
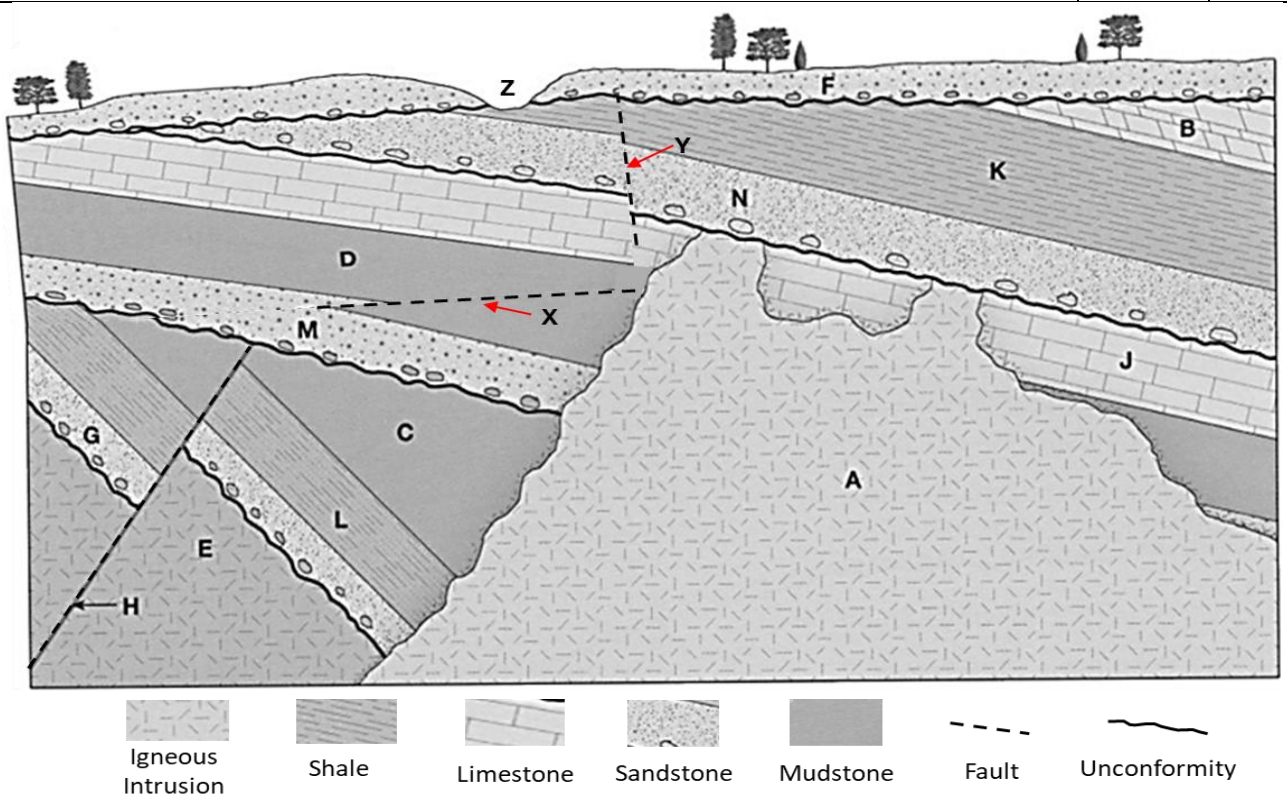


Name:			
Enrolment No:			
UPES End Semester Examination, May 2025			
Course: Introduction to Geology Program: B.Tech APE Course Code: PEGS 1015 Instructions: Q8 and Q9 have internal choices.		Semester: II Time 03 hrs. Max. Marks: 100	
SECTION A (4Q x 5M = 20 Marks)			
S. N.		Marks	CO
Q1	Describe the five essential characteristics that define a substance as a mineral.	5	CO1
Q2	Differentiate between concordant and discordant igneous bodies and provide one example of each type.	2+3	CO1
Q3	Describe Anticline and Syncline.	5	CO2
Q4	Explain the role of index fossils in stratigraphic analysis and their application in basin correlation.	5	CO2
SECTION B (4Q x 10M = 40 Marks)			
Q5	Explain in detail the four types of unconformities and their importance in hydrocarbon exploration. Include appropriately labeled diagrams to support your answer.	5+5	CO1
Q6	Explain the following textures with appropriate examples, a) Clastic texture b) Fossiliferous texture	5+5	CO2
Q7	Describe the theory of plate tectonics and explain three evidences that support it.	10	CO3
Q8	Explain the process of sediment transport in a fluvial environment. Illustrate a longitudinal river profile from source to mouth, clearly marking the three major stages and associated fluvial landforms.	10	CO4
	OR		
	Illustrate a cross-sectional view of an aeolian dune and label its geomorphic features. Explain the formation processes of any three distinct types of aeolian dunes.		

SECTION-C

(2Q x 20M = 40 Marks)

Q9	<p>a) Explain the role of stratigraphy in hydrocarbon exploration studies.</p> <p>b) Draw annotated diagrams and explain any five Principles of Stratigraphy.</p>	5+15	CO3
	OR		
	<p>Describe the process of faulting in rocks, and distinguish between the different types of faults based on the apparent movement of fault blocks. <i>(Draw labeled sketches to support your explanation).</i></p> <p>d) Explain three types of evidence that can be used to identify faults in the field.</p>	15+5	
Q10	<p>Study the given map and explain the followings,</p> <p>a) Explain the sequence of events (structures/ stratigraphy) from oldest to youngest.</p> <p>b) Identify various geological features and provide their definition.</p> <p>c) Reconstruct the stage-wise geological history of the area (min 300 words).</p>	7+6+7	CO4



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