


Name:			
Enrolment No:			
UPES End Semester Examination, December 2023			
Program Name: B.Sc (Physics By Research) Course Name: Fundamentals of Geology Course Code: PEGS 1014 Nos. of page(s): 02		Semester : I Time : 3 hrs Max. Marks : 100	
Instructions: All Questions are compulsory. In section B, Question No. 8 has internal choice to attempt anyone. Similarly, In section C, Question No.10 has internal choice to attempt anyone.			
SECTION A (5Qx4M=20Marks)			
S. No.		Marks	CO
Q.1	Explain the Turbulent Hypothesis or the Protoplanet Hypothesis for the origin of the earth.	[4 Marks]	CO2
Q.2	Illustrate the application of mathematics in Geosciences.	[4 Marks]	CO1
Q.3	Discuss the first layer of troposphere and its significance.	[4 Marks]	CO2
Q.4	Distinguish between Isomorphism and Polymorphism of a mineral	[4 Marks]	CO3
Q.5	Illustrate the various stages of alteration forms from shale to gneiss with increasing temperature and pressure	[4 Marks]	CO3
SECTION B (4Qx10M= 40 Marks)			
Q.6	Distinguish between Sills and Dyke. Justify your answer with suitable diagram.	[10 Marks]	CO3
Q.7	Explain with figures the sedimentary structures of cross bedding and graded bedding.	[10 Marks]	CO3
Q.8	Describe the types of unconformity illustrating with suitable figures. OR, Describe the classification of faults on the basis of apparent movement of blocks	[10 Marks]	CO4
Q.9	Discuss the types of folds on the basis of the position of axial plane illustrating with suitable figures	[10 Marks]	CO4

SECTION C
(2Qx20M= 40 Marks)

Q.10 Explain five stratigraphic principles in detail. Supplement your answer with suitable diagrams.

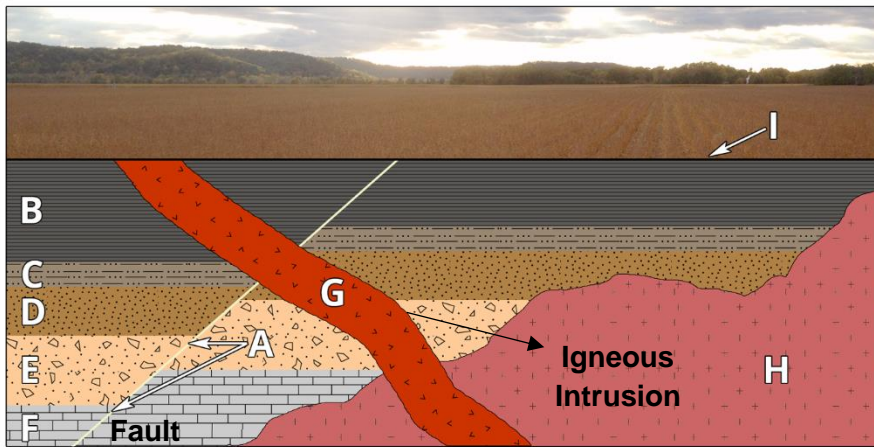
OR,

Explain in detail six modes of preservation of fossils.

[20 Marks]

CO4

Q.11 The figure below shows an imaginary sequence of rocks and geological events labeled as A to I. Derive your answer for the questions as below :



[20 Marks]

CO4

(Hint: “A” represents Fault, “G & H” represent igneous Intrusions)

Q.1 Applying the principle of superposition, arrange the sequence of beds from oldest to youngest.

Q.2. Interpret the type of fault marked as “A”.

Q.3. Note the surface marked as “I” - What does it signify ?

Q.4. Are the igneous intrusions marked as “G” & “H” younger or older than the rock beds (F to B)? Answer the question using the principle of cross – cutting relationship.

Q.5 Reconstruct the geological history of the events that took place in the area.