



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2021

Course : Production Engineering
Program : M.Tech (Petroleum Engineering)
Course Code : PEAU7015
Nos. of page(s) : 01

Semester : 1st
Time : 03 hrs
Max. Marks : 100

Instructions: Attempt all the questions.

SECTION A

S. No.	Statement of questions	Marks	CO
Q 1	Differentiate between carryover and blowby for the storage of oil and gas.	4	CO1
Q 2	Compare the continuous and intermittent gas lift.	4	CO2
Q 3	Write the reasons for workover in oil and gas wells.	4	CO3
Q 4	Illustrate the workover process to control the excessive water production in oil well.	4	CO3
Q 5	The reaction rate is the important parameters in the acidizing techniques of fracturing, write the factors controlling acid reaction rate.	4	CO2

SECTION B

Q 6	Illustrate the causes of sand production. Write the methods for control sand production.	10	CO3
Q 7	Paraffin deposition is a serious problem in production of crude oil. Briefly write the most common methods of removing paraffin from the oil wells. <b style="text-align: center;">OR Elaborate each component of vertical heater treater with the suitable diagram.	10	CO4
Q 8	Write the types of stimulation techniques used to enhanced the productivity of oil well and explain one of them.	10	CO3
Q 9	Discuss the importance of perforation in oil well. Write the methods available to perforate a well.	10	CO1

SECTION-C

Q 10	Write the different types of artificial lifts used in oil industry. Explain the sucker rod pump with their merits, demerits and uses with suitable diagram.	20	CO4
Q 11	Derive an expression for determining future IPR with the help of Fetkovich's method with proper assumptions. Using Fetkovich's method, plot the IPR curve for a well in which P_i is 3000 psia and $J_o^i = 4 \times 10^{-4}$ stb/day-psia ² . Predict the IPRs of the well at well shut in static pressures of 2700 psia, 1800 psia, 1400 psia and 900 psia. <b style="text-align: center;">OR Artificial lift is used for lifting the wellbore fluid to the surface. Illustrate the electrical submersible progressive cavity pumping system (ESPCP) with the help of suitable diagram and write its advantages and disadvantages.	20	CO1