

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
END Semester Examination January 2021**

Program: M.Sc., Petroleum Geosciences
Course: Tectonics and Structural Geology
Course Code: PEGS-7003
Number of pages:03
Note: online submission

Semester: I
Time: 180 minute (3 hour)
Max. Marks: 100

SECTION A

- 1. Each questions carry 5 Marks 6 X 5 = 30 M**
2. Type answer for all the questions in the answer sheet using given space.
3. The maximum word limit is 30 or 3 lines (only question number 1, 2 & 3) and type single word answer for question number 4, 5 and 6).

Q.No	Question				COs
1	Define the following terms in context with Structural geology Datum and Measurement				CO1
2.	Distinguish between the following terms: i) Anticlinorium and Synclinorium and ii) Tenacity and Fracture				CO2
3	Write a brief note on following terms in context with structural geology a) Stereonet b) Attitude				CO3
4	Fill in the blanks with suitable answer: i. An unconformity which marks an abrupt change in the velocity of seismic wave is ii. Schuppen structure are associated with..... iii.joints formed perpendicular to column axes due to contraction. iv. The Tear faults are a variety of Faults. v. An ----- is an area on an active fault where there is increased friction, such that the fault may become locked.				CO4
5	MCQ (Choose correct answer and type the answer)	A) answer	B) answer	C) answer	CO5
	a)All impervious boundary lines are	Contour	Flow	Isogon	
	b) The submarine volcanoes that may form series of chains is called as.....	Seamount	ARC	Island	
	c) The angular intergrowth texture similar to micrographic texture is also called as	Granular	Graphic	Granophyric	
	d) The structures occurs as an isolated feature in the earth surface is called.....	Penetrative	Monoclinial	Discrete	
e) is result from phreatic or phreatomagmatic activity, wherein magma heats up water in the groundwater system.	Maars	Dome	Tephra		

6	TRUE/False (Choose correct answer and type the answer)	A) True	B) False	CO6
	i) The Grand Canyon topography is a type of Cliff and benches	True	False	
	ii Myrmekite is a globular or bulbous symplectite of quartz in plagioclase	True	False	
	iii) The Aa blocky rough lava with low viscosity	True	False	
	iv) The closely spaced parting is called as fissility	True	False	
	v) Cinder and tephra cones usually occur around summit vents and flank vents of stratovolcanoes.	True	False	

SECTION B

1. Each questions carry 10 Marks
2. Scan and upload your answer
3. The maximum word limit is 500 or one page

5 X 10 = 50 M

Q.No	Question	COs
7	Define Volcanoes and discus in brief classification volcanoes in context with plate tectonics.	CO2
8.	Describe in brief the role and significance of following terms in Fault classification. a) Fault line b) Fault trace c) Separation d) Heave e) Throw	CO3
9	Explain in brief the significance of following terms in structural analysis: i) Principle stress, ii) Tensile stress, iii) Shear stress, iv) compressive stress OR Discuss in brief classification of joints and their significance in structural analysis.	CO4
10	Write a short note on following terms and their importance in fold classification a) Dip isogone b) Plunge c) Inflection point d) Vergence e) Hinge	CO5
11	Describe in brief classification of unconformity and their application in petroleum geoscience.	CO1

SECTION C

1. The question number 12 answer either a, OR b, c, d
2. Scan and upload your answer
3. The maximum word limit is 750 or two page

1 X 20 = 20 M

Q.No	Question	COs
12	<p>a) Write a short notes on significance of the following terms in context with tectonic and structural analysis. i) Growth fault and rollover anticline ii) Decollement or detachment fold, iii) plumose structures, iv) Dome and Basin and V) Temperature-Pressure-time data. 20M</p> <p style="text-align: center;">OR</p> <p>b) In the sandstone outcrop the strike and true dip of the bed is N 65° E, 40°SE. Determine the apparent dip in Vertical section trending S 70° E by both numerical and Graphical method. 5 M</p> <p>c) The apparent dips were record in a sandstone outcrop is as follows a) 220°, 25°SW and 160°, 25° SE. Find the direction and amount of true dip amount. 5 M</p> <p>d) Three boreholes are sunk at SW, SE, & NW corner of square level ground; the each side of corner is 1000 mts long. The boreholes are A, B & C respectively. The bore hole A at 200mts, B at 300mts and C at 400 mts meet the coal seam respectively. Determine the attitude of the coal seams and fourth borehole D is proposed at NE corner of the square level ground, determine at what depth the borehole P is encounters the coal seam. Scale: 1:cm = 100mts and 1cm=1gradient or ratio 10 M</p>	CO6