

School of Basic Sciences

Master of Science in Chemistry
Semester End Examination - Jun 2024

Duration : 180 Minutes
Max Marks : 100

Sem II - C1PK204B - Techniques in Analytical ChemistryGeneral 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) | Explain the factors affecting the solute separation in column chromatography . | K1(3) |
| 2) | Explain the benfitres of electrolytic exreaction with examples. | K2(4) |
| 3) | Chose the commonly used detector in Gas chromatography and explain it with suitable diagram. | K2(6) |
| 4) | Discuss Red shift and blue shift in UV spectroscopy | K3(6) |
| 5) | Discuss hyperchromic and hypochromic shift in UV spectroscopy | K3(6) |
| 6) | Describe advantages and disadvantages of packed and open tubular columns in gas chromatography. | K3(9) |
| 7) | Discuss the formula to calculate the enthalpy of reaction using thermometric titration | K3(9) |
| 8) | Explain how we can separate following 1.Amines 2.Carboxylic acids 3.Phenols 4.Neutral organic compound from a mixture by chemical action. | K4(8) |
| 9) | Analyze the various phenomena causing changes in DTA by heat /temp change. | K4(12) |
| 10) | Illustrate molecular luminescence spectroscopy. Draw schematic diagram | K5(10) |
| 11) | Explain the instrumentation of thermometric titration techniqtie.. | K5(15) |
| OR | | |
| | Diffrenciate between EDXRF and WDXRF spectroscopy. | K5(15) |
| 12) | Compare instrumentation and thermogram of DTA and DSC | K6(12) |
| OR | | |
| | Illustrate thermometric neutralization titration. Also explain titration curve for weak acid vs strong base | K6(12) |