ideas And it basically encourages the students to believe in their ability to think mathematically. 									
Assessment	i. ii. iii.	ble parameters								
Sample student report			Attac	hed in the ANNEXURE						
	SI. No.	ID No.		Student Name	Submission status					
	1	20201PET 0001		SOHAEL K S	Submitted					
	2	20201PET 0014	Z	AHEED AHMED	Submitted					
Attendance sheet	3	20201PET 0018		NUTHAN M S	Submitted					
	4	20201PET 0019		PRANAV. A	Submitted					
	5	20201PET 0021	R JA	NARDHAN REDDY	Submitted					
	6	20201PET 0022	MOHA	mmed shadim d k						



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7	20201PET 0029	PAVAN GOUD	Submitted	
8	20201PET 0030	AQIB AHMED SHARIEEF	Submitted	
9	20201PET 0031	BANDLA HAREESH	Submitted	
10	20201PET 0033	SHEKAR	Submitted	
11	20201PET 9001	MOHAMMED SHAHID	Submitted	
12	20201PET 9002	NITIN	Submitted	

Signature of Instructor In charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Course	
Code/Course Name	PET 2029 Quality Management Practices in Oil & Gas Industry
Event Type	Problem solving
Task	Course based exercise
Instructor In charge	Ms. Jain Mariyate Wilson Assistant Professor, Department of Petroleum Engineering
Submission Date	18-06-2022
Name of the student	Mohammed Shezan
ID number	20201PET0012
Problem statement	Problem 1: Reservoir management might also be thought of as the decision-making process that matches the plan to the reservoir at hand and to the business and technological context under which the operator manages the reservoir. The range of possible plans is wide, and building the optimum reservoir management plan depends on the operator's knowledge. As per the reference paper data provided, explain how the reservoir optimization of East Randolph Field, Eastern OH is done. Also, explain the factors that heavily influenced the development of reservoir management plan for East Randolph field.
	PET:2029 Quality Management Practices Case Study, on Reservoir Management Charles Case Study, on Reservoir Management Case Case Case



	impact on everyone. Field development and recovery initiatives in the future, What the operator discovered about the company's internal structure layering, fluid distribution, and other aspects of the reservoir. The ability to continue development through expansion and infill drilling, as well as into the secondary recovery phase, will be aided by the presence of faults and fractures.
Evaluation Co	rrect solution

0 Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor

Department of Petroleum Engineering





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Ref. No.: PU/SOE/PET/PS/2021-22/4PET1/CIR/01

Date: 14-06-2022

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It is to inform all the students that then need to solve the following case study and upload in One drive on or before 14-06-2022.

Problem 1: Reservoir management might also be thought of as the decision-making process that matches the plan to the reservoir at hand and to the business and technological context under which the operator manages the reservoir. The range of possible plans is wide, and building the optimum reservoir management plan depends on the operator's knowledge. As per the reference paper data provided, explain how the reservoir optimization of East Randolph Field, Eastern OH is done. Also, explain the factors that heavily influenced the development of reservoir management plan for East Randolph field.

Instructor In-charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 22/4PET1/0	PS/2021-	Date of Event	14-06-2022				
Type of learning		Problem So	olving	Event Type:	Course based problem				
Mode of Event:		Offline	9	No. of Participant(s):	12				
Course Code/Course Name	PET 2	029 QUALITY	MANAGEMEN	PRACTICES IN OIL & GA	AS INDUSTRY				
Department	Department of Petroleum Engineering								
Instructor In charge		ain Mariyate V ant Professor,		f Petroleum Engineering					
Event objective	2. App	ly knowledge		nanagement for field optir	nization				
Name of the topic	1.	Reservoir N	lanagement fo	r field optimization					
Outcome of the event	i. It facilitates the exploration of a real issue within a defined context, using a variety of data sources								
Assessment	 Type of Assessment: solve the case study with suitable parameter Task Assigned: Analyze the problem and solve Sample Report by students 								
Sample student report			Attac	hed in the ANNEXURE					
	SI. No.	ID No.		Student Name	Submission status				
	1	20201PET 0001		SOHAEL K S	Submitted				
	2	20201PET 0006		PRAVEEN B	Submitted				
Attendance sheet	3	20201PET 0009	К	DTISHWARAN V	Submitted				
Attendance sheet	4	20201PET 0011		A M RIZWAN	Submitted				
	5	20201PET 0012	MOł	HAMMED SHAZAN	Submitted				
	6	20201PET 0018		NUTHAN M S	Submitted CY 4				
	7	20201PET 0021	R JA	NARDHAN REDDY					



Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

8	20201PET 0029	PAVAN GOUD	Submitted	
9	20201PET 0030	AQIB AHMED SHARIEEF	Submitted	
10	20201PET 0033	SHEKAR	Submitted	
11	20201PET 9001	MOHAMMED SHAHID	Submitted	
12	20201PET 9002	NITIN	Submitted	

Signature of Instructor In charge Ms. Jain Mariyate Wilson Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

Circular Date and No.	F	Dtd: 20-05 PU/SOE/PET/F 22/2PET1/C	PS/2021-	Date of Event	03-06-2022			
Type of learning	Problem Solving		olving	Event Type:	Course based problem			
Mode of Event:		Offline No. of Participant(s):						
Course Code/Course Name	PET 2	001 DRILLING	G FLUID TECHN	IOLOGY				
Department	Depar	tment of Petr	oleum Enginee	ring				
Instructor In charge		airab Jyoti Go ant Professor,	•	f Petroleum Engineering				
Event objective			ational ability e on Drilling flui	d technology to solve pro	blems			
Name of the topic		-	ease calculation ease calculation					
Outcome of the event	i. Solve GATE MCQ on Drill Fluid							
Assessment	i. ii. iii.	ii. Task Assigned: Solve two problem						
Sample student report	Attached in the ANNEXURE							
	SI. No.	ID No.		Student Name	Submission status			
	1	20211PET 0001	MOHA	MED SAADULLAH S	Submitted			
	2	20211PET 0002		ROSHAN T	Submitted			
	3	20211PET 0003	S	YED LUQMAN J	Submitted			
Attendance sheet	4	20211PET 0004	BELIM MOH	I SAAD MOHAMMEDBHAI	Submitted			
	5	20211PET 0005	MO	HAMMAD SUHAIL	Submitted			
	6	20211PET 0006	F/	AHAD ALI KHAN	Subtrittee cy un			
	7	20211PET 0008	VANKA	ALA JAI SPHOORTHI				



	8	20211PET 0009	AFEEZ	Submitted	
	9	20211PET 0010	HITHESH T	Submitted	
	10	20211PET 0011	GANUGA ROSHAN	Submitted	
	11	20211PET 0012	MOHAMED NAIF NIHAD ALI	Submitted	
	12	20211PET 0013	DEEPAK JADHAV	Submitted	
	13	20211PET 0014	DARSHAN D P	Submitted	
	14	20211PET 0015	MOHAMMAD YASIR BYAKOD	Submitted	
	15	20211PET 0016	ASMA THASNIM	Submitted	
	16	20211PET 0017	IBRAHIM NAWAZ M	Submitted	
	17	20211PET 0018	SANDEEP IYAGAR	Submitted	
	18	20211PET 0019	KIRAN EKIRAN	Submitted	
	19	20211PET 0020	YASHWANTH GOWDA M	Submitted	
	20	20211PET 0021	MAYUR P	Submitted	
	21	20211PET 0022	YASHWANTH S	Submitted	
	22	20211PET 0023	MOHAMMED SHABAZ KHALANDER D	Submitted	
	23	20211PET 0024	BOLLAMA REDDY HIMAVENKATA MANKANTHA	Submitted	
	24	20211PET 0025	FAZIL SHAREEF H A	Submitted	
	25	20211PET 0026	PATEL MOHAMMED ADNAN MOHAMMED GOUS	Submitted	
	26	20211PET 0027	SYED USMAN	Submitted	

Signature of Instructor In charge Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering Ċ REGISTRAR Registra



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Ref. No.: PU/SOE/PET/PS/2021-22/2PET1/CIR/01

Date: 20-05-2022

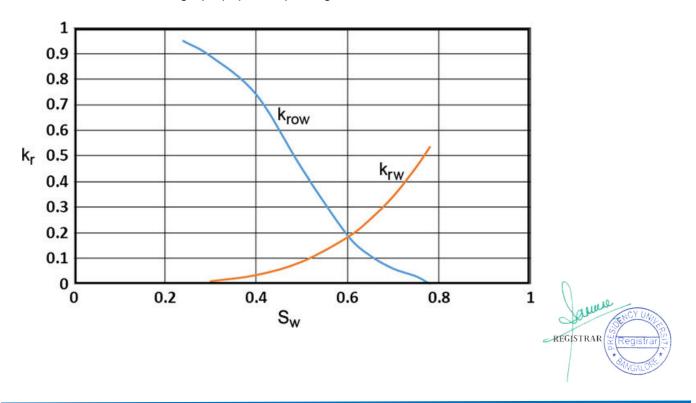
CIRCULAR

It is to inform all the students that then need to solve the following problems and upload in One drive on or before 16-06-2022.

Problem 1: Give an account of the fractional flow of water using the below given relative permeability curve for a linear reservoir system. Following properties are given for the reservoir system.

Dip angle = 0 Viscosity of water $(\mu_w) = 0.5 \text{ cP}$ Density of oil $(\rho_o) = 45 \text{ lb/ft}^3$ Absolute Permeability = 50 mD Oil formation volume factor $(B_o) = 1.2 \text{ bbl/STB}$ Density of water $(\rho_w) = 64 \text{ lb/ft}^3$ Water formation volume factor $(B_w) = 1.05 \text{ bbl/STB}$

Perform the calculations for the following values of oil viscosity: $\mu o = 0.5$, 1 and 10 cP respectively. Use the below relative permeability graph to plot the fractional flow curves corresponding to different viscosities? Use normal graph paper for plotting.





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Instructor In-charge Dr. Rohit Sharma Assistant Professor Department of Petroleum Engineering

Circular Date and No.	Dtd: 20-05-2022 PU/SOE/PET/PS/2021- 22/6PET1/CIR/01 Date of Event		15-06-2022		
Type of learning	Problem Solving	Event Type:	Course based problem		
Mode of Event:	Offline	No. of Participant(s):	62		
Course Code/Course Name	PET225 Advanced Reservoir Engineering and Management				
Department	Department of Petroleum Engineering				
Instructor In charge	Dr. Rohit Sharma Assistant Professor, Department of Petroleum Engineering				
Event objective	 Develop computational ability Apply knowledge of Reservoir Engineering to solve industrial problems 				
Name of the topic	1. Fractional flow of water				
Outcome of the event	i. Gain experience of reservoir engineering calculations used in oilfields and commercial reservoir engineering softwares.				
Assessment	 i. Type of Assessment: Solving advanced numerical problems ii. Task Assigned: Solve one numerical with graph plotting iii. Sample Report by students 				
Sample student report	Attached in the ANNEXURE				



	SI.No	ID No.	Student Name	Submission status
	1.	20191PET0002	AKASH S	Submitted
	2.	20191PET0003	AMAN TAHASILDAR	Submitted
	3.	20191PET0004	ASHWIN RAJ R	Submitted
	4.	20191PET0005	ASWIN K S	Submitted
	5.	20191PET0008	BIRAJDAR SAURABH SURYAKANT	Submitted
	6.	20191PET0012	FEROZ AHMED KHUDAVAND	Submitted
	7.	20191PET0013	FIROZA SHEIKH	Submitted
	8.	20191PET0014	GANESH KUMAR POTHAN	Submitted
	9.	20191PET0015	GILAKA PAVAN	Submitted
	10.	20191PET0016	HARI GOVIND V	Submitted
	11.	20191PET0017	HITHESH P V	Submitted
	12.	20191PET0018	JESWIN JAVAD	Submitted
	13.	20191PET0019	KADIRI LALITHA	Submitted
	14.	20191PET0020	KOKEERAN P	Submitted
	15.	20191PET0021	KRITIKA	Submitted
	16.	20191PET0022	KUSHAL K	Submitted
Attendance sheet	17.	20191PET0023	M MOHAMED ALFIATH	Submitted
	18.	20191PET0024	MIDHUN M M	Submitted
	19.	20191PET0025	MIDHUN SUBHASH	Submitted
	20.	20191PET0026	MOHAMED MUNAWAR HUSSAIN M	Submitted
	21.	20191PET0027	MOHAMED SUHAIL	Submitted
	22.	20191PET0028	MOHAMMED ADNAN	Submitted
	23.	20191PET0029	MOHAMMED AFZAL	Submitted
	24.	20191PET0030	MOHAMMED ISHAQ	Submitted
	25.	20191PET0032	MOHAMMED MUZAMMIL PATVEGAR	Submitted
	26.	20191PET0033	MOHAMMED REEHAN AZHAR	Submitted
	27.	20191PET0034	MOHAMMED TAHA NAJEEB BASHA	Submitted
	28.	20191PET0035	MOAHMMED UZMAIR M	Submitted
	29.	20191PET0036	MOHAMMED ZAIN Y C	Submitted
	30.	20191PET0037	MOHD ZUBAIR	Submitted
	31.	20191PET0038	MOIDEEN ANSAF	Submitted
	32.	20191PET0039	NABEED MUNNNA	Submitted



33.	20191PET0040	NAGAM VENKATA MAHARSHI VASISTA	Submitted
34.	20191PET0041	P SUHAIL AHMED	Submitted
35.	20191PET0042	PRASHANTH R	Submitted
36.	20191PET0043	RISHU SINGH	Submitted
37.	20191PET0044	RIZVI ABUSAMAMA TAHQIQHUSAIN	Submitted
38.	20191PET0046	SAI DINESH	Submitted
39.	20191PET0048	SAMEER MUHAMMED	Submitted
40.	20191PET0049	SANAMPUDI VENKATA RAMI REDDY	Submitted
41.	20191PET0051	SHAIK MUSTAK	Submitted
42.	20191PET0052	SHAIKH ADNAN ZAKIRHUSAIN	Submitted
43.	20191PET0053	SHRAVAN KUMAR M	Submitted
44.	20191PET0054	SYED IKHLAS	Submitted
45.	20191PET0055	TANIYA KG	Submitted
46.	20191PET0056	TARUN KUMAR A	Submitted
47.	20191PET0057	TAUSEEF NAZIR	Submitted
48.	20191PET0058	TAUSIF AHMED	Submitted
49.	20191PET0059	THOTA GUNA NAGA MURARI	Submitted
50.	20191PET0060	THUFAIL MAJEED A M	Submitted
51.	20191PET0061	UPPARAPALLY DIVAKAR REDDY	Submitted
52.	20191PET0062	VEMULA PRASHANTH	Submitted
53.	20191PET0063	YADAVALI VENKAT	Submitted
54.	20191PET0067	SHAIK MUJEEB UR REHAMAN	Submitted
55.	20191PET0068	RIZWAN	Submitted
56.	20191PET9002	PILLI KALYAN KUMAR	Submitted
57.	20191PET9004	ANSTIN SUNNY	Submitted
58.	20191PET9006	SHABEER AHMED	Submitted
59.	20191PET9007	JAFFAR SADIQ M R	Submitted
60.	20201LPE0001	MALIPEDDU SAI PRANAV .	Submitted
61.	20201LPE0002	SYED SADIQ PASHA K	Submitted
62.	20201LPE0003	SHIVAKUMAR PATIL	Superinted Scy UN

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Signature of Instructor In charge Dr. Rohit Sharma Assistant Professor Department of Petroleum Engineering

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering

Course	PET 225 /Advanced Reservoir Engineering and Management
Code/Course	
Name	
Event Type	Problem Solving
Task	Course Based Exercise
Instructor in-	Dr. Rohit Sharma
Charge	Assistant Professor, Department of Petroleum Engineering
Submission	16-06-2022
Date	
Event Photos	





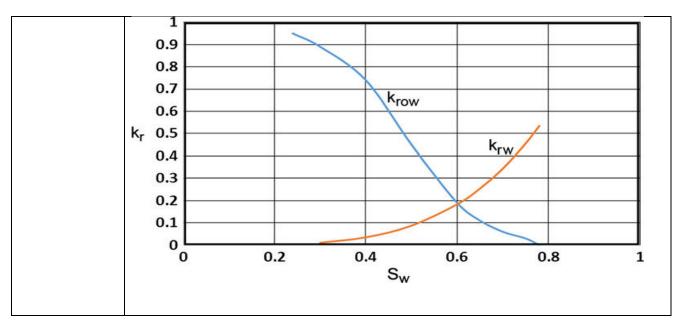




	Dibbur, Karnataka, India GegN+3CQ, Dibbur, Karnataka 560089, India Lat 13.167682° Long 77.533452° 15/06/22 10:47 AM
Name of Student	Jeswin Javad
ID number	2019PET0018
Problem Statement	Give an account of the fractional flow using the below given relative permeability curve for a linear reservoir system. Following properties are given for the reservoir system. Dip angle = 0 Viscosity of water $(\mu_w) = 0.5$ cP Density of oil $(\rho_o) = 45$ lb/ft ³ Absolute Permeability = 50 mD Oil formation volume factor $(B_o) = 1.2$ bbl/STB Density of water $(\rho_w) = 64$ lb/ft ³ Water formation volume factor $(B_w) = 1.05$ bbl/STB
	Perform the calculations for the following values of oil viscosity: $\mu o = 0.5$, 1 and 10 cP respectively. Use the below relative permeability graph to plot the fractional flow curves corresponding to different viscosities? Use normal graph paper for plotting.

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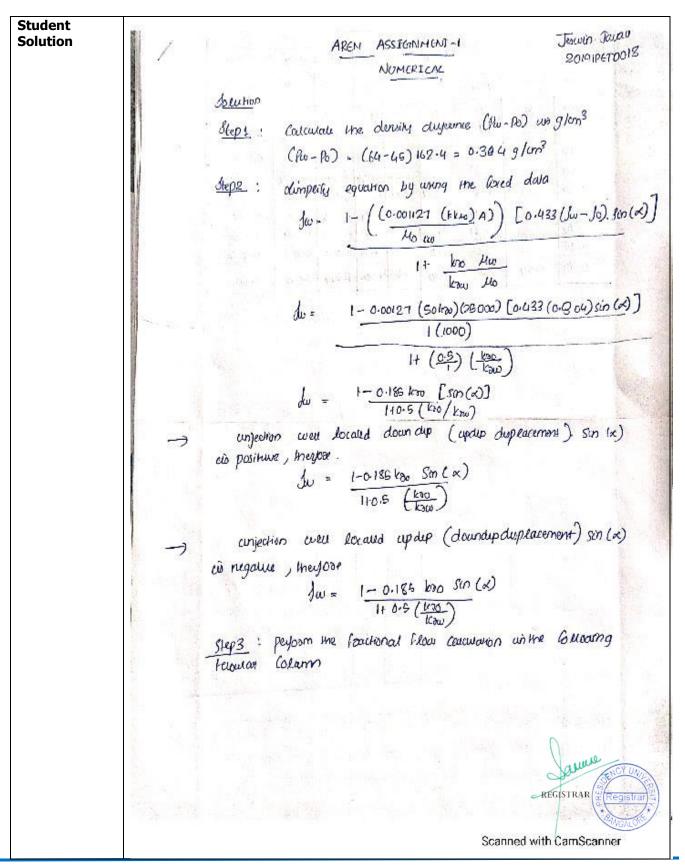








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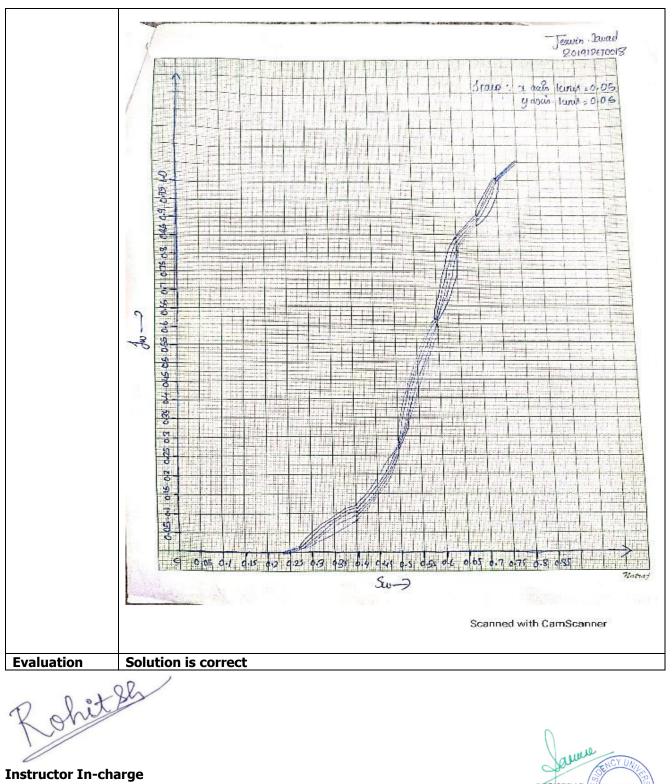




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0.66 0.12 0.43 0.820 0.817 0.814 0.826 0.930 0.832 0.70 0.06 0.27 0.879 0.878 0.876 0.383 0.4374 0.886 0.15 0.03 0.09 0.961 0.964 0.954 0.962 0.963 0.966 0.778 0.00 0 4.000 1.000 1.000 1.000 1.000 1.000				- 1. 20020	a sugar star	and the second second	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and the second se	till and and a second	0,69
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	10 3	1	0.02	0.09	0.961	0-960	0.959	0.962	0-963	0.96
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Dr. Rohit Sharma, Assistant Professor, Department of Petroleum Engineering, Presidency University





Itgalpur, Rajanakunte, Yelahanka, Bengaluru - 560064

Ref. No.: PU/SOE/PET/PS/2021-22/6PET1/CIR/01

Date: 10-05-2022

CIRCULAR

It is to inform all the students that then need to solve the following problem and upload in One drive on or before 19-05-2022.

Problem 1:

1. Using CMG Builder and STARS, simulate a production well with the following inputs and answer the question:

Name- IDNo.dat

Simulator- STARS

Working Units- SI

Porosity- Single Porosity

Simulation Start Date - 1/1/2005

Pattern - Normal 5 spot

Pattern Area - 10 acres

Thickness of Reservoir- 30m

Top of Reservoir - 500m

Dip Angle - 0 degrees

Approximate block thickness - 4m

Approximate block size - 6



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Porosity - 0.3

Permeability - I=J= 400, K=40

PVT to be imported - Black Oil

Temperature- 37.7778 degree Celsius

Max Pressure - 12000 kPa

Bubble Point Pressure - 8576 kPa

Stock Tank Oil Gravity(API) -21

Gas Gravity - 0.65

Match the viscosity of Oil with reference to bubble point pressure as 120 cp

In generate water properties using correlations take reference pressure - 8576 kPa

Set Value - Bubble Point Pressure

Temperature (degree Celsius)	Oil Viscosity (cp)
37	420
50	340
70	250

SWCON - 0.3 SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05 KROCW - 1 KRWIRD - 1 KRGCL - 0.3 KROGCG - ---All other exponents - 2 Initial Conditions -Pressure Correction - Phase

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Reference, Pressure - 8576 kPa

Reference depth - 504m

WOC - 526

GOC - -4

First time step after well change (DTwell) - 0.001

In all injectors in well and recurrent, the top 3 perforations are to be removed. In producer, remove the bottom 2 perforations.

Constraints for Injector 1:

OPERATE at BHP 12000kPa

OPERATE at STW 250m3/day

For the injected fluid:

Temperature - 325

Steam Quality - 0.8

Mole fraction of Water -1

Copy all the events of injector 1 to other 3 injectors along with the dates.

Constraints for Producer:

OPERATE at BHP 200kPa

OPERATE at STL 100m3/day

Calculate:

1) Oil phase volume(m3),

2) Gross formation volume (m³),

3) Draw the rough graphs of Oil Rate at Standard Conditions and Water Cut at Standard Conditions.

Kurst

Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Presidency University, Bengaluru Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064

REPORT ON PROBLEM SOLVING

Circular Date and No.		Dtd: 10-05 PU/SOE/PET/ 22/6PET1/0	PS/2021-	Date of Event	19-05-2022			
Type of learning	Problem Solving		Event Type:	Case Study				
Mode of Event:		Offline No. of 37						
Course Code/Course Name	PET 2	PET 258 Reservoir Simulation and Modeling Lab						
Department	Depar	Department of Petroleum Engineering						
Instructor In charge		karsh Lall ant Professor	, Department o	f Petroleum Engineering				
Event objective	2. Ap	oly knowledge	e of Reservoir E	blem visualization ability ingineering to solve proble				
Name of the topic	1. To	solve a case	study on CMG S	STARS on Thermal Floodin	g using 5 spot pattern			
Outcome of the event	i.	Solve Rese	ervoir Simulation	n Problem on CMG STARS				
Assessment	i. ii. iii.	simulation Task Assig	ssessment: Dev ned: Solve one port by student		nd performing advanced			
Sample student report	Attached in the ANNEXURE							
	SI. No.	ID No.		Student Name	Submission status			
	1	20191PET 0013	FIROZA SHEI	КН	Submitted			
	2	20191PET 0019	KADIRI LALIT	НА	Submitted			
Attendance sheet	3	20191PET 0022	KUSHAL K		Submitted			
	4	20191PET 0032	MOHAMMED	MUZAMMIL PATVEGAR	Submitted			
	5	20191PET 0034	MOHAMMED	Taha Najeeb Basha				
					*			



	6	20191PET 0035	Mohammed uzmair m	Submitted
	7	20191PET 0036	Mohammed Zain y C	Submitted
	8	20191PET 0037	MOHD ZUBAIR	Submitted
	9	20191PET 0038	MOIDEEN ANSAF	Submitted
	10	20191PET 0039	NABEED MUNNNA	Submitted
	11	20191PET 0040	NAGAM VENKATA MAHARSHI VASISTA	Submitted
	12	20191PET 0041	P SUHAIL AHMED	Submitted
	13	20191PET 0042	PRASHANTH R	Submitted
	14	20191PET 0043	RISHU SINGH	Submitted
	15	20191PET 0044	RIZVI ABUSAMAMA TAHQIQHUSAIN	Submitted
	16	20191PET 0046	SAI DINESH M	Submitted
	17	20191PET 0048	SAMEER MUHAMMED	Submitted
	18	20191PET 0049	SANAMPUDI VENKATA RAMI REDDY	Submitted
	19	20191PET 0051	SHAIK MUSTAK	Submitted
	20	20191PET 0052	SHAIKH ADNAN ZAKIRHUSAIN	Submitted
	21	20191PET 0053	SHRAVAN KUMAR M	Submitted
	22	20191PET 0054	SYED IKHLAS	
1				A REAL OF THE REAL



23	20191PET 0055	TANIYA K G	Submitted	
24	20191PET 0056	TARUN KUMAR A	Submitted	
25	20191PET 0057	TAUSEEF NAZIR	Submitted	
26	20191PET 0058	TAUSIF AHMED	Submitted	
27	20191PET 0059	THOTA GUNA NAGA MURARI	Submitted	
28	20191PET 0060	THUFAIL MAJEED A MA M	Submitted	
29	20191PET 0061	UPPARAPALLY DIVAKAR REDDY	Submitted	
30	20191PET 0062	VEMULA PRASHANTH	Submitted	
31	20191PET 0063	YADAVALI VENKAT	Submitted	
32	20191PET 0064	MUHAMMED SAFAL S	Submitted	
33	20191PET 0067	SHAIK MUJEEB UR REHAMAN	Submitted	
34	20191PET 0068	RIZWAN RIZWAN	Submitted	
35	20191PET 9004	ANSTIN SUNNY	Submitted	
36	20191PET 9007	JAFFAR SADIQ M R	Submitted	
37	20201LPE 0003	SHIVAKUMAR DEVENDRA PATIL	Submitted	

Signature of Instructor In charge Mr. Utkarsh Lall

REGISTRAR

Dr. Suman Paul Associate Professor and Head Department of Petroleum Engineering



Assistant Professor Department of Petroleum Engineering





Course Code/Course Name	PET 258 Reservoir Simulation and Modeling Lab					
Event Type	Problem solving					
Task	Case Study on CMG STARS					
Instructor In charge	Ir Utkarsh Lall Assistant Professor, Department of Petroleum Engineering					
Submission Date	19-05-2022					
Name of the student	Sanampudi Venkata Rami Reddy					
ID number	20191PET0049					
Problem statement	1. Using CMG Builder and STARS, simulate a production well with the following inputs and answer the question: Name- IDNo.dat Simulator- STARS Working Units- SI Porosity- Single Porosity Simulation Start Date - 1/1/2005 Pattern - Normal 5 spot Pattern Area - 10 acres Thickness of Reservoir- 30m Top of Reservoir - 500m Dip Angle - 0 degrees Approximate block thickness - 4m Approximate block size - 6					





Permeability - I=J= 400, K=40		
PVT to be imported - Black Oil		
Temperature- 37.7778 degree Co	alsius	
Max Pressure - 12000 kPa		
Bubble Point Pressure - 8576 kP	a	
Stock Tank Oil Gravity(API) -21		
Gas Gravity - 0.65		
Match the viscosity of Oil with ref	erence to bubble point pressure	25 120 cp
In generate water properties usin		
Set Value - Bubble Point Pressu		essure - 8576 K
Temperature (degree Cel		
37	Sius) Oil Vi	scosity (cp) 420
50		340
70		250
SWCON - 0.3		
SWCRIT - 0.3		
SWCRIT - 0.3 SOIRW - 0		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4		
SWCRIT - 0.3 SOIRW - 0		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05 KROCW - 1		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05 KROCW - 1 KRWIRD - 1		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05 KROCW - 1 KRWIRD - 1 KRGCL - 0.3		
SWCRIT - 0.3 SOIRW - 0 SORW - 0.4 SOIRG - 0.0 SORG - 0.45 SGCON - 0 SGCRIT - 0.05 KROCW - 1 KRWIRD - 1 KRGCL - 0.3 KROGCG		





	Reference, Pressure - 8576 kPa
	Reference depth - 504m
	WOC - 526
	GOC4
	First time step after well change (DTwell) - 0.001
	In all injectors in well and recurrent, the top 3 perforations are to be removed. In producer, remove the bottom 2 perforations.
	Constraints for Injector 1:
	OPERATE at BHP 12000kPa
	OPERATE at STW 250m³/day
	For the injected fluid:
	Temperature - 325
	Steam Quality - 0.8
	Mole fraction of Water -1
	Copy all the events of injector 1 to other 3 injectors along with the dates.
	Constraints for Producer:
	OPERATE at BHP 200kPa
	OPERATE at STL 100m ³ /day
	Calculate:
	1) Oil phase volume(m ³),
	2) Gross formation volume (m ³),
	3) Draw the rough graphs of Oil Rate at Standard Conditions and Water Cut at Standard Conditions.
Student solution	B
	Dibur, Karnataka, India Residence University Hostel, PRESIDENCY UNIVERSITY, Ittagallpura, Karnataka 560089 India Biografia Biografia
Eveluetien:	The evaluation was done by visualizing the .srf file in the CMG STARS and 3D Results
Evaluation	Simulator and the simulated file after normal run was found to be correct.



Instructor In-charge Mr. Utkarsh Lall Assistant Professor Department of Petroleum Engineering





Event No.:	BJG13	Date:	06-05-2022 (1 Day)				
Event Category:	Technical Event Type: Case Study						
Mode of Event:	Offline No. of Participant(s): 30						
Event Category:	Problem Solving						
Event Coordinator:	Mr Bhairab Jyoti Gogoi Assistant Professor, Departm	nent of Petroleum Engineering	g				
Event Title:	Case study on Drilling Bit se	Case study on Drilling Bit selection criteria					
Resource Person:	Mr Bhairab Jyoti Gogoi Assistant Professor, Department of Petroleum Engineering						
Event Objective:	knowledge on Well Design a	ents is to provide an opportune nd Construction to solve prote ent to develop- SKILL and EN					
Event Photo(s):							





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Itgalpur, Rajanakunte, Yelahanka, Bengaluru – 560064





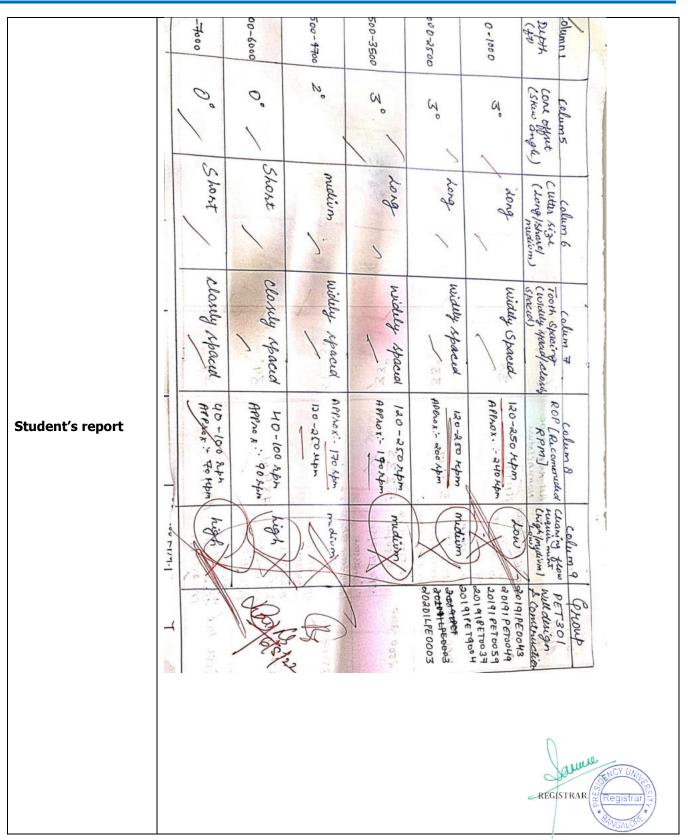
	SI. No.	ID No.	Student Name	Attendance		
	1	20191PET001 2	FEROZ AHMED KHUDAVAND	Present		
	2	20191PET001 5	GILAKA PAVAN	Present		
	3	20191PET001 7	HITHESH P V	Present		
	4	20191PET002 0	KOKEERAN P	Absent		
	5	20191PET002 2	KUSHAL K	Present		
	6	20191PET002 3	M MOHAMED ALFIATH	Present		
	7	20191PET003 2	MOHAMMED MUZAMMIL PATVEGAR	Present		
	8	20191PET003 3	MOHAMMED REEHAN AZHAR	Present		
	9	20191PET003 7	MOHD ZUBAIR	Present		
	10	20191PET003 8	MOIDEEN ANSAF	Present		
	11	20191PET003 9	NABEED MUNNNA	Present		
List of Participants	12	20191PET004 2	PRASHANTH R	Present		
	13	20191PET004 3	RISHU SINGH	Present		
	14	20191PET004 4	RIZVI ABUSAMAMA TAHQIQHUSAIN	Present		
	15	20191PET004 6	SAI DINESH M	Present		
	16	20191PET004 8	SAMEER MUHAMMED	Present		
	17	20191PET004 9	SANAMPUDI VENKATA RAMI REDDY	Present		
	18	20191PET005 1	SHAIK MUSTAK	Present		
	19	20191PET005 4	SYED IKHLAS	Present		
	20	20191PET005 6	TARUN KUMAR A	Present		
	21	20191PET005 8	TAUSIF AHMED	Present		
	22	20191PET005 9	THOTA GUNA NAGA MURARI	Present		
	23	20191PET006 1	UPPARAPALLY DIVAKAR REDDY	Present		
	24	20191PET006 2	VEMULA PRASHANTH	RAR		
	25	20191PET006 3	YADAVALI VENKAT	Present		



26	20191PET006 7	SHAIK MUJEEB UR REHAMAN	Present
27	20191PET006 8	RIZWAN RIZWAN	Present
28	20191PET900 2	PILLI KALYAN KUMAR	Present
29	20191PET900 4	ANSTIN SUNNY	Present
30	20201LPE000 1	MALIPEDDU SAI PRANAV	Present
31	20201LPE000 3	SHIVAKUMAR DEVENDRA PATIL	Present





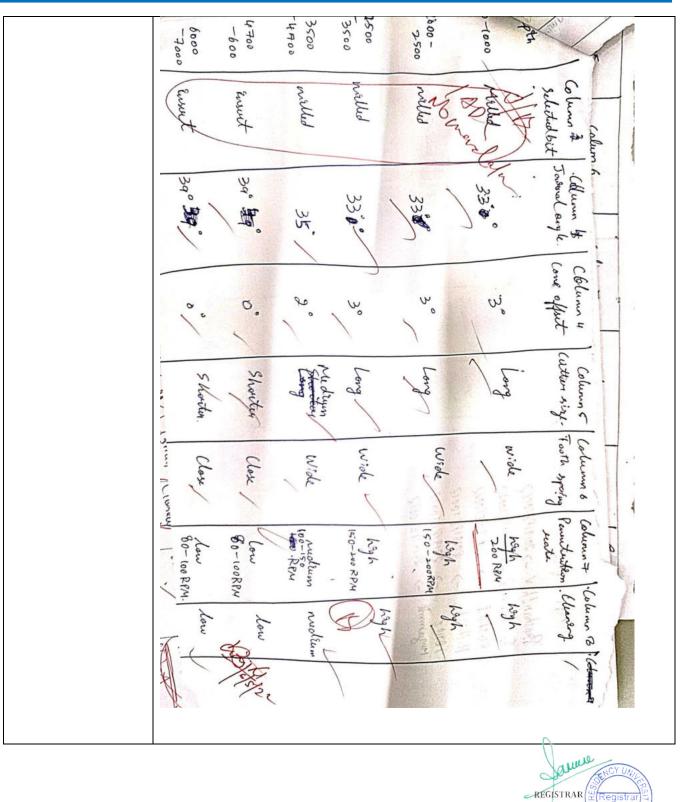




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G	D Low	Low	medi	Hart	King	m) CHrqm/m	COMMENDED 12 CON	PET301 Will design & Construction	Group	





H S	<i>foormation</i> chanacteristics	Column 2
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120-90 120-90 100-60 100-60	Penetration Rate (Recommence)	lolump





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Event Coordinator Mr. Bhairab Jyoti Gogoi Assistant Professor Department of Petroleum Engineering

