

School of Basic Sciences**Bachelor of Science Honours in Chemistry
Semester End Examination - Jun 2024****Duration : 180 Minutes
Max Marks : 100****Sem II - C1UB203B - Chemistry of Group Elements***General Instructions**Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

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| 1) | Copper can be extracted by hydrometallurgy but not zinc. Why? | K1(3) |
| 2) | Illustrate 'the relative strengths of acids'. | K2(4) |
| 3) | Explain the Occurrence and uses, rationalization of inertness of noble gases. | K2(6) |
| 4) | Utilize why the Be different from other alkaline earth metals. | K3(6) |
| 5) | Utilize the oxo and Peroxo acids of sulfur. | K3(6) |
| 6) | Apply various types of silicates, their structure and classification. | K3(9) |
| 7) | Apply the structure, bonding, preparation, properties and uses. Borates, borohydrides (diborane) carboranes and graphitic compounds | K3(9) |
| 8) | Compare the principle of froth flotation process and wet cyanide process? What is the role of stabiliser and depressant ? Give one example each. | K4(8) |
| 9) | Analyze the hydrides. How are these classified? Give their chemistry. | K4(12) |
| 10) | Conclude the different oxides of nitrogen. Give the preparation, properties and structure of any two of them. | K5(10) |
| 11) | Justify the Ellingham diagram for the reduction of metal oxide to metals. | K5(15) |
| OR | | |
| | Justify the wet cyanide process and name the metal ions for which this process is used. | K5(15) |
| 12) | Discuss the types and structures of polyhalides. | K6(12) |
| OR | | |
| | Discuss the catenation and uniqueness of carbon to catenate. How does the catenation tendency vary in group 14 elements and why? | K6(12) |