

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination DECEMBER 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 marks

SECTION A

- 1. Each questions carry 4 Marks** **4 X 5 = 20 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 and 2) and single word answer for question number 3, 4 and 5).

Q.No	Question				Cos
1	Define the following terms in context with Structural Geology: a) Scale & b) Stocks				CO1
2.	Distinguish between the following terms: i) Batholith and Laccolith & ii) Stick slip and Stable sliding.				CO2
3	Fill in the blanks with suitable answer: i. Thevertical fault is associated with a low angle over thrust fault and occurring in hanging wall with displacement may be horizontal. ii. The Shear is an example of hyperelastic or irrotational strain. iii. The oblique normal fault and detachment faults in rift zones are typical structural examples of Regimes. iv. The Lines are perpendicular to the direction of propagation and parallel to the advancing edge of fractures.				CO3
4	MCQ (Choose correct answer and type the answer)	A) answer	B) answer	C) answer	CO4
	a) The is the direction of leaning of the axial surface in a fold.	Hinge	Vergence	limb	
	b) Thefolds are showing step like two horizontal limbs connected by a shorter inclined limbs.	Drag	Box	Monoclines	
	c) Thefolds have fold axis plunging down the dip of the axial surface.	Syncline	Recumbent	Reclined	
	d) The -----Joints are formed in a three dimensional joint sets and perpendicular to each other and separate or break the rock into cubical blocks.	Prismatic	Columnar	Mura;	

5	TRUE/False (Choose correct answer and type the answer)	A) True	B) False	CO5
	i) The Mylonite rocks are good examples of ductile shear zone	A) True	B) False	
	ii) The Himalayan mountains are good examples for constructive building mountains.	A) True	B) False	
	iii) Strain is proportional to stress in elastic deformation	A) True	B) False	
	iv) The nappes structures may formed low angle fault associated with fold.	A) True	B) False	

SECTION B

4 X 10 = 40 M

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

Q.No	Question	COs
6	Write a short note on application and significance of following terms in tectonics and structural analysis. a) Stress-Strain b) Datum c) Grain shape, Grain size and Grain orientation.	CO2
7	Write a short note on role and significance of following terms in fold analysis. i)Decollement ii) Kink iii) Flexural slip iv) Drag v) plunge	CO3
8	Define fracture and Discuss in brief the criteria for the classification of fractures.	CO4
9	Explain in brief the classification of tectonic plates, types of plate movements and their role in structural analysis. OR In the sandstone outcrop the strike and true dip of the bed is N 55° E, 35°SE . Determine the apparent dip in Vertical section trending S 65° E by both numerical and Graphical method. 5 M The apparent dips were record in a sandstone outcrop is as follows a) 230°, 35°SW and 150°, 35° SE . Find the direction and amount of true dip amount. 5 M	CO5

SECTION C

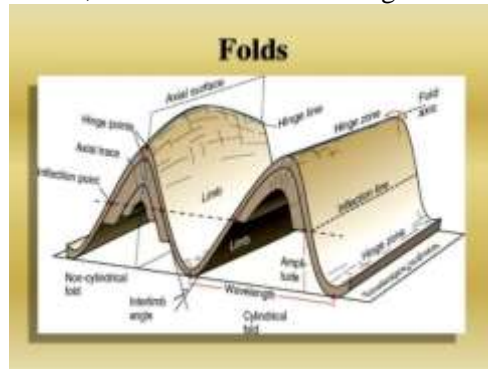
2 X 20 = 40 M

1. The question number 11 is compulsory and in question number 10 answer either a, OR b
2. Scan and upload your answer
3. The maximum word limit is 750 or two and half page

10

a) Give justification in brief, about how essential the given terms are in the diagram in context

CO6



with fold analysis.

OR

b) Write a short note on following terms in context with Joint classification; i) Joint set ii) Joint spacing iii) Joint condition iv) joint number v) joint systems vi) Joint genesis

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Describe in brief the parts of faults, criteria of faulting and classification of faults in context with structural analysis.

CO6