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POST GRADUATE PROGRAMME

1. At each of the Previous and Final Year Examination in a subject, a candidate must obtain for a pass (i) at least 36 % marks of the aggregate marks in all the papers prescribed at the examination, and (ii) atleast 36% marks in practical, wherever prescribed, at the examination; provided that if a candidate fails to secure 25% marks in each individual paper of theory at any of the examination and also in the Dissertation; wherever prescribed, he/she shall be deemed to have failed at the examination, notwithstanding his/her having obtained the minimum percentage of marks required in the aggregate for the examination. Division will be awarded at the end of the Final Examination of the combined marks obtained at the Previous and the Final Examinations taken together as noted below. No Division will be awarded at the Previous Examination.

First Division	: 60 Percent	of the total aggregate
Second Division	: 48 Percent	marks of Previous and
Third Division	: 36 Percent	Final year taken together

Note : The candidate is required to pass separately

2. Dissertation may be offered by regular students only in lieu of one paper of Final Year Examination as prescribed in the syllabus of the subject concerned. Only such candidates will be permitted to offer dissertation who have secured atleast 50% marks in the aggregate at the previous examination.

Note: Dissertation shall be type-written and shall be submitted in triplicate, so as to reach the Controller of Examinations atleast two weeks before the commencement of Examination.

3. There shall be atleast eight theory in Post-Graduate Examination, 4 in Previous and 4 in Final year examinations of 100 marks each unless and otherwise prescribed. The non-credit papers wherever prescribed will remain as such. The marks of these non-credit papers will not be counted for division but passing in the same is compulsory.

4. Each theory paper will be of three hours duration.

5. Wherever practicals are prescribed the scheme will be included in the syllabus.

6. A candidate who has completed a regular course of study for one academic year and Passed M.A. / M.Sc./ M.Com. Previous Examination of the university shall be admitted to the Final Year Examination for the degree of Master of Arts / Master Of Science / Master of Commerce provided that he / she has passed in atleast 50% of the papers at the previous examination by obtaining atleast 36% marks in each such paper.

(a) For reckoning 50% of the papers at the previous examination, practical will be included and one practical will be counted as one paper.

(b) Where the number of papers prescribed at the previous examination is an odd number it shall be increased by one for the purpose of reckoning 50% of the paper.

(c) Where a candidate fails for want of securing minimum aggregate marks but secured 36% marks in atleast 50% of the papers, he/she will be exempted from re-appearing in those papers in which he/she has secured 36% marks.

(d) Where the candidate secures requisite minimum percentage in the aggregate of all the papers but fails for want of the requisite minimum percentage of marks prescribed for each individuals paper he/she shall be exempted from re-appearing in such paper (s) in which he / she has secured atleast 25% marks.

7. A candidate who has declared fail at the Final Year Examination for the degree of Master of Science / Arts, Commerce shall be exempted

from re-appearing in a subsequent year in the following papers :

(a) Where a candidate fails for want of securing the minimum percentage in the aggregate marks, he/she shall be exempted from re-appearing in such paper (s) Practical (s). Dissertation in which he/she has secured atleast 36% marks; provided he/she is passing in atleast 55% of the papers. (Here passing in each paper requires 36% marks).

(b) Where a candidate secures the minimum requisite including dissertation wherever prescribed but fails for want of minimum percentage of marks prescribed for in each individual paper / dissertation, he / she shall be exempted from reappearing in such paper (s) dissertation in which he/she has secured atleast 25% marks provided he/she is passing in atleast 50% of the paper (here passing in each paper requires 25% marks)

M.Sc. (PREVIOUS) CHEMISTRY, 2007-2008

The examination shall consist of four theory papers and one practical.

Paper & Course		Hrs/week	M. Marks
Paper-I	Inorganic Chemistry	4	100
Paper-II	Organic Chemistry	4	100
Paper-III	Physical chemistry	4	100
Paper-IV	Recent Trends in Chemistry	4	100
Practicals	**(Three groups) 18 (per group)**		**200**

PAPER-I
INORGANIC CHEMISTRY

Time : 3 Hrs. **M.M. 100**

Note: The paper will be divided into THREE sections.

Section-A : Ten questions (short type answer) two from each Unit will be asked. Each question will be of one mark and the candidates are required to attempt all questions. **Total 10 marks**

Section-B : Five questions (answer not exceeding 250 words) one from each Unit with internal choice will be asked and the candidates are required to attempt all questions. Each question will be of 10 marks.
Total 50 marks

Section-C : Four questions may be in parts covering all the five Units (answer not exceeding 500 words) will be asked. The candidates are required to attempt any TWO questions. Each question will be of 20 marks.
Total 40 marks

UNIT-I

Metal ligand bonding - Limitations of CFT, Ligand field theory, MOT-octahedral, tetrahedral and square planar complexes, MO theory & π-bonding, correlation (Walsh diagrams) dπ - pπ bonding.

Electronic spectra of transition metal complexes- Spectroscopic ground states, Orgel and Tanabe - Sugano diagram (d^1 to d^9 states), calculation of Dq, B and b parameters, charge transfer spectra

UNIT-II

Metal π- complexes - I – Carbonyls, structure and bonding, use of vibrational spectra of metal carbonyls for bonding and structure elucidation, types of carbonyls, their preparations and important reactions.

UNIT-III

Metal π- complexes - II - Preparation, bonding, structure and important reactions of transition metal nitrosyls, dinitrogen and dioxygen complexes.

UNIT-IV

Boranes - Preparation and important reactions, electron deficient characters of boranes, structure and bonding in boranes, concept of multicentric bonding and M.O description, Lipscomb concept of bonding elements, semitopological description of s, t, y and x nomenclature.

Silicones - Preparation, properties and structure of silicones , their industrial and technical importance.

UNIT-V

Sulphur-Nitrogen compounds - Preparation, properties of tetrasulphur tetranitride, disulphur dinitride, polythiozyl and other sulphonitrides, sulphur imides.

Phosphorus- Nitrogen compounds - Linear and cyclic polymers, their synthesis and reactions, structure and bonding, Allock's skeletal π—bonding concept.