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UNIVERSITY OF MUMBAI

No. UG/193 of 2017-18

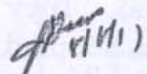
CIRCULAR:-

A reference is invited to the syllabi relating to the Bachelor of Science (B.Sc.) Programme vide this office Circular No.UG/372 of 2009, dated 25th September, 2009 and the Principals of the affiliated Colleges in Science and the Heads of the recognized Science Institutions concerned are hereby informed that the proposal received from Chairperson, Board of Studies in Botany has been accepted by the Academic Council at its meeting held on 11th May, 2017 vide item No.4.213 and that in accordance therewith, the revised syllabus as per the (CBCS) of S.Y.B.Sc. Botany - Paper - I (Sem -III), which is available on the University's website (www.mu.ac.in) and that the same has been brought into force with effect from the academic year 2017-18, accordingly.

MUMBAI - 400 032

9th August, 2017

To


(Dr.M.A.Khan)
REGISTRAR

The Principals of the affiliated Colleges in Science and the Heads of the recognized Science Institutions concerned.

A.C/4.213/11/05/2017

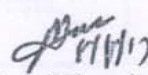
No. UG/ 193 -A of 2017

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9th August, 2017

Copy forwarded with Compliments for information to:-

- 1) The Co-ordinator, Faculty of Science,
- 2) The Chairman, Board of Studies in Botany,
- 3) The Offg. Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Co-Ordinator, University Computerization Centre,
- 6) The Professor-cum-Director, Institute of Distance and Open Learning (IDOL),


(Dr.M.A.Khan)
REGISTRAR

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Syllabus for the S.Y.B.Sc. Program: B.Sc. Course:BOTANY

SEMESTER III THEORY

Course Code	Title	Credits
USBO301	PLANT DIVERSITY	2 Credits (45 lectures)
<u>Unit I : Thallophyta (Algae) & Bryophyta</u> <ul style="list-style-type: none"> • General Characters of Division Phaeophyta: Distribution, Cell structure, range of thallus, Economic Importance. • Structure, life cycle and systematic position of <i>Sargassum</i> • General Account of Class Anthocerotae and Musci • Structure, life cycle and systematic position of <ul style="list-style-type: none"> ○ <i>Anthoceros</i> ○ <i>Funaria</i> 		15 Lectures
<u>Unit II: Angiosperms</u> Systematics: Objectives and Goals of Plant systematic <ul style="list-style-type: none"> • Plant Nomenclature • Taxonomy in relation to <ul style="list-style-type: none"> Anatomy Palynology Chemical constituents Embryology Cytology Ecology ○ With the help of Bentham and Hooker's system of Classification for flowering plants study the vegetative, floral characters and economic importance of the following families: <ul style="list-style-type: none"> ○ Leguminosae ○ Asterace ○ Amaranthaceae ○ Palmae 		15 Lectures
<u>Unit III :Modern Techniques to Study Plant Diversity</u> Preservation methods :Dry and Wet method <ul style="list-style-type: none"> • Microscopy – Principle and working of Light, and electron microscope. • Chromatography- Principles and techniques in paper and thin layer chromatography. • Principles and techniques of Horizontal and Vertical electrophoresis. 		15 Lectures

Syllabus for the S.Y.B.Sc. Program: B.Sc.Course : BOTANY

SEMESTER III PRACTICAL

Semester III USBOP3 PRACTICAL Paper I – Plant Diversity II	Cr 1
<p>Algae & Bryophyta</p> <ol style="list-style-type: none">1. Study of stages in the life cycle of <i>Sargassum</i> from fresh/ preserved material and permanent slides.2. Economic importance and range of thallus in Phaeophyta3 Study of stages in the life cycle of <i>Anthoceros</i> from fresh/ preserved material and permanent slides.4 Study of stages in the life cycle of <i>Funaria</i> from fresh/ preserved material and permanent slides. <p>Angiosperms</p> <ol style="list-style-type: none">5. Study of plants for anatomy in relation to taxonomy6. Study of plants for Phenols and Flavanoids (chemotaxonomy)7. Study of one plant from each family prescribed for theory: morphological peculiarities and economic importance of the members of these families. <p>Techniques to study Plant Diversity</p> <ol style="list-style-type: none">8. Preparation of herbarium and wet preservation technique9. Chromatography: Separation of amino by circular paper chromatography10. Separation of Carotenoids by thin layer chromatography11. Horizontal and Vertical Gel Electrophoresis – Demonstration	

Syllabus for the S.Y.B.Sc. Program: B.Sc. Course:BOTANY

SEMESTER IV THEORY

Course Code	Title	Credits
USBO401	PLANT DIVERSITY	2 Credits (45 lectures)
<u>Unit I : Thallophyta: Fungi, Plant Pathology and Lichens Fungi</u> <ul style="list-style-type: none">• General characters of Ascomycetae• Structure, life cycle and systematic position of <i>Erysiphe</i> and <i>Xylaria</i>• Plant Pathology- Symptoms, causative organism, disease cycle and control measures of o Powdery mildew and Late blight of potato• Lichens- Classification, Structure, Method of Reproduction, Economic Importance and Ecological Significance of Lichens.		15 Lectures
<u>Unit II: Pteridophyta and Paleobotany Pteridophyta-</u> <ul style="list-style-type: none">• Salient features and classification upto orders (with examples of each) of Psilophyta and Lepidophyta (G M Smith's system of classification to be followed)• Structure, life cycle and systematic position of <i>Selaginella</i>• Paleobotany- The geological time scale; Formation and types of fossils; Structure and systematic position of form genus <i>Rhynia</i>		15 Lectures
<u>Unit III : Gymnosperms</u> <ul style="list-style-type: none">• Salient features, classification up to orders (with examples of each) and economic importance of Coniferophyta (Chamberlain's system of classification to be followed)• Structure life cycle and systematic position of <i>Pinus</i>• Structure and systematic position of the form genus <i>Cordaites</i>		15 Lectures

Syllabus for the S.Y.B.Sc. Program: B.Sc.Course : BOTANY

SEMESTER IV PRACTICAL

Semester III USBOP4 PRACTICAL Paper I – Plant Diversity II	Cr 1
<p>Fungi and Plant Pathology</p> <p>1 Study of stages in the life cycle of <i>Erysiphe</i> from fresh/ preserved material and permanent slides.</p> <p>2 Study of stages in the life cycle of <i>Xylaria</i> from fresh/ preserved material and permanent slides.</p> <p>3 Study of fungal diseases as prescribed for theory.</p> <p>4 Study of Lichens (crustose, foliose, & fruiticose).</p>	
<p>Pteridophyta and Palaeobotany</p> <p>5-6 Study of stages in the life cycle of <i>Selaginella</i> from fresh/ preserved material and permanent slides.</p> <p>7 Study of form genera <i>Rhynia</i> with the help of permanent slides/ photomicrographs.</p>	
<p>Gymnosperms</p> <p>8- Study of stages in the life cycle of <i>Pinus</i> from fresh/ preserved material and permanent slides.</p> <p>9- Study of the form genus <i>Cordaites</i> with the help of permanent slide/ photomicrographs.</p>	