Name: **Enrolment No:**	

UPES

End Semester Examination, May 2024

Course: Igneous Petrology **Semester: II**
Program: B.Sc Geology **Time : 03 hrs.**
Course Code: PEGS1010 **Max. Marks: 100**

Instructions: Draw suitable sketch wherever necessary

SECTION A
(5Qx4M=20Marks)

Q 1	a. The two main mechanisms through which rocks melt are ---- and -------- b. With respect to silica percentage, two extreme types of magmas are -----& ----	**04**	**CO1**
Q 2	Mark True/ False a. Rhyolitic magmas are the most viscous one b. Rocks consisting of more than 90% mafic minerals are termed as Melanocratic c. Gabbro is devoid of quartz d. Plagioclase replaced by nepheline in nepheline-syenite	**04**	**CO2**
Q 3	a. Mutually touching phenocrysts in interstitial matrix give rise to ------- texture b. Xenoliths cause --------of magma. c. In CIPW, the input mineral composition must be in ----- form d. Plutons of area < 100 sq. km is known as ----------	**04**	**CO2**
Q 4	Define metastable region in crystallization of minerals	**04**	**CO1**
Q 5	Differentiate between myrmekite and ophitic texture	**04**	**CO2**

SECTION B
(4Qx10M= 40 Marks)

Q 6	With neat sketch explain the mechanism of flux melting a. Its preferable site of occurrence & b. Its role in magma generation.	**10**	**CO2**
Q 7	Can dykes be of sedimentary in origin, support/ oppose with suitable justifications	**10**	**CO3**
Q 8	Defend the statement "Reaction texture termed as Reaction structure".	**10**	**CO3**
Q 9	Support/ oppose the statement with suitable justification/ s that Sills are mostly basaltic and dioritic in composition. **OR** Elaborate the two factors responsible for diversity and variation in types of igneous rocks.	**10** **10**	**CO4**

SECTION-C (2Qx20M=40 Marks)			
Q 10	Using CIPW Norm, calculate the Salic and Femic minerals, their abundance, and the rock class. **The spreadsheet will be provided separately.**	**20**	**CO4**
Q 11	Using Ternary Diagram, define the Quintuple point & demarcate point for the below mentioned composition. The composition is as follows: Quartz: 20% Anorthite: 50% Enstatite: 30% **Sheets for the same will be provided separately and attach the sheet with answer script.**	**5+15**	**CO4**