

**Programme: M.Sc. Marine Biotechnology**

**Course code: MBO 283**

**Title of the course: LAB V-CELL AND TISSUE CULTURE**

**Number of credits: 2**

**Effective from: 2019-2020**

<b>Contents</b>	<ol style="list-style-type: none"><li>1.Preparation of starting material (Biosafety cabinet, solutions, media, cell sample etc.): Cell stock preparation (glycerol stock), storage, freezing, thaw and subculture, contamination and precautions</li><li>2.Animal cell culture: Secondary cell culture HeLa and non-cancerous cell like HEK293, COS-7</li><li>3.Transfection and co-transfection: Calcium-phosphate method and Lipofection</li><li>4.Cell fixation and staining: Immunolabeling, mounting, fluorescence imaging</li><li>5.Tissue culture medium, contamination and precautions in plant tissue culture</li><li>6.Callus induction and plantletregeneration</li><li>7.Single cell suspension and Protoplast isolation</li></ol>	48 hours
<b>References/ Reading</b>	<ol style="list-style-type: none"><li>1. Animal cell culture (2000) – A Practical Approach John R.W. Masters</li><li>2. Culture of animal cells – A manual of Basic techniques (2005) R.I. Freshney</li><li>3. Plant tissue culture, 3<sup>rd</sup> edition(2012) –Techniques and experiment, R. Smith</li></ol>	