

Government of Karnataka
Commissionerate of Pre-University Education
II PUC Chemistry Practicals

EXPERIMENTS FOR CHEMISTRY PRACTICAL EXAMINATION

Time: 2 Hrs.

Total Marks: 30

Q-I	Salt analysis Analyse the given simple inorganic salt systematically and report one acid radical and one basic radical .	10 marks
Q-II	Titration (Volumetric Analysis) Estimate the Molarity of KMnO₄ solution using given standard (0.1M) FAS solution. (procedure of the titration should be given).	10 marks
Q-III	Viva on tests for functional groups in organic compounds:	4 marks
IV	Submission of the duly completed and certified record	6 marks
	TOTAL	30 marks

SCHEME OF VALUATION

Time: 2 Hrs.

Total Marks: 30

Q-I	<p>Salt analysis (10 Marks)</p> <p>i) Preliminary tests (any two correct) 1 mark</p> <p>ii) Detection of Acid radical (4 Marks)</p> <p style="padding-left: 20px;">Group detection (correct group identification – 1 mark correct radical identification – 1 mark) 2 marks</p> <p style="padding-left: 20px;">Confirmatory test 2 marks</p> <p>iii) Detection of Basic radical (4 Marks)</p> <p style="padding-left: 20px;">Group detection (correct group identification – 1 mark correct radical identification – 1 mark) 2 marks</p> <p style="padding-left: 20px;">Confirmatory test 2 marks</p> <p style="padding-left: 20px;">For writing systematic procedure with absence of previous groups 1 mark</p>	10																		
Q-II	<p>Titration (10 Marks)</p> <p>i) For performing the experiment 3 marks</p> <p style="padding-left: 20px;">For recording the readings in the tabular column 1 mark</p> <p>ii) For accuracy of the Titre value 3 marks</p> <p style="padding-left: 20px;">up to ± 0.3 mL error 3 marks</p> <p style="padding-left: 20px;">± 0.4 mL error 2 marks</p> <p style="padding-left: 20px;">± 0.5 mL 1 mark</p> <p style="padding-left: 20px;">≥ 0.6 mL & above 0 mark</p> <p>iii) Calculations of Molarity (2 marks)</p> <p style="padding-left: 20px;">a. Formula 1 mark</p> <p style="padding-left: 20px;">b. Substitution and answer (1+1) 2 mark</p>	10 marks																		
Q-III	<p>Viva on functional group in organic compound (2 marks)</p> <p>Four questions, two each on any two functional groups (1x4)</p>	4 marks																		
IV	<p>Record</p> <p>Submission of the duly completed and certified record</p>	6 marks																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Sl.No</th> <th style="width: 45%;">% of experiments performed and recorded</th> <th style="width: 45%;">Maximum marks to be awarded</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">$\geq 91\%$</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">$\geq 81\%$ to 90%</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">$\geq 71\%$ to 80%</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Between 41% and 70%</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">40% & below 40%</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>	Sl.No	% of experiments performed and recorded	Maximum marks to be awarded	1	$\geq 91\%$	6	2	$\geq 81\%$ to 90%	5	3	$\geq 71\%$ to 80%	4	4	Between 41% and 70%	3	5	40% & below 40%	0	<p>30</p> <p>TOTAL marks</p>
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5	40% & below 40%	0																		

Note:

a) The **following salts** are suggested to be given for analysis for practical examination: **NH₄Br, NH₄Cl, Al₂(SO₄)₃, MnSO₄, ZnSO₄/ ZnCO₃, CaCO₃, BaCl₂/ Ba(NO₃)₂, Sr(NO₃)₂/ SrCl₂, MgSO₄/ MgCO₃.**

b) For viva:

Functional group	Tests
Alcohol	Ceric ammonium nitrate test and Lucas test
Phenol	Neutral ferric chloride, phthalein dye test
Aldehydes and ketones	2, 4 – DNPH and Tollen’s reagent test
Carboxylic acid	Litmus test, sodium bicarbonate test, esterification
Primary amine	Carbylamine test, azo dye test

c) **Inorganic salts** and test for **organic compounds** other than the mentioned above but given in the prescribed manual can be given to students in regular practical class for practice.

d) All experiments as mentioned in the II PUC practical manual are to be conducted and recorded.