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School of Basic Sciences

Master of Science in Chemistry
Mid Term Examination - Nov 2023

Duration : 90 Minutes
Max Marks : 50

Sem I - C1PK105B - Advanced Inorganic Chemistry and SpectroscopyGeneral 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

- 1) Summarize the reaction of diborane with ammonia? K2 (2)
- 2) Why borazine is called inorganic benzene? K1 (3)
- 3) Illustrate the oxoacides of nitrogen with suitable examples? K2 (4)
- 4) Explain the aluminosilicates with suitable examples? K2 (6)
- 5) Utilize the importance of Stark effect studies in microwave spectroscopy? K3 (6)
- 6) Apply the factors that affect vibrational frequency in IR? K3 (9)
- 7) Compare the different types of vibrational modes with suitable examples? K4 (8)
- 8) Predict the importance of group frequency region with suitable examples? K4 (12)

OR

- Predict the three vibrational modes of H₂O with diagram? K4 (12)