Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2020

Course: Introduction to Geology **Semester: III**
Programme: B.Tech APE-UP **Course Code: PEGS 2012**
Time: 03 hrs. **Max. Marks: 100**

Instructions:

1. This paper is only for B.Tech_APE-UP (3rd Sem) students. Total of two pages.
2. Internal option is given in questions 11 & 12.
3. Section A (Short answer type from Q1 to Q6, 5 marks each)- Students need to type answers.
4. Section B (Short notes type from Q7 to Q11, 10 marks each) &
   Section C (Q12. Long answer type)- Students need to write, scan and upload the answers.

SECTION A

All questions are compulsory (Short answer type)

S. N		Marks	CO
Q 1	Define the important criteria for recognition of a Mineral with an appropriate definition. Write the name of any five minerals as an example.	**5**	**CO1**
Q.2	Define dip and strike and their uses in field geology.	**5**	**CO2**
Q.3	Explain in brief about meander cut-offs "Oxbow Lake" and its formation process.	**5**	**CO3**
Q.4	Describe the Index fossils and their uses.	**5**	**CO3**
Q.5	Briefly explain the application of micropaleontology in Oil & Gas industries.	**5**	**CO5**
Q.6	Define the Moho discontinuity in brief and explain why seismic waves change the velocity below this boundary.	**5**	**CO1**

SECTION B

Q. 7 to 10 are compulsory but Q. 11 is having an internal choice (Scan and upload type)

Q.7	Explain the Rock cycle. Draw an appropriately labeled diagram to support your answer.	**5+5= 10**	**CO2**
Q.8	Write an essay on plate tectonics and explain three important types of margins.	**10**	**CO3**
Q.9	Explain the Sediment load transported by a stream.	**10**	**CO4**
Q.10	Illustrate the Geological work of wind. Draw and explain the following types of dunes. a) Barchan dunes b) Transverse dunes c) Longitudinal dunes d) Parabolic dune e) Star dunes	**2*5= 10**	**CO1**

Q.11	Classify and describe the different types of Folds in rocks on the basis of the axial plane. **(**Draw labeled sketches in your descriptions).	**5*2= 10**	**CO4**
	OR		
	Explain the process of faulting in rocks and differentiate its types based on the apparent movement of the fault blocks. (Draw labeled sketches in your descriptions).	**4+3+3 = 10**	
SECTION C **Internal choice, one questions is compulsory (Scan and upload type Long answer)**			
Q.12	a) Draw and explain in detail about four important types of Unconformities and their importance in petroleum exploration. b) Draw appropriately labeled diagrams (Four stages) of the development of these unconformities to support your descriptions.	**10+10 = 20**	**CO5**
	OR		
	a) Explain the role of stratigraphy in Geology, especially in petroleum exploration studies. b) Draw and explain in detail about six important Principles of Stratigraphy.	**10+10 = 20**	

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