Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES **END Semester Examination, JULY 2020** Program: B-Tech GSE Semester: IV Course : Structural Geology Course Code: PEGS-4003/2021 Max. Marks: 100 Pages:4 Note: BB (online submission) Time: Part-I 2 Hour and Part –II 24 hours	

Instruction to Students

- **Read the instruction carefully before attempting.**
- **The Part-I consist of 5 questions (each questions sub divided into 10), Total marks 75.   Time is 2 hors**
- **The Part-2 consist of 2 questions (Assignment) Q. 1a & Q 1b = 15 Marks and Q.2 10 Marks**
- **All the qusestions submitted within 24 hrs from the scheduled time (exceptional provision due extraordinary circumstance due to COVID-19 and due to internet connectivity issues in the far-flung areas).**
- **No submission of Section B shall be entertained after 24 Hrs. The section B should be attempted in blank white sheets (hand written & neat sketch) with all the details like programme, semester, course name, course code, name of the student, Sapid at the top (as in the format) and signature at the bottom (right hand side bottom corner)**
- **The question number 1 to 6 (CO1- CO6).**

PART -1

Question paper and Model answer End semester examination JULY 2020 PEGS-3007 Structural Geology

Note: 5 question each question divided 10 question carry 1.5 Marks each.   Total Mark

Note : CO1= Q1 CO2=Q.2 CO3 =Q.3 CO4=Q.4 CO5= Q.5 (each question as 10 sub questions and carries 1.5 Marks)

Question	Answer	Possible P	Q.1 to q.5
The horseshoe patterns occur when valley is incised into flat layers	TRUE	1.5	CO1
Strain is proportional to stress in elastic deformation	TRUE	1.5	CO1
The Hogbacks and Cuestas are not homoclinal ridges	FALSE	1.5	CO1
The fracture joints formed in a plutons is due to	All of these	1.5	CO1
The direction of leaning of the axial surface in a structure is called	Vergence	1.5	CO1
The flat pebble grains overlap like roof shingled and used this structure of paleocurrent ana	Imbrication	1.5	CO1
The passive flow folds with low mean ductility is noticed in . Rocks	Metamorphic	1.5	CO1
The monocline and homocline fold are similar type of fold	FALSE	1.5	CO1
The kink folds produces rotation and slippage with deformed set layers is due to	Flexural slip	1.5	CO1
Tsunami is not a type of seismic waves generated due to ocean currents	FALSE	1.5	CO1
The Grand Canyon topography is a type of Cliff and benches	TRUE	1.5	CO2
The measure of strength of materials under a cyclic loading is ..strength	Fatigue	1.5	CO2
The accurate angle between the fracture and fault surface point with array of brittle feathers	Pinnate	1.5	CO2
The dip of a bed is vector quantity because it has got	All of these	1.5	CO2
The convergent plate margins are most suitable for formation of structures	All of these	1.5	CO2
Finer grained rocks will develop finer plumose structure	TRUE	1.5	CO2
Penecontemporaneous folds and faults are characteristically due	Drag	1.5	CO2
The Fenesters is example of erosinal cut between upper and lower thrust sheet	TRUE	1.5	CO2
"The sediments are compacted, folded, maintain cohesion before dislodge by gravity "	Slumping	1.5	CO2
Ptygmatic folds are maintain orthogonal thickness and straight axial plane	FALSE	1.5	CO2
The material movement of rupter with get high strees experienced in ..strength	Flexural	1.5	CO3
The magnitude of the stress is equall in all direction in	Uniaxial stress	1.5	CO3
The elastic and brittle deformation in fault is not due to seismic activity	FALSE	1.5	CO3
The underdrained shear strength of soil is characterised by only	Cohesion	1.5	CO3
The San Gabriel basin is example of Transtentional basin	TRUE	1.5	CO3
Erosion surfaces within a conformable succession of strata	Diastem	1.5	CO3
In uniaxial stress how many non-zero principle stress axis exist	one	1.5	CO3
The formation of pillow lava indicates what type of eruption	Sub marine	1.5	CO3
The Appalachain Mountains are good examples of non plunging folds	FALSE	1.5	CO3
The S1 is compensated by S3 so that no change is S2 strain is in	Plain strain	1.5	CO3
Dip of a bed is a vector quantity measurement of magnitude only	FALSE	1.5	CO4
Due to accumulation of stress in the fault causes sudden movement and unstable friction is	Stick slip	1.5	CO4
The several branching of fault planes into splintering is also called Splays	TRUE	1.5	CO4
All impervious boundarly lines are	Flow line	1.5	CO4
"The thickness of map shows drilled interval, irrespective of the amount of dip is"	Isochore	1.5	CO4

The styollitic structure is due to	Diffusion	1.5	CO4
"Antidune deposition is occurring on the upstream, and erosion on the upstream side."	FALSE	1.5	CO4
The fault shows concave up geometry with steep dip near surface and flatten with depth	Listric	1.5	CO4
The pseudotachylite viens are formed along deep seated fault .zone	Subduction	1.5	CO4
Asymmetric troughs formed by fluid vortices or eddies (mini-tornadoes)	Flute cast	1.5	CO4
The plunge and pitch are equal when the beds are horizontal	FALSE	1.5	CO5
In Fault blocks shows microscopic irregulariies and imperfection in the contact zone is called	Asperities	1.5	CO5
The amount of apparent offset of a faulted surface is measured in a direction is called	Separation	1.5	CO5
The climing ripple are formed or characteristic of	All of these	1.5	CO5
Catenary ripples generate cross-laminae that are curvy but have a unidirectional swoop	TRUE	1.5	CO5
The non-erosional base of Klippes marks location is in reverse faults	FALSE	1.5	CO5
The joint propogation direction with rapid movement in the zone of joint is called as	Hackle mark	1.5	CO5
The closely spaced parting is called as fissility	TRUE	1.5	CO5
The Scrap faces retreat laterally in up-dip direction	FALSE	1.5	CO5
The structures occurs as an isolated feature in the earth.	Descrete	1.5	CO5
Note: Number of Main question are 5 and subdivided into 1o sub questions.			
Total Marks is 75 (each sub questions carries 1.5 Marks= 50X1.5=75)			

Q. 6a Find the line of intersection of plane **N30 E 55NW and N35W 65SW** using
Stereographic net.

6b Plot the lineation's is aligned with the following plunge and azimuth
directions ; a) **35 and 210, b) 40 and 150 c) 50 and 310 and d) 35 and 80**
(using Stereographic net).
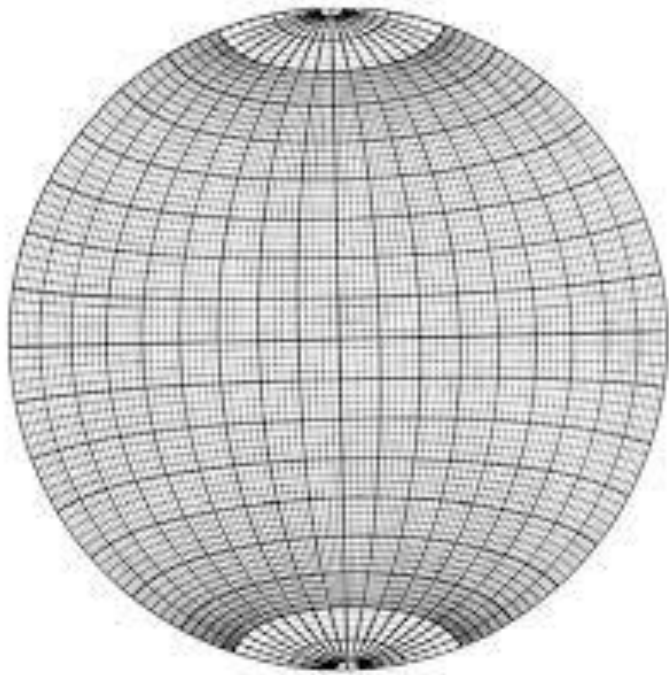
Q.6c Discuss in brief fold significance and classification based on Dip isogon, plunging and passive flow fold with neat sketch.
10 Marks