1604N176

Candidate's Seat No :_____

M.Sc Semester-2 Examination

407

Geology

April-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Instructions: (i) Draw neat diagrams whenever necessary.
(ii) Write proper answer number.

Q-1		Describe all the elements of symmetry in detail.	**(14)**
		OR	
Q-1	**(a)**	Tetartohedral classes.	**(07)**
	(b)	Classes represented by 4 m m and 4/m.	**(07)**
Q-2		Discuss apatite, nepheline, tourmaline and phenacite types.	**(14)**
		OR	
Q-2	**(a)**	Classes represented by 2 m m and 2 2 2.	**(07)**
	(b)	Crystallographic notations.	**(07)**
Q-3		Explain crystal habit in detail.	**(14)**
		OR	
Q-3	**(a)**	Space groups.	**(07)**
	(b)	Twinning in cubic, triclinic and hexagonal systems.	**(07)**
Q-4		Write a critical note on crystal projections.	**(14)**
		OR	
Q-4	**(a)**	XRF in crystallography.	**(07)**
	(b)	History of X-ray crystal structure analysis.	**(07)**
Q-5		**Attempt any seven questions out of twelve.**	**(14)**
	(i)	Write the law of rational indices.	
	(ii)	Define axial ratio. State the axial ratio of zircon.	
	(iii)	Write H. M. symbol for magnetite and sphalerite.	
	(iv)	Draw stereographic projections for quartz.	
	(v)	Write about the characteristics of forms of clinohedral class.	
	(vi)	Name the minerals represented by triclinic system.	
	(vii)	Define space lattice. State the number of Bravais lattice.	
	(viii)	What are etch marks? How it is developed?	
	(ix)	Write about two irregularities found in crystals.	
	(x)	What is Laue diffraction pattern?	
	(xi)	Write the basic principle used in SEM.	
	(xii)	Give the full form of XRD. Give one use of it.	

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