

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2023

Programme Name: M.Tech., PE

Semester : II

Course Name : Well Intervention and Stimulation Techniques

Time : 03 hrs

Course Code : PEAU 7008

Max. Marks : 100

Nos. of page(s) : 1

Instructions: 1. Assume any data missing.
2. Maintain a minimum of three decimal accuracy.

SNo	SECTION A (5*4=20M)	Marks	CO
Q 1	Define Inflow Performance Relation (IPR).	4	CO1
Q 2	List various TPR models used for analyzing multiphase flow in vertical well pipes.	4	CO1
Q 3	What is mud acid?	4	CO2
Q 4	Define skin factor.	4	CO3
Q 5	List various applications of prepacked screens in sand control operations.	4	CO4
SECTION B (4*10=40M)			
Q 6	Construct the IPR curve for the following well data at the average reservoir pressure. $q = 1172$ BOPD; $P_{wf} = 716$ psia; $P_R = 1420$ psia; $P_R = P_b$. Assume that Vogel's dimensionless standard curve describes this well's behavior.	10	CO1
Q 7	Elaborate with a neat diagram the matrix acidization operation in carbonate reservoirs.	10	CO2
Q 8	Explain with a neat diagram the pressure points encountered during the fracturing operation.	10	CO3
Q9	Compare and contrast between various types of sand control methods.	10	CO4
SECTION-C (2*20=40M)			
Q10	Enumerate with neat diagrams the various stages involved in hydraulic fracturing operations.	20	CO3
Q11	Enumerate various factors contributing to the sand production and the corresponding remediation techniques used in production operations. Explain with a neat diagram the process of cased hole gravel packing.	20	CO4