



Government Science College, Vankal

માન્યતા-શિક્ષણ વિભાગ, ગુજરાત સરકાર ઠરાવક્રમાંક: જસીઓ/1512/ન.બા.-13/ખતલ 21/04/2012

AISHE Code - 46595

Affiliated to Veer Narmad South Gujarat University, Surat (College Code-340)

At & Po.Vankal, Ta.Mangrol Dist. Surat PIN – 394 430



Phone Contact:- (O) 02629-243444

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7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

1. Green audit / Environment audit
2. Energy audit
3. Clean and green campus initiatives
4. Beyond the campus environmental promotion activities

HEI Input:

A. All of the above

DVV suggested Input:

B. Any 3 of the above

Change Input (Optional):

- E. None of the above
- D. Any 1 of the above
- C. Any 2 of the above
- B. Any 3 of the above
- A. All of the above

HEI must furnish evidence in the form of geo-tagged photographs, news reports, and testimony, demonstrating the initiatives undertaken for the following purpose:

a. Continuously monitor and evaluate waste management practices to identify further opportunities for improvement and waste reduction.

A key initiative has been the transition to paper bags in place of plastic ones, aligning with our goal to minimize environmental impact. This shift has contributed to a substantial reduction in plastic waste, complementing our broader recycling and waste management efforts.

Additionally, we conduct educational programs to promote the use of paper bags and proper waste segregation among staff and students. These initiatives not only support NAAC's sustainability criteria but also underscore our commitment to environmental stewardship and continuous improvement in waste management practices.

b. Expand awareness campaigns and educational initiatives to promote broader participation in environmental conservation efforts.

Government Science College, Vankal had organised many awareness campaigns and educational initiatives to promote broader participation in environmental conservation efforts. These are some newspaper reports highlighting the event.





c. Strengthen partnerships with external organizations and stakeholders to leverage resources and expertise for enhanced impact.

We have no partnership with external organizations.

d. Regularly review and update the plastic ban policy to adapt to changing regulations and best practices in plastic waste management.

Over the past five years, our college has diligently reviewed and updated our plastic ban policy to adapt to evolving regulations and best practices in plastic waste management. We have established a structured process for the regular review of our policy, ensuring that it aligns with the latest local and national guidelines on plastic use and disposal.

Key updates to the policy have included ban on biscuits and fried snacks packed in plastic wrappers, the promotion of alternative materials, and enhanced procedures for plastic waste segregation and recycling. Additionally, we have introduced educational programs for staff and students to reinforce the importance of adhering to the updated policy.



सत्यमेव जयते
गुजरात सरकार

Government Science College, Vankal

मान्यता-शिक्षण विभाग, गुजरात सरकार ठरावक्रमांक: असीओ/1512/न.भा.-13/अतल. 21/04/2012

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NOTICE

Ban on Biscuits and Fried Snacks Packed in Plastic Wrappers

Dear Students, Faculty, and Staff,

In an effort to promote a healthier lifestyle and to address environmental concerns, the College Administration has decided to implement a ban on the consumption and sale of biscuits and fried snacks that are packaged in plastic wrappers within the college campus. This measure is being introduced to reduce plastic waste and encourage the consumption of healthier food options.

Alternative Option: We encourage everyone to opt for snacks that are packaged in eco-friendly materials. The college canteen will be offering a selection of healthier snack alternatives in environmentally friendly packaging.

We appreciate your cooperation and understanding in this matter. Together, we can make a



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e. Integrate sustainability principles into academic curricula to foster a culture of environmental responsibility among students and faculty.

Our college is teaching the syllabus designed by Veer Narmad South Gujarat University, Surat. We have papers of Botany and Zoology which creates awareness environmental responsibility among students and faculty. The syllabus of Botany and Zoology subject is given below.

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

T. Y. B. Sc. Semester–V

Zoology Paper – Z – 504

(Embryology and Wild life Biology)

(Revised Syllabus Effective from JUNE - 2022)

Unit – 1: Introduction to Embryology and Gametogenesis (07 Hours)

- Introduction
- The Programme of Development
- Scope and Branches of embryology
- Spermatogenesis: Formation of spermatids, Spermiogenesis, Factors controlling spermatogenesis, Structure of a typical sperm and Significance of spermatogenesis
- Oogenesis: Formation of egg (ovum) - Multiplication phase, growth phase (Previtellogenesis and Vitellogenesis) and Maturation phase.

Unit – 2: Fertilization and Sexual cycles (07 Hours)

- Fertilization : External and internal fertilization - mechanism of Fertilization - capacitation and contact – acrosomal reaction and penetration – activation of ovum migration of pronuclei and amphimixis - theories of fertilization - significance of fertilization
- Estrous and Menstruous cycles, Pregnancy, Parturition, Placenta and placentation

Unit – 3: Chick Embryology (07 Hours)

- Sperm, Egg, Fertilization, cleavage, blastulation, gastrulation, formation of germ layers and primitive streak
- Development of chick embryo of 8, 16, 21, 24, 33, 48 and 72 hours

Unit – 4: Wildlife Biology (07 Hours)

- Introduction to wild life Endangered, vulnerable, threatened species National parks and Sanctuaries
- Causes of depletion, conservation and management
- Wild life in Gujarat
- Wild life trades and its legal provisions
- CITES (Convention on International Trade in Endangered Species)
- Conservation projects: Wild ass, Tiger, Crocodile and Black buck

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

S.Y. B. Sc. SEMESTER - IV

ZOOLOGY: ZO - MJ – 403 (MJ – Major)

(Effective from November - 2024)

(Biodiversity - II)

(04 credits = 04 Hours/Week)

Total Hours = 60

Program Outcomes (POs):

- Identify and classify the endangered and endemic species of plants and animals in India, and evaluate the factors responsible for their vulnerability.
- Analyze the interactions between species in different ecosystems, including aquatic, deep-sea, small island, marine, wetland, mangrove, and desert environments.
- Evaluate the biodiversity richness of specific protected areas in India, with its different biodiversity wild life and its National Park.
- Propose future strategies for the conservation of biodiversity in India, considering the unique challenges and opportunities in different regions.

Course Outcomes (COs):

- Define biodiversity and its components, and explain the importance of biodiversity in maintaining ecological balance and ecosystem services.
- Identify the threats to biodiversity, including their causes and responsible factors, with a focus on endangered and endemic species of plants and animals in India.
- Analyze the interactions between species in different aquatic ecosystems, including deep-sea and small island environments, and understand the importance of marine and wetland biodiversity.

UNIT-I:

(15 Hours)

❖ Threats of biodiversity:

- Causes & responsible factors
- Endangered & endemic species of plants & animals of India

UNIT-II:

(15 Hours)

❖ Aquatic biodiversity:

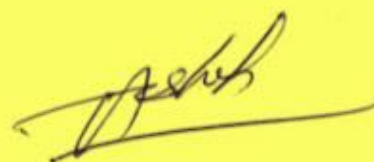
- Deep sea & small island biodiversity marine biodiversity
- Wetlands biodiversity

UNIT- III:

(15 Hours)

❖ Mangroves & deserts biodiversity:

- Study of following with reference to biodiversity:
- Jim Corbett National Park



- Keodadeo Ghana National Park
- Kaziranga National Park
- Mudumalai National Park

UNIT-IV:

(15 Hours)

- ❖ Biodiversity conservation:
 - In-situ and Ex-situ
 - Future strategies for India

REFERENCE BOOKS:

1. Biodiversity- Mahesh Prasadsingh, APH Publishing corporation. New Delhi.
 2. Environmental studies(U.G.C.syllabus)- N.Arumugam & V.Kumaresan. Saras publication, Kanyakumari
 3. Biodiversity:principles&conservation-U.Kumar,M.J.Asija.AgrobiosIndia-Jhodhpur.
 4. Biodiversity in Indian Scenarios-N.Ramakrishnan.Dayapublishinghouse-Delhi
 5. Environmental Biology-H.R.Singh.S.Chand&Co.Ltd..NewDelhi
 6. Biodiversity : Status &Prospects.Editors-Pramod Tandon, Manjusharma Ramswarup. Narosa Publishing house Pvt. Ltd. New Delhi
 7. Jaivividhta/jaivvaividhya-University Granthnirman board,Gandhinagar, Ahmedabad.
 8. Vanya Jim Vigyan GujaratGrantg Norman Board.
 9. The wild life of India,E.P.Gee, Harper Collins Publishers India.
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VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

S. Y. B. Sc. SEMESTER - III

ZOOLOGY: ZO - MDC – 301 (MDC – Multidisciplinary)

(Effective from June - 2024)

(Marine Biology) (04 credits = 04 Hours/Week)

(Total Hours = 60)

Program Outcome (PO):

- Demonstrate an in-depth knowledge of the geology of the ocean, including zonations and major water bodies in India.
- Analyze the causes and impacts of marine pollution and propose mitigation strategies.
- Understand the historical development, scope, and current status of aquaculture practices.
- Distinguish between different aquaculture practices, such as monoculture, poly culture, extensive culture, and intensive culture.

Course Outcome (CO):

- Describe the geological features and zonations of the ocean.
- Identify and locate major Indian Ocean water bodies, including the Andaman Sea, Arabian Sea, Bay of Bengal, Gulf of Eden, Gulf of Oman, Mozambique Channel, Persian Gulf, Red Sea, and Timor Sea.
- Analyze the causative factors and impacts of marine pollution.
- Trace the historical development of aquaculture and comprehend its current scope and status.
- Differentiate between various aquaculture practices, such as monoculture, poly culture, extensive culture, and intensive culture.
- Develop practical skills in data collection, analysis, and interpretation related to marine science.
- Appreciate the importance of sustainable practices in marine environments and their role in addressing real-world challenges.

Unit- 1:

(15 Hours)

- ❖ Zonation of ocean
- ❖ Indian oceans:(Geological area and Biodiversity)
 - Andaman Sea
 - Arabian Sea
 - Bay of Bengal
 - Gulf of Eden
 - Gulf of Oman
 - Mozambique Channel
 - Persian Gulf
 - Red Sea
 - Timor Sea



Unit-2: (15 Hours)

- ❖ Marine Pollution:
 - Causative factors and impacts

Unit-3: (15 Hours)

- ❖ Introduction to aqua culture:
 - History
 - Scope
 - Present status

Unit-4: (15 Hours)

- ❖ General idea of different aquaculture practices:
 - Mono culture
 - Poly culture
 - Extensive culture
 - Intensive culture

Reference Books:

1. Fundamentals of Ecology- E. P. Odum
 2. Marine biology and Ecology-N. K. Pillai
 3. Fishes-Mary Chandy
 4. Fish and Fisheries of India-V.G. Jhingran
 5. Fish and Fisheries-S. S. Khanna
 6. Marine Fish Farming for India-James Hornell
 7. Introduction to Marine Biology-Karleskint
 8. Marine fisheries Extension-P.N.Ananth
 9. General and Applied Ichthyology (fish and fisheries)-S. K. Gupta & P. C. Gupta.: S. Chand and Co. New Delhi.
 10. Aquaculture Technology & Environment-Ujwala Jadhav
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VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
SYLLABUS FOR B.Sc. SEMESTER - IV
BIODIVERSITY (I.D.)
(Effective from June 2019)

Unit-1. - Introduction and scope of biodiversity.

- **Importance and values of biodiversity.**

Unit-2 - General pattern of vegetation of Gujarat.

- **Deciduous forest. - Scrub forest**
- **Vegetation of ponds and ditches.**
- **Vegetation of river bank.**
- **Vegetation along Sea shore and saline ground.**

Unit-3. - Conservation of biodiversity.

- **Endangered, endemic, threatened and rare species of Gujarat and efforts for its conservation.**

Unit-4. - Biodiversity of flora, fauna, mangroves and medicinal Plants of Gujarat.

- **In-situ & Ex-situ conservation**
- **Biodiversity act.**
- **Biological hot-spots.**