



# HOLY CROSS COLLEGE

ACCREDITED BY NAAC WITH 'A+' GRADE (CYCLE:2)

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"Educating hearts and minds"

## DEPARTMENT OF BOTANY

No.F.1/HCC/BOT/Std./Nov./2023/04


Date: 24.11.2023

### Notice

Internal Examination Syllabus (December, 2023) for 1<sup>st</sup>, 3<sup>rd</sup> & 5<sup>th</sup> Semester Botany Major, Minor, Interdisciplinary, Honours & General are as follows:

<b>1st Semester- Major</b>	
<b><u>1st Semester Major: Paper 1 (Theory)</u></b> <ul style="list-style-type: none"><li>▪ Algal Reproduction</li><li>▪ Pigments and reserve food material</li><li>▪ Bacterial reproduction: Asexual - Binary fission, Conidia, Budding, Cysts and Endospore (structure &amp; formation).</li><li>▪ Genetic recombination in bacteria - Transformation, Transduction (Generalized &amp; Specialized) and Conjugation (F-factor, F+ x F<sup>-</sup>, Hfr x F<sup>-</sup>).</li><li>▪ Structure, Reproduction &amp; life cycle of <i>Ectocarpus</i>.</li></ul>	
<b><u>1st Semester Major: Paper 2 (Theory)</u></b> <ul style="list-style-type: none"><li>▪ Different types of asexual &amp; sexual spores of Fungi.</li><li>▪ Structure, Reproduction &amp; life cycle of <i>Rhizopus</i>.</li></ul>	<b><u>1st Semester Major: Paper 2 (Practical)</u></b> <ul style="list-style-type: none"><li>▪ Workout of <i>Oedogonium</i>.</li><li>▪ Identification of <i>Volvox</i> and <i>Polysiphonia</i>.</li></ul>
<b>1st Semester- Minor</b>	
<b><u>1st Semester Minor (Theory)</u></b> <ul style="list-style-type: none"><li>▪ Importance of Mushroom</li><li>▪ Precautions used in Mushroom cultivation</li><li>▪ Bacterial reproduction- binary fission and endospore formation</li><li>▪ Genetic recombination in bacteria -(transformation, transduction and conjugation)</li><li>▪ General account of Phycomycetes.</li><li>▪ Life history of <i>Rhizopus</i>.</li></ul>	<b><u>1st Semester Minor (Practical)</u></b> <ul style="list-style-type: none"><li>▪ Workout of <i>Oedogonium</i>.</li><li>▪ Identification of <i>Volvox</i> and <i>Polysiphonia</i>.</li></ul>

<b>1st Semester (Interdisciplinary)</b>	
<ul style="list-style-type: none"> <li>▪ Bacteria: General characters of bacteria; Morphological forms, Cell structure, Genetic recombination in bacteria-transformation, Transduction and Conjugation.</li> <li>▪ General characters of Bryophytes including amphibian nature.</li> <li>▪ General properties of plant virus.</li> <li>▪ General characters &amp; Thallus organization of Algae.</li> <li>▪ Economic importance of Algae.</li> </ul>	
<b>3<sup>rd</sup> Semester (Honours)</b>	
<b><u>3rd Semester (Honours) - Theory</u></b> <ul style="list-style-type: none"> <li>❖ General characteristics of Fungi with different terminologies</li> <li>❖ Symptoms: Necrotic, Hypoplastic and hyperplastic.</li> <li>❖ Economic Botany- (Scientific name, Family, Uses).</li> <li>❖ General characteristics of Plant Virus.</li> <li>❖ Bacteria- Cell structure.</li> </ul>	<b><u>3rd Semester (Honours) - Practical</u></b> <ul style="list-style-type: none"> <li>❖ Workout of <i>Polyporus</i></li> <li>❖ Identification of Pathological Specimen</li> </ul>
<b>3<sup>rd</sup> Semester (General)</b>	
<b><u>3rd Semester (General) – Theory</u></b> <ul style="list-style-type: none"> <li>❖ Lichen (whole part)</li> <li>❖ Symptoms: Necrotic, Hypoplastic and hyperplastic.</li> <li>❖ Economic Botany- (Scientific name, Family, Uses).</li> <li>❖ General characteristics of Plant Virus.</li> </ul>	<b><u>3rd Semester (General) - Practical</u></b> <ul style="list-style-type: none"> <li>❖ Workout of <i>Polyporus</i></li> <li>❖ Identification of Pathological Specimen</li> </ul>
<b>5<sup>th</sup> Semester (Honours)</b>	
<b><u>5<sup>th</sup> Semester (Honours) – Theory</u></b> <ul style="list-style-type: none"> <li>• Cell cycle</li> <li>• Mutation</li> <li>• Chromosome morphology</li> <li>• Chemical structure of nucleic acid.</li> <li>• Types of Restriction Enzymes.</li> <li>• Mendelian Inheritance.</li> <li>• Gene Interaction.</li> <li>• Modified dihybrid ratio (12:3:1; 9:3:4)</li> <li>• Linkage &amp; Crossing over.</li> <li>• Mean, Median Mode.</li> </ul>	<b><u>5<sup>th</sup> Semester (Honours) - Practical</u></b> <ul style="list-style-type: none"> <li>• Statistical analysis</li> <li>• Identification with reasons from permanent slides.</li> </ul>
<b>5<sup>th</sup> Semester (General)</b>	
<b><u>5<sup>th</sup> Semester (General) – Theory</u></b> <ul style="list-style-type: none"> <li>• Chromosome morphology</li> <li>• Chemical structure of nucleic acid.</li> <li>• Cell cycle</li> <li>• Cell division</li> <li>• Mendelian Inheritance.</li> <li>• Modified dihybrid ratio (12:3:1; 9:3:4)</li> <li>• Linkage &amp; Crossing over.</li> <li>• Photosynthesis</li> </ul>	<b><u>5<sup>th</sup> Semester (General) - Practical</u></b> <ul style="list-style-type: none"> <li>• Relationship between transpiration &amp; evaporation.</li> <li>• Comparison of imbibition of water by starchy, proteinaceous &amp; fatty seeds.</li> </ul>

  
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