

Name:

Enrolment No:



**End Semester Examination, May 2023**

**Course:** PETROLEUM EXPLORATION

**Semester:** II

**Program:** MSc Petroleum Geoscience

**Time :** 03 hrs.

**Course Code:** PEGS 7028

**Max. Marks:** 100

**Instructions:** Draw correct diagram whenever requires. Attached the log image with answer sheet.

**SECTION A (5X4=20Marks)**

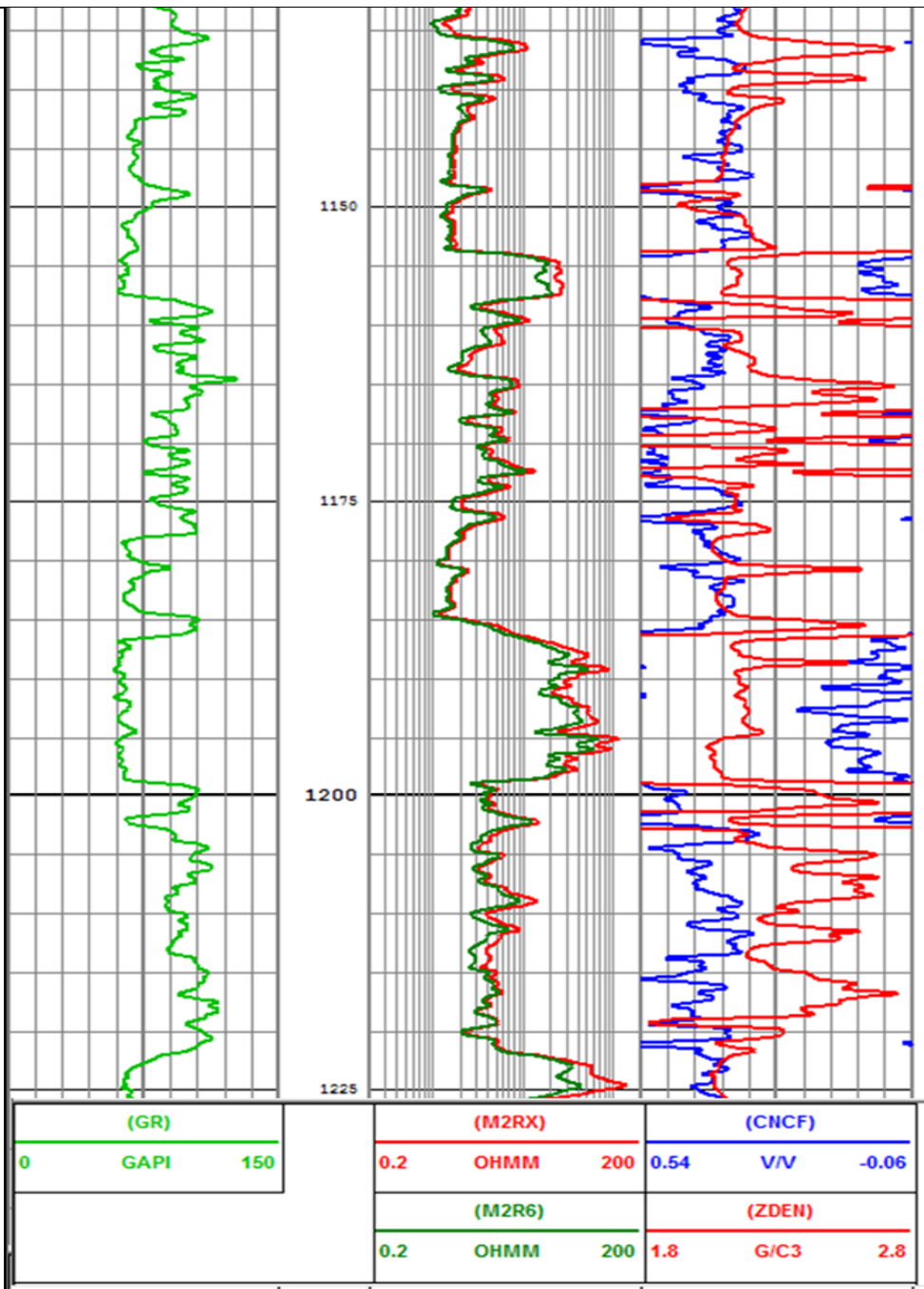
S. No.		Marks	CO
Q 1	List the necessary tools and methodologies essential for reservoir characterization.	4M	CO1
Q 2	Mention the traditional well logs alongside their respective uses.	4M	CO2
Q 3	Outline the necessary tools and methodologies essential for reservoir characterization.	4M	CO3
Q 4	Define a petroleum source rock. Explain the important parameters and their threshold values of different types of petroleum source rocks.	4M	CO3
Q 5	Discuss the special core analysis techniques for petrophysical properties evaluation	4M	CO2

**SECTION B  
(4Qx10M= 40 Marks)**

Q 6	(a) Differentiate between hydrocarbon resources and reserves. (b) Elucidate the distinction between porosity and permeability in petroleum reservoirs.	10M	CO2
Q 7	Expand on the following methods employed in petroleum exploration: (a) Seismic data acquisition (b) Surface geochemical exploration.	10M	CO3
Q 8	Discuss about the stratigraphy and petroleum system of Cambay Basin.	10M	CO4
Q 9	Draw the Van Krevelen diagram and mark the zones of different kerogen types.	10M	CO4

**SECTION-C  
(2Qx20M=40 Marks)**

Q 10	Refer the log image and answer the following questions:	10X 2= 20 M	CO5
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- (a) Identify lithology and mark in the log section
- (b) Interpret the hydrocarbon bearing zone and assess the reservoir quality based on shaliness.

Q 11

Draw a process work flow diagram illustrating the geological and geochemical techniques of petroleum exploration. Elaborate each step.

OR

Describe the tectonic history and petroleum systems of following basins (i) Assam Arakan, (ii) Vindhyan.

10+  
10=  
20  
M

CO5