



**M. B. MORE FOUNDATION'S  
ARTS, COMMERCE & SCIENCE WOMEN COLLEGE**

Affiliated to Mumbai University

**Under & President : Hon. Mr. Vijayrao Mahadevrao More**

**ESTD 2012**

Outward No.

Date :

**Program Outcomes (PO's) Of Bachelor Of Science (B.Sc.)**

Students taking admission to this program of B.Sc. are expected to get equipped with following outcomes:

- 1) Explaining the basic scientific principles and methods.
- 2) Inculcating scientific thinking and awareness among the student.
- 3) Ability to communicate with others in regional language and in English.
- 4) Ability to handle the unexpected situation by critically analyzing the problem.
- 5) Understanding the issues related to nature and environmental contexts and sustainable development.


**Program Specific Outcomes (PSO's) Of B.Sc.(Botany)**

- 1) Identifying different resources helpful for human life.
- 2) Identifying different groups of plants.
- 3) Acquiring knowledge about inheritance, biochemical and metabolic activities.
- 4) Development of horticultural skill.
- 5) Acquiring knowledge about importance of environment.

**Program Specific Outcomes (PSO's) Of B.Sc.(Chemistry)**

- 1) Creating interest in environmental issue.
- 2) Increasing working knowledge of instruments.
- 3) Obtaining the knowledge of pharmaceutical tables.
- 4) Social awareness about the quality of water.
- 5) Increasing the practical skill of the students.
- 6) Awareness about plastic garbage.



  
I/C PRINCIPAL  
M.B. More Foundation's  
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ALPo. Dhatav, Tal.-Roha, Dist.-Raigad.


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**Programme : Bachelor of Science (B.Sc.)**

Sr. No.	Class	Course	Course Outcomes (COs)
1	F.Y.B.Sc. (Sem I)	Chemistry Paper I : (Phy & Inorg Chemistry) USCH101	<ul style="list-style-type: none"> <li>➤ Students can understand the thermodynamic terms and its applications and Compute Concentration in various forms.</li> <li>➤ They can understand the atomic structure evolution and basic Explain Periodic Properties.</li> <li>➤ Elaborate IUPAC rules of naming of organic compounds and discuss reaction mechanism.</li> </ul>
2	F.Y.B.Sc. (Sem I)	Chemistry Paper II : (Inorg & Org Chemistry) USBO102	<ul style="list-style-type: none"> <li>➤ They can learn how to count the rate of reaction and also they understood properties of liquids.</li> <li>➤ Outlines the properties of main groups elements a, also state environmental properties of Oxides and Oxyacids of N &amp; S.</li> <li>➤ To understand the basic stereochemistry such as different projection formulae, its interconversion and optical activity.</li> </ul>
3	F.Y.B.Sc. (Sem II)	Chemistry Paper I : (Phy & Inorg Chemistry) USCH201	<ul style="list-style-type: none"> <li>➤ Discuss the laws of gases and determine Equilibrium and thermodynamic parameters.</li> <li>➤ To learn what are the concepts of qualitative analysis as well as to learn basic theories of Acid.</li> <li>➤ Carbon-Carbon sigma and pi bonding and reactions of alkene and alkynes.</li> </ul>
4	F.Y.B.Sc. (Sem II)	Chemistry Paper II : (Inorg & Org Chemistry) USBO202	<ul style="list-style-type: none"> <li>➤ To understand the different types of buffer solutions, its pH. Also to understand the electromagnetic spectrum.</li> <li>➤ Outline chemical bonding and reactivity and Describe redox chemistry.</li> <li>➤ To understand aromaticity and three dimensional model of molecules.</li> </ul>
5	S.Y.B.Sc. (Sem III)	Chemistry Paper I : (General Chemistry) USCH301	<ul style="list-style-type: none"> <li>➤ To learn the partial molal properties as well as conductivity and resistivity.</li> <li>➤ To learn MOT and non-directional and directional bonding.</li> <li>➤ To study the synthetic methods and applications of alcohol, phenol, epoxide and halogenated compounds (Aromatic halides)</li> </ul>

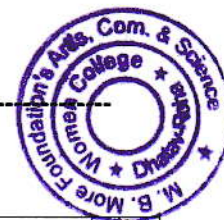
  
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6	S.Y.B.Sc. (Sem III)	Chemistry Paper II : (General Chemistry) USCH302	<ul style="list-style-type: none"><li>➤ They can understand theories of reaction kinetics.</li><li>➤ They are understand chemistry of p block elements and classifications of silicon and germanium w.r.t their reactivity.</li><li>➤ Generalise nucleophilic addition reaction mechanism and examine reactivity of active methylene compounds.</li></ul>
7	S.Y.B.Sc. (Sem III)	Chemistry Paper III : (Introduction to Analytical Chemistry) USCH303	<ul style="list-style-type: none"><li>➤ Discuss the role of analytical chemistry in various fields and apply method of sampling and statistical treatment of data.</li><li>➤ demonstrate classical methods of analysis and identify suitable gravimetric or volumetric method</li><li>➤ Appreciate basic terms in spectroscopy and summarises various instrumental method of analysis.</li></ul>
8	S.Y.B.Sc. (Sem IV)	Chemistry Paper I : (General Chemistry) USCH401	<ul style="list-style-type: none"><li>➤ Understand phase equilibrium and distinguish between reversible and irreversible cell</li><li>➤ compare transition metal chemistry and properties of coordination compounds</li><li>➤ Explain reactivity of carboxylic and sulphonic acids.</li></ul>
9	S.Y.B.Sc. (Sem IV)	Chemistry Paper II : (General Chemistry) USCH402	<ul style="list-style-type: none"><li>➤ Appreciate terms in crystallography and explain the concepts of catalysis</li><li>➤ demonstrate uses of environmental chemistry</li><li>➤ show the chemistry of nitrogen containing heterocycles and preparation and uses of diazonium salt.</li><li>➤ Prepare and use of diazonium salts.</li></ul>
10	S.Y.B.Sc. (Sem IV)	Chemistry Paper III : (Introduction to Analytical Chemistry) USCH403	<ul style="list-style-type: none"><li>➤ They understood the types of separation methods and also utilise statistical method of data analysis</li><li>➤ Appreciate nature need and importance of pH</li><li>➤ Computation of confidence limit and confidence interval</li></ul>



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11	T.Y.B.Sc. (Sem V)	Chemistry Paper I : (Physical Chemistry) USCH501	<ul style="list-style-type: none"> <li>➤ Students became familiar with rotational and vibrational spectrum for diatomic molecules and concept of Raman Spectroscopy.</li> <li>➤ They can learn about colligative property, and their determination methods. They also understand the concept of collision theory, study of kinetics of fast reaction.</li> <li>➤ They can know the concept of radioactivity, detection and measurement of radioactivity using counters, application of radioisotopes, nuclear reaction, construction and working of nuclear reactors.</li> <li>➤ Idea about surface chemistry and colloidal state.</li> </ul>
12	T.Y.B.Sc. (Sem V)	Chemistry Paper II : (Inorganic Chemistry) USCH502	<ul style="list-style-type: none"> <li>➤ Student can learn about molecular symmetry and chemical bonding. They also know the concept of point group.</li> <li>➤ Can understand crystal, lattice point, unit cell and lattice constants. Further, understand defects in solids and concept of superconductors.</li> <li>➤ They can learn about various properties and application of inner transition elements.</li> <li>➤ They can learn the classification and characteristics of non-aqueous solvents, comparative chemistry of Group-16 and 17.</li> </ul>
13	T.Y.B.Sc. (Sem V)	Chemistry Paper III : (Organic Chemistry) USCH503	<ul style="list-style-type: none"> <li>➤ Students can draw the mechanism of reaction, pericyclic reaction and photochemical reaction.</li> <li>➤ They know about stereochemistry of organic compounds, agrochemicals and heterocyclic chemistry.</li> <li>➤ They can write the IUPAC nomenclature of bicyclic and spiro compounds. Further, they can learn about green chemistry.</li> <li>➤ Student can familiarize with general introduction of spectroscopy and natural product.</li> </ul>

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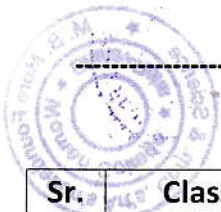


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14	T.Y.B.Sc. (Sem V)	Chemistry Paper IV : (Analytical Chemistry) USCH504	<ul style="list-style-type: none"> <li>➤ Student can understand the concept of quality control, quality assurance and sampling</li> <li>➤ They can know the concept of Redox and Complexometric titrations</li> <li>➤ To learn instrumentation technique like AAS, Tubidimetry, Nephelometry etc.</li> <li>➤ They understand the separation method such as solvent extraction, HPLC and HPTLC</li> </ul>
15	T.Y.B.Sc. (Sem V)	Applied Component : Drugs & dyes USADDO5	<ul style="list-style-type: none"> <li>➤ Student can learn general introduction about drug, routes for drug administration and dosage form and CNS drugs.</li> <li>➤ They can know about the analgesic, antipyretics and anti-inflammatory drug.</li> <li>➤ Student familiarize with the general knowledge of dye-stuff industry, different dyeing methods and classification of dyes.</li> <li>➤ Learner can understand the colour and chemical constitution of dyes, unit processes and dyes intermediates.</li> </ul>
16	T.Y.B.Sc. (Sem VI)	Chemistry Paper I : (Physical Chemistry) USCH601	<ul style="list-style-type: none"> <li>➤ Student can understand the concept of electrochemical cells, classification of electrochemical cells, decomposition potential and overvoltage.</li> <li>➤ They can know the basic terms, classification, molar mass of polymer and its uses in light emitting polymers, antioxidants and stabilizers.</li> <li>➤ Students can understand the basic knowledge of quantum chemistry and renewable energy sources.</li> <li>➤ They learn the principles and instrumentations of NMR and ESR spectroscopy.</li> </ul>

  
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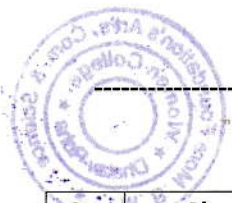
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17	T.Y.B.Sc. (Sem VI)	Chemistry Paper II : (Inorganic Chemistry) USCH602	<ul style="list-style-type: none"> <li>➤ Student can understand the concept of Crystal Field Theory ( CFT), Splitting of D-orbitals, calculation of CFSE and limitation of CFT.</li> <li>➤ They can learn the molecular orbital theory of co-ordination compounds, stability and reactivity of metal complexes. Introduction about electronic spectra.</li> <li>➤ Students can know the characteristics, synthetic methods, chemical reactions of organometallic compounds. Further, introduction of concept of metallocenes and catalysis.</li> <li>➤ They learn the types of general steps in metallurgy and chemistry of group 18. Also know the biological importance of metal ions ( Na, K, Fe, Cu.)</li> </ul>
18	T.Y.B.Sc. (Sem VI)	Chemistry Paper III : (Organic Chemistry) USCH603	<ul style="list-style-type: none"> <li>➤ They can know the structure of amino acid and proteins.</li> <li>➤ Students can learn about mechanism of various rearrangement reaction. Further, They also get the knowledge about carbohydrates.</li> <li>➤ They can understand different types of spectroscopy and their applications to organic compounds. Moreover, they know the basic structure DNA/RNA.</li> <li>➤ They get familiarize the classification and preparation of polymers, applications of catalyst and reagents.</li> </ul>
19	T.Y.B.Sc. (Sem VI)	Chemistry Paper IV : (Analytical Chemistry) USCH604	<ul style="list-style-type: none"> <li>➤ Students can understand the basic principles of Polarography, DC Polarogram, quantification, applications, advantages and limitations. Principle, advantage and limitations of amperometric titrations.</li> <li>➤ They can learn the chromatographic technique such as Gas and Ion exchange chromatography.</li> </ul>

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20			<ul style="list-style-type: none"> <li>➤ Students acquire the knowledge analysis of food product and detection of adulterants.</li> <li>➤ Study of cosmetic products.</li> <li>➤ Students can know the instrumentation, application of TGA, DTA. Thermometric titration and analytical method validation.</li> </ul>
21	T.Y.B.Sc. (Sem VI)	Applied Component : Drugs & dyes USADDO6	<ul style="list-style-type: none"> <li>➤ Student get familiarize with the drugs discovery, drug design and its developments.</li> <li>➤ They can know about chemotherapeutic agents such as Anti-amoebic, anti-tubercular, anti- neoplastic, anti-HIV, and nano particles in medicinal chemistry.</li> <li>➤ Student can learn about classification of dyes and environmental hazardous of synthetic dyes.</li> <li>➤ They can understand the non-textile uses of dyes such as biomedical, food and cosmetics. Further, paper, leather, hair, laser and indicator, dyes.</li> </ul>

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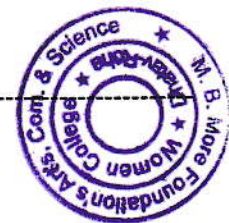
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1	F.Y.B.Sc. (Sem I)	Botany Paper I : (Plant Diversity I) USBO101	➤ On completion of the course, students are able to understand classification and diversity among the lower cryptogames.
2	F.Y.B.Sc. (Sem I)	Botany Paper II : (Form & function I) USBO102	➤ Student will learn nature and functions of cell and cell organelle, ecological aspects and understand the basic genetic principle.
3	F.Y.B.Sc. (Sem II)	Botany Paper I : (Plant Diversity I) USBO201	➤ Students are able to understand interesting world and morphological variations with its identification of Gymnosperms and Angiosperms.
4	F.Y.B.Sc. (Sem II)	Botany Paper II : (Form & function I) USBO202	➤ Students get basic knowledge of plant anatomy, photosynthetic processes, and students learn concepts primary and secondary metabolites with its uses in living body.
5	S.Y.B.Sc. (Sem III)	Botany Paper I : (Plant Diversity II) USBO301	➤ Resolve the concepts of identification and classification of Fungi, Algae, Bryophytes and Angiosperms.
6	S.Y.B.Sc. (Sem III)	Botany Paper II : (Form & function II) USBO302	➤ Students know basic of laboratory techniques like microscopy and separation techniques. Cell biology gives deep knowledge of cell division, growth and development.
7	S.Y.B.Sc. (Sem III)	Botany Paper III : (Current trends in plant sciences I) USBO303	➤ Forestry and economic botany give idea about the bioprospecting of plants in life and students enhance their knowledge in pharmacognosy and basic processes of molecular biology

  
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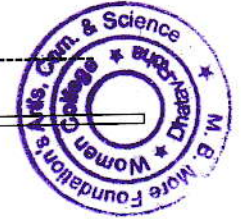
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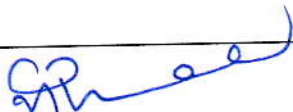
Sr. No	Class	Course	Course Outcomes (COs)
8	S.Y.B.Sc. (Sem IV)	Botany Paper I : (Plant Diversity II) USBO401	➤ Learners get deep knowledge about fungi, plant diseases with host, Pteridophytes and gymnosperms.
9	S.Y.B.Sc. (Sem IV)	Botany Paper II : (Form & function II) USBO402	➤ Students are able to learn about Anatomy, Physiological Processes of plants and understand ecological and environmental aspects.
10	S.Y.B.Sc. (Sem IV)	Botany Paper III : (Current trends in plant sciences I) USBO403	➤ Students will understand botanical garden and its types, Design, basic requirements and principles of plant tissue culture with respect to its applications, emerging rDNA technological tools, with use of Biostatistics.
11	T.Y.B.Sc. (Sem V)	Botany Paper I : (Plant diversity III) USBO501	➤ To know the concept, principles and importance of sterilization, learn to develop pure culture of bacteria and fungi, plant-pathogen interaction. Study morphological variations in algae.
12	T.Y.B.Sc. (Sem V)	Botany Paper II : (Plant diversity IV) USBO502	➤ This paper gives brief ideas about fossil plants and their relationship with living plants, pollen study of flowering plants.
13	T.Y.B.Sc. (Sem V)	Botany Paper III : (Form & function III) USBO503	➤ From this students will be definitely understand basic and fundamental processes of molecular biology and transport mechanism in plants.
14	T.Y.B.Sc. (Sem V)	Botany Paper IV : (Current trends in plant sciences II) USBO504	➤ On completion of this course students are able to understand the medicinal botany and know about medicinal plants used by tribal people. Pharmacognosy and medicinal botany provide valuable knowledge of monograph of drugs with reference to their biological source.
15	T.Y.B.Sc. (Sem V)	Applied Component : Horticulture and gardening I USACHO5	➤ It promotes the profession of horticulture and enhance professionalism of those who are interested working in horticulture industry and garden practices.

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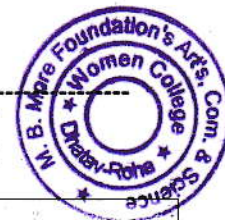


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16	T.Y.B.Sc. (Sem VI)	Botany Paper I : (Plant diversity III) USBO601	➤ The syllabi of this paper increases depth of knowledge about characters, morphology, classification life cycles, economical importance Bryophytes, Pteridophytes and Gymnosperms.
17	T.Y.B.Sc. (Sem VI)	Botany Paper II : (Plant diversity IV) USBO602	➤ It enhance very deep observation about important angiospermic families with respect to their classification, ecological anatomy and embryology. This course also covers very important aspects of biostatistics which will much needed for further research.
18	T.Y.B.Sc. (Sem VI)	Botany Paper III : (Form & function III) USBO603	➤ The units of this paper covers very important basic physiological functional process of plants like nitrogen metabolism with introduction of Biomolecules and also focuses on very important genetics concepts and genetic disorders.
19	T.Y.B.Sc. (Sem VI)	Botany Paper IV : (Current trends in plant sciences II) USBO604	➤ Students learn the emerging tools and techniques in steams of plant sciences as in the biotechnology lesion. And gain the knowledge about economic botany and phytogeographical regions.
20	T.Y.B.Sc. (Sem VI)	Applied Component : Horticulture and gardening I USACHO6	➤ On the completion of this course learner understand the principles of gardening, floriculture and post-harvest production of fruits, study of aromatic and medicinal plants gives their importance of utilization in day today life.


  
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1	F.Y.B.Sc. (Sem I)	Zoology Paper I USZO101	<ul style="list-style-type: none"> <li>➤ Curiosity will be ignited in the mind of learners, to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology</li> <li>➤ Learners would appreciate treasure of Biodiversity, its importance and hence would contribute their best for its conservation</li> <li>➤ Minds of learners would be impulsed to think differently and would be encouraged ipso facto to their original crude ideas from the field of biological sciences</li> </ul>
2	F.Y.B.Sc. (Sem I)	Zoology Paper II USZO102	<ul style="list-style-type: none"> <li>➤ Learners would work safely in the laboratory and avoid occurrence of accidents (mishaps) which will boost their scholastic performance and economy in use of materials/chemicals during practical sessions.</li> <li>➤ Learners would understand recent advances in the subject and their applications for the betterment of mankind; and that the young minds would be tuned to think out of the box</li> <li>➤ Students will be skilled to select and operate suitable instruments for the studies of different components of Zoology of this course and also of higher classes including research.</li> </ul>
3	F.Y.B.Sc. (Sem II)	Zoology Paper I USZO201	<ul style="list-style-type: none"> <li>➤ It would allow learners to study about nature of animal population, specific factors affecting its growth and its impact on the population of other life form.</li> <li>➤ Learners will grasp the concept of interdependence and interaction of physical, chemical and biological factors in the environment and will lead to better understanding about implications of loss of fauna specifically on human being, erupting spur of desire for conservation of all flora and fauna.</li> </ul>

  
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			<ul style="list-style-type: none"> <li>➤ Learners would be inspired to choose career options in the field of wild life conservation, research, photography and ecotourism</li> </ul>
4	F.Y.B.Sc. (Sem II)	Zoology Paper II USZO 202	<ul style="list-style-type: none"> <li>➤ Healthy dietary habits would be inculcated in the life style of learners in order to prevent risk of developing health hazards in younger generation due to faulty eating habits.</li> <li>➤ Promoting optimum conservation of water, encouragement for maintaining adequate personal hygiene, optimum use of electronic gadgets, avoiding addiction, thus facilitating achievement of the goal of healthy young India in true sense.</li> <li>➤ Learners will be able to promptly recognize stress related problems at initial stages and would be able to adopt relevant solutions which would lead to psychologically strong mind set promoting positive attitude important for academics and would be able to acquire knowledge of cause, symptoms and precautions of infectious diseases</li> </ul>

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