UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2018

Course/Program: B.Tech (GSE & GIE) **Semester: IV**
Subject: Sedimentology
Code: GSEG 302
Time: 03 hrs. **Max. Marks: 100**
No. of pages: 02

Instructions: Write comprehensive answers and illustrate with sketch if necessary.

SECTION A [Attempt all] (5x4=20)

S. No.	Define the followings	Marks	CO
Q 1. a	Tmax	4	CO5
Q 1. b	Metagenesis	4	CO5
Q 1. c	Bed load	4	CO1
Q 1. d	Secondary Migration of hydrocarbon	4	CO6
Q 1. e	Type-III Kerogen	4	CO5
	SECTION B [Attempt Q2, 3,4, & any one of 5] (10x4=40)		
Q 2.	Describe fluid withdrawal efficiency and its effect on oil production of a hydrocarbon reservoir.	10	CO5
Q 3.	In a petroleum source rock you are having 8% TOC. Describe qualitatively its potentiality of acting as crude oil source rock?	10	CO5
Q 4.	Describe the importance of "oil & gas window" in the process of crude oil formation from kerogen.	10	CO5
Q 5.	What type of kerogen is expected to generate coal bed methane upon maturation?	10	CO6
	OR		
	Write a short note on importance of different types of porosity in hydrocarbon reservoir.	10	CO3
	SECTION-C [Attempt Q6 and any one of 7] (20x2=40)		
Q 6.	What is the relationship between porosity and permeability? How the process of diagenesis can influence porosity of a sedimentary rock? Describe different types of secondary porosity.	10+5+5	CO1, CO4, CO2
Q 7.	Describe Edge water; Bottom water; and Spill point in an antiformal hydrocarbon trap and demarcate oil-water and oil-gas boundary. Describe the process of crude oil/ natural gas migration from source rock.	10+10	CO5 CO6
	OR		
	Write a short note on structural hydrocarbon trap. In nature, we generally do not	10+10	CO5

	expect a syncline acting as a petroleum reservoir-please explain why and illustrate your answer with sketch.		**CO6**

Name: **Enrolment No:**	UPES