

Value added course

With reference to this college Letter No.260 Dtd. 20.01.2023 and Letter No.522 Dtd. 09.02.2023, Value added course has been designed for the Department of Zoology, B.J.B. Autonomous College, Bhubaneswar.

Outcome of the course:

The course is a part of curriculum designed to provide necessary skills to increase employability quotient to students. This course aims to provide additional learner centric graded skill oriented technical training related to biotechniques with the primary objective of improving essential skills to succeed in life. After the completion of this course the students will be evaluated based on theory taught and practical performed with issue of certificates. The course conducted by respective professionals will not only fill the gap between academic and industry needs but will also help students adding further value to their resume.

Course Name: Biotechniques

UNIT-1: Bioinstrumentation

Microscopy: Principles and uses of microscope (Light and compound), Electron microscope, Microtomy, Principles and application of centrifugation, chromatography (Paper and thin layer) and Electrophoresis (Gel), Spectroscopy

UNIT-2: Molecular analysis of biomolecules

Polymerase chain reaction (PCR), DNA Sequencing (Sanger's method and automation), DNA fingerprinting, Molecular analysis of DNA, RNA and Proteins (Southern, Northern and Western blotting).

UNIT-3: Techniques in Gene manipulation

Restriction and modifying enzymes, Cloning and Expression vectors, DNA Library-construction and screening of DNA libraries.

UNIT-4: Biotechnology and Human welfare

Production of transgenic animals: Retroviral method, DNA microinjection method, embryonic stem cell method, nuclear transplantation; Recombinant DNA in Health (Recombinant insulin and human growth hormone), Production of recombinant vaccines, Ethical issues concerning Transgenesis, Biosafety and Intellectual property rights (IPR)

PRACTICAL

1. Gel electrophoresis (Agarose gel, SDS PAGE)
2. Centrifugation-Basic principles of sedimentation, types, care, and safety aspects
3. Spectrometry- Protein and DNA estimation
4. BLAST, Sequence managing and construction/designing primers.

K. K. K. K.
15-02-2023

P. P. P. P.
15/02/23

S. S. S. S.
15.02.2023

H. H. H. H.
15-02-2023
H.O.D, ZOOLOGY
B.J.B. AUTONOMOUS COLLEGE,
BHUBANESWAR



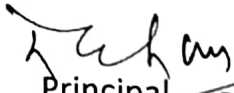
OFFICE OF THE PRINCIPAL, B.J.B. (AUTONOMOUS) COLLEGE, BHUBANESWAR

No. 748 / Date 28.02.23

Consequent upon the approval accorded by the Staff Council of B.J.B. Autonomous College held at 3.00 p.m. on 27.02.2023, the following Value-added Courses of a duration of minimum 30 hours are hereby offered in the academic session 2022-23 for enrolment of sixth semester students of the respective regular programmes and appropriate semester of Self-financing programmes of the college:

Sl. No.	Department	Title of the Value-added course offered
1.	Psychology	HEALTH AND WELL-BEING
2.	Economics	INDIGENOUS KNOWLEDGE AND SUSTAINABILITY
3.	Sociology	ACADEMIC WRITING
4.	Chemistry	TECHNIQUES OF CHEMICAL ANALYSIS
5.	Botany	TECHNIQUES AND APPLICATIONS OF PLANT BREEDING
✓ 6.	Zoology	BIOTECHNIQUES
7.	Mathematics	BASIC C PROGRAMMING
8.	I.M.B.A.	BUSINESS MANAGEMENT SKILLS

Concerned H.O.D are requested to enrol students in the respective value-added courses, designate a Course Coordinator, and commence conducting of classes from 01.03.2023 in accordance with the guidelines as mentioned in Notice no. 260 dated 20.01.2022, so as to complete the course well before the end of the Academic Year 2022-2023. H.O.D.s are requested to ensure maintenance of records of [1] Attendance of Students (75% minimum attendance required for enrolled students) [2] Date-wise Progress with mention of topic and teacher [3] Final MCQ test (50 Questions, 2 marks each, passing marks 40%). Some Geotagged photos of classes/activities in progress may also be kept for future references.


Principal 28/02/2023
B.J.B.(Autonomous) College,
Bhubaneswar