

**Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)
Department of Biotechnology Optional
The academic year 2020-21 B.Sc. III Biotechnology Optional
COS for Semester V And VI**

| Semester | Course outcome |
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| Semester V | |
| Paper V | DSC 1009 E1- Plant Biotechnology & Environmental Biotechnology |
| | CO1. Formulate media to produce plantlets on an industrial scale CO2. Produce transgenic plants with high quality. CO 3. Describe the concept of toxicity. CO4. Discover different ways of Bioremediation. |
| Paper VI | DSC 1009 E2 -Large scale manufacturing process |
| | CO 1. Discriminate various types of fermentation medium with respect to product formation. CO2. Design a Fermenter for appropriate fermentation. CO3. Enumerate steps of downstream processing to purify industrially important product. CO4. Choose the correct method for qualitative & quantitative analysis of end product. |
| Semester VI | |
| Paper VII | DSC 1009 F1 Advances in Biotechnology |
| | CO 1. Generate new strategies of gene therapies CO2. Construct a drug molecule. CO3. Illustrate various biochemical techniques. CO 4. Understand various tracer techniques & and their applications |
| Paper VIII | DSC 1009 F2 ATC and Cell metabolism |
| | CO 1. Compare various pathways in Cell. CO2. Elaborate virus reproduction cycles to develop strategies for antiviral therapies CO 3. Produce transgenic animals for economic importance CO 4. Become a good entrepreneur to set up ATC-based industries. |
| SEC Sem V | Entrepreneurship development |
| | CO:1. students get knowledge about business organizations by completing the course students can incubate their business idea CO:2. Students can understand concepts of business finance. Students can become successful entrepreneurs |
| SEC Sem VI | Ecology |
| | CO1:Energy transfer in the ecosystem, To understand different industrial indicators of pollution CO2:Able to understand concepts of ecosystem and able to illustrate bioremediation to abatement of pollution |

[Signature]
Head

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Vivekanand College, Kolhapur (Autonomous)

