A.S.D GOVT. DEGREE COLLEGE FOR WOMEN (A),
(Re- Accredited by NAAC with B Grade)
Jagannaickpur, Kakinada-533002, East Godavari, APS

DEPARTMENT OF ZOOLOGY & AQUACULTURE TECHNOLOGY

2024-2025

Bridge Course

ASD GOVT DEGREE COLLEGE FOR WOMEN (A), KAKINADA

DEPARTMENT OF ZOOLOGY AND AQUACULTURE TECHNOLOGY

Bridge course 2024-2025

The Department of Zoology & Aquaculture Technology has conducted Bridge Course for Newly joined students of Biology Stream in the academic year 2024-2025. The course was conducted from 19/08/2024 to 24/08/2024.

Syllabus covered during the course:

- Basics in Zoology
- Scope and significance of Zoology
- Branches of Zoology
- Applied Zoology
- Career Opportunities in Zoology
- Recent trends in Zoology
- Role of Human beings in protecting environment and biodiversity.
- Definition and Scope of Aquaculture.
- Importance of Aquaculture.
- Types of Aquaculture.

14 students were benefited from this course. This course was intended to bridge the gap between the knowledge they gained in their Intermediate and the knowledge required to begin their UG studies. A pre-bridge course test was conducted before the commencement of course to test the knowledge levels of students and a post- bridge course test was conducted after the completion of the course to assess the achievement of course objectives.

Ms. M.Vasantha Lakshmi- HoD of Zoology, Ms. S.Madhavi- Lecturer in Zoology and Ms. Y. Vibhavari Yellari-Guest Faculty in Zoology have conducted this course.

Signature of the lecturer in-charge

Signature of the Lecturers: 1.

2.

Signature of the Principal

Zoology – study of animals. Zoology, or "animal biology", is the branch of biology that relates to the animal kingdom, including the identification, structure, embryology, evolution, classification, habits, and distribution of all animals, both living and extinct, and how they interact with their ecosystems. The term is derived from Ancient Greek word ζῷον (*zōon*), i.e. "animal" and λόγος, (*logos*), i.e. "knowledge, study".[1] To study the variety of animals that exist (or have existed), see *list of animals by common name* and *lists of animals*.

Branches of zoology

- Acarology - study of mites and ticks
- Arthropodology - study of arthropods as a whole
  - Carcinology - the study of crustaceans
  - Myriapodology - study of milli- and centipedes
  - Arachnology - study of spiders and related animals such as scorpions, pseudoscorpions, and harvestmen, collectively called arachnids
  - Entomology - study of insects
    - Coleopterology - study of beetles
    - Lepidopterology - study of butterflies
    - Melittology - study of bees
    - Myrmecology - study of ants
    - Orthopterology - study of grasshoppers
- Herpetology - study of amphibians and reptiles
  - Batrachology - study of amphibians including frogs and toads, salamanders, newts, and caecilians
  - Cheloniology - study of turtles and tortoises
  - Saurology - study of lizards
  - Serpentology - study of snakes
- Ichthyology - study of fish
- Malacology - study of mollusks
  - Conchology - study of shells
  - Teuthology - study of cephalopods
- Mammalogy - study of mammals
  - Cetology - study of cetaceans
  - Primatology - study of primates
- Ornithology - study of birds
- Parasitology - study of parasites, their hosts, and the relationship between them
  - Helminthology - study of parasitic worms (helminths)
- Planktology - study of plankton, various small drifting plants, animals and microorganisms that inhabit bodies of water
- Protozoology - study of protozoan, the "animal-like" (i.e., motile and heterotrophic) protists
- Nematology - study of nematodes (roundworms)

By nature of studies

Anthrozoology - study of interaction between humans and other animals

Behavioral ecology - study of environmental effects on animal behaviors

- Endocrinology - study of endocrine systems

- Ethology - study of animal behaviour, usually with a focus on behaviour under natural conditions, and viewing behaviour as an evolutionarily adaptive trait
- Neuroethology - study of animal behavior and its underlying mechanistic control by the nervous system
- Paleozoology - the branch of Paleontology that studies animal remains
- Zooarchaeology - study of animal remains in relation to ancient people
- Zoogeography - Zoogeography is the scientific study of geographical distribution of animal species (both historic and contemporary) in the world
- Zoography - Zoography is study of animals and their habitats (also known as descriptive zoology)
- Zoometry - is a sub-division of zoology that deals with measurements (length or size) of animal parts
- Zootomy - Human Anatomy is the study of the structure of humans and their various parts whereas Zootomy specifically refers to animal anatomy
- Zoomorphology - The morphology of animals

Career Opportunities in Zoology:

A zoology degree can lead to a variety of careers in the scientific, environmental, and agricultural industries. Some of the most common career paths for zoology graduates include:

- **Wildlife biologist**: Study and monitor animal populations in their natural habitats.
- **Conservationist**: Work with environmental groups and NGOs to protect endangered species and their habitats.
- **Zookeeper**: Care for and manage animals in zoos and wildlife parks.
- **Research scientist**: Conduct scientific research to expand knowledge about animals, their behavior, and healthy diets.
- **Environmental consultant**: Work with organizations to ensure compliance with environmental regulations.
- **Scientific technical writer**: Write and contribute to scientific documents and reports.

Other careers that a zoology degree can lead to include:

Animal behaviorist, Marine biologist, Ecologist, Animal physiotherapist, Field trials officer, Fisheries officer, Palaeontologist, Toxicologist, Veterinary nurse, and Veterinary surgeon.

Zoologists often need strong written communication skills to articulate their ideas clearly and effectively.

General trends

- Zoology has become animal biology—that is, the life sciences display a new unity, one that is founded on the common basis of all life, on the gene pool–species organization of organisms, and on the obligatory interacting of the components of ecosystems. Even as regards the specialized features of animals—involving physiology, development, or behaviour—the current emphasis is on elucidating the broad biological principles that identify animals as one aspect of nature. Zoology has thus given up its exclusive emphasis on animals—an emphasis maintained from Aristotle's time well into the 19th century—in favour of a broader view of life. The successes in applying physical and chemical ideas and techniques to life processes

have not only unified the life sciences but have also created bridges to other sciences in a way only dimly foreseen by earlier workers. The practical and theoretical consequences of this trend have just begun to be realized.

- **Methods in zoology**
- Because the study of animals may be concentrated on widely different topics, such as ecosystems and their constituent populations, organisms, cells, and chemical reactions, specific techniques are needed for each kind of investigation. The emphasis on the molecular basis of genetics, development, physiology, behaviour, and ecology has placed increasing importance on those techniques involving cells and their many components. Microscopy, therefore, is a necessary technique in zoology, as are certain physicochemical methods for isolating and characterizing molecules. Computer technology also has a special role in the analysis of animal life. These newer techniques are used in addition to the many classical ones—measurement and experimentation at the tissue, organ, organ system, and organismic levels.
- **Microscopy**
- In addition to continuous improvements in the techniques of staining cells, so that their components can be seen clearly, the light used in microscopy can now be manipulated to make visible certain structures in living cells that are otherwise undetectable. The ability to observe living cells is an advantage of light microscopes over electron microscopes; the latter require the cells to be in an environment that kills them. The particular advantage of the electron microscope, however, is its great powers of magnification. Theoretically, it can resolve single atoms; in biology, however, magnifications of lesser magnitude are most useful in determining the nature of structures lying between whole cells and their constituent molecules.
- **Separation and purification techniques**
- The characterization of components of cellular systems is necessary for biochemical studies. The specific molecular composition of cellular organelles, for example, affects their shape and density (mass per unit volume); as a result, cellular components settle at different rates (and thus can be separated) when they are spun in a centrifuge.
- Other methods of purification rely on other physical properties. Molecules vary in their affinity for the positive or negative pole of an electrical field. Migration to or away from these poles, therefore, occurs at different rates for different molecules and allows their separation; the process is called electrophoresis. The separation of molecules by liquid solvents exploits the fact that the molecules differ in their solubility, and hence they migrate to various degrees as a solvent flows past them. This process, known as chromatography because of the colour used to identify the position of the migrating materials, yields samples of extraordinarily high purity.
- **Radioactive tracers**
- Radioactive compounds are especially useful in biochemical studies involving metabolic pathways of synthesis and degradation. Radioactive compounds are incorporated into cells in the same way as their nonradioactive counterparts. These compounds provide information on the sites of specific metabolic activities within cells and insights into the fates of these compounds in both organisms and the ecosystem.
- **Computers**

  Computers process information using their own general language, which is able to complete calculations as complex and diverse as statistical analyses and determinations of enzymatically controlled reaction rates. Computers with access to extensive data files can select information associated with a specific problem and display it to aid the researcher in formulating possible solutions. They help perform routine examinations such as scanning chromosome preparations in order to identify abnormalities in number or shape. Test organisms can be electronically monitored

with computers, so that adjustments can be made during experiments; this procedure improves the quality of the data and allows experimental situations to be fully exploited. Computer simulation is important in analyzing complex problems; as many as 100 variables, for example, are involved in the management of salmon fisheries. Simulation makes possible the development of models that approach the complexities of conditions in nature, a procedure of great value in studying wildlife management and related ecological problems.

- **Applied zoology**
  Animal-related industries produce food (meats and dairy products), hides, furs, wool, organic fertilizers, and miscellaneous chemical byproducts. There has been a dramatic increase in the productivity of animal husbandry since the 1870s, largely as a consequence of selective breeding and improved animal nutrition. The purpose of selective breeding is to develop livestock whose desirable traits have strong heritable components and can therefore be propagated. Heritable components are distinguished from environmental factors by determining the coefficient of heritability, which is defined as the ratio of variance in a gene-controlled character to total variance.
- Another aspect of food production is the control of pests. The serious side effects of some chemical pesticides make extremely important the development of effective and safe control mechanisms. Animal food resources include commercial fishing. The development of shellfish resources and fisheries management (*e.g.*, growth of fish in rice paddies in Asia) are important aspects of this industry.

Biodiversity or **biological diversity** is the variety and variability of life on Earth. Biodiversity is a measure of variation at the genetic (*genetic variability*), species (*species diversity*), and ecosystem (*ecosystem diversity*) level.
he age of the Earth is about 4.54 billion years. The earliest undisputed evidence of life dates at least from 3.7 billion years ago, during the Eoarchean era after a geological crust started to solidify following the earlier molten Hadean eon. There are microbial mat fossils found in 3.48 billion-year-old sandstone discovered in Western Australia. Other early physical evidence of a biogenic substance is graphite in 3.7 billion-year-old meta-sedimentary rocks discovered in Western Greenland. More recently, in 2015, "remains of biotic life" were found in 4.1 billion-year-old rocks in Western Australia. According to one of the researchers, "If life arose relatively quickly on Earth...then it could be common in the universe.

"Biodiversity" is most commonly used to replace the more clearly-defined and long-established terms, species diversity and species richness.[13] Biologists most often define biodiversity as the "totality of genes, species and ecosystems of a region".[14][15] An advantage of this definition is that it presents a unified view of the traditional types of biological variety previously identified:

- taxonomic diversity (usually measured at the species diversity level)[16]
- ecological diversity (often viewed from the perspective of ecosystem diversity)[16]
- morphological diversity (which stems from genetic diversity and molecular diversity[17])
- functional diversity (which is a measure of the number of functionally disparate species within a population (e.g. different feeding mechanism, different motility, predator vs prey, etc.)[18]) This multilevel construct is consistent with Datman and Lovejoy

Forest biological biodiversity [edit**]**

Forest biological diversity is a broad term that refers to all life forms found within forested areas and the ecological roles they perform. As such, forest biological diversity encompasses not just trees, but the multitude of plants, animals and microorganisms that inhabit forest

areas and their associated genetic diversity. Forest biological diversity can be considered at different levels, including ecosystem, landscape, species, population and genetic. Complex interactions can occur within and between these levels. In biologically diverse forests, this complexity allows organisms to adapt to continually changing environmental conditions and to maintain ecosystem functions.

Biodiversity Hotspot

A biodiversity hotspot is a region with a high level of endemic species that have experienced great habitat loss.[47] The term hotspot was introduced in 1988 by Norman Myers.[48][49][50][51] While hotspots are spread all over the world, the majority are forest areas and most are located in the tropics.

Brazil's Atlantic Forest is considered one such hotspot, containing roughly 20,000 plant species, 1,350 vertebrates and millions of insects, about half of which occur nowhere else.[52][53] The island of Madagascar and India are also particularly notable

Role of an individual in conservation of natural resources –

Conservation of energy:

1. Switch off light, fan and other appliances when not in use.
2. Use solar system heater for cooking.
3. Dry the cloth in the sunlight instead of driers.
4. Use always pressure cookers.

Conservation of water:

1. Use minimum water for all domestic purposes.
2. Use drip irrigation.
3. A rainwater harvesting system should be installed in all the houses.
4. Sewage treatment plants may be installed in all industries and institutions.

Conservation of soil:

1. Grow different types of plants i.e. trees, herbs, and shrubs.
2. In the irrigation process, using a strong flow of water should be avoided.

Conservation of forest:

1. Use non-timber products.
2. Plant more trees.
3. Minimize the use of paper and fuel.
4. Avoid the construction of dam, road in the forest areas.

Aquaculture (less commonly spelled **aquiculture**[1]), also known as **aquafarming**, is the controlled cultivation ("farming") of aquatic organisms such as fish, crustaceans, mollusks, algae and other organisms of value such as aquatic plants (e.g. lotus). Aquaculture involves cultivating freshwater, brackish water, and saltwater populations under controlled or semi-natural conditions and can be contrasted with commercial fishing, which is the harvesting of wild fish.[2] Aquaculture is also a practice used for restoring and rehabilitating marine and freshwater ecosystems. [3] Mariculture, commonly known as marine farming, is aquaculture in seawater habitats and lagoons, as opposed to freshwater aquaculture. Pisciculture is a type of aquaculture that consists of fish farming to obtain fish products as food.

Aquaculture can also be defined as the breeding, growing, and harvesting of fish and other aquatic plants, also known as farming in water. It is an environmental source of food and commercial products that help to improve healthier habitats and are used to reconstruct the population of

endangered aquatic species. Technology has increased the growth of fish in coastal marine waters and open oceans due to the increased demand for seafood.[4]

Aquaculture can be conducted in completely artificial facilities built on land (onshore aquaculture), as in the case of fish tank, ponds, aquaponics or raceways, where the living conditions rely on human control such as water quality (oxygen), feed, temperature. Alternatively, they can be conducted on well-sheltered shallow waters nearshore of a body of water (inshore aquaculture), where the cultivated species are subjected to relatively more naturalistic environments; or on fenced/enclosed sections of open water away from the shore (offshore aquaculture), where the species are either cultured in cages, racks or bags and are exposed to more diverse natural conditions such as water currents (such as ocean currents), diel vertical migration and nutrient cycles

Fish (in general) is a cold-blooded aquatic organism that breathes with gills and swims with fins; they are categorized as Finfish and Shellfish.

Finfish are cold-blooded aquatic vertebrates that have gills, fins with rays, and scales covering the body.

Shellfish are cold-blooded aquatic invertebrate that have gills, various types of locomotory organs and a shell/ exoskeleton covering the body. They include crustaceans and mollusc.

SCOPE OF AQUACULTURE

Future holds immense scope for the betterment of mankind through aquaculture in several ways:

Best Option to Capture Fisheries

The myth that seas and oceans are inexhaustible sources of fishes; prawns etc. has already been proved wrong. Major traditional fishing grounds in a number of . developing countries has started showing declining fish catches. Aquaculture, in su~ a situation, is seen as the best option for meeting the food requirement of growing masses.

Meeting the Requirement of Proteinous Diet

In 'many countries, specially in the developing world, fish and other aquacrops will serve as the main source of cheap protein to combat malnutrition and under nutrition. This is because fishes possess essential amino acids that are often lacking in cereal protein substitutes. Moreover, fishes are more efficient in converting food into body tissue than poultry or livestock.

Employment and Income Generation

With its growing activities aquaculture is likely to employ a large number of people either directly in the culture activity or indirectly as employees in related or ancillary industries such as seed suppliers, feed suppliers, cold storage etc. Aquaculture will also serve as an ideal alternative livelihood fur fishing communities, more particularly in developing countries where the source of income offisherfolks has been adversely affected by the over-exploitation of traditional fishing grounds.

Aquaculture will also come to be viewed as an important alternative for those countries whose traditional fishing grounds have been severely reduced by the imposition of the 200 mile Exclusive Economic Zone (EEZ). With the export ofhigh value species like penaeid shrimps, oysters, seaweeds, etc., aquaculture will serve as an excellent source of earning foreign exchange.

As an Effective Tool for Recycling Municipal Sewage

Increasing population pressure has already started weighing heavy on water supply. During the ensuing decades; the situation is going to worsen further. In such a situation, we shall be hardly left with any option than to learn to use the used water through appropriate treatment. In big cities particularly, generation of sewage is enormous. Of late, it is being increasingly realized that municipal sewage isjust not a pollutant but also a nutrient resource. Recycling of municipal sewage through' aquaculture is an effective method of retrieving those nutrients. **Resource Enhancement of Open Waters**

The resource potential i.e. aquatic flora and fauna. of open waters are getting depleted alarmingly due to factors like over-exploitation, environmental degradation etc. Resource enhancement in such waters is possible only by stocking them with hatchery produced seeds of desired aquatic organisms and providing them with appropriate. artificial shelters enabling the organisms to guard themselves against natural enemies so that they could reach a size where predation and juvenile mortality are much reduced. The technique, called aqua ranching, holds immense promise for future.

Other Uses of Aquaculture

Aquaculture is not limited to the production of species. Crustaceans and small fishes are often grown as bait for sport and/or commercial fisheries. Ornamental species constitute one of the highest value aquaculture industries. Some species are grown as food for other food fishes while others are raised for use in laboratory as experimental animals. Some fishes like grass carp is grown for controlling infestation of noxious aquatic weeds while some other fishes (larvicidal ones) e.g. Gambusia and Poecillia for mosquito control. Oysters and freshwater mussels are grown to produce cultured pearls and crocodiles for leather, aqua-mammals (dolphins, whales, seals etc.) for fun and entertainment. Several algal species are cultured for extraction of chemicals. Seaweeds are important sources of agar and iodine. Some species of red algae are valuable source of carrageenan, an important industrial compound used for improving the quality of a number of products.

What is the Importance of Aquaculture in India

Aquaculture plays a key role in addressing several challenges. The importance of aquaculture involves new trade opportunities, livelihood support and economic boost.

Meeting Food Demand

The population of India is increasing and with it the demand for food, especially protein-rich food, is rising. Seafood is a rich source of protein. Thus, aquaculture can help fulfil this demand plagued by a limited supply of fisheries. It ensures a consistent source of seafood.

Conservation of Threatened Species

Overfishing of threatened species is a major problem in India. It can have serious socioeconomic and ecological consequences. In the marine fish stock assessment, 8.2% of 135 fish stocks were found to be overfished. It included varieties of sharks, groupers, lobsters and croakers.

Aquaculture can take the place of wild harvesting of such species. It is an effective alternative to reduce pressure from wild populations already under stress. This method recovers and maintains their ecological balance.

Economic Growth

Aquaculture has a big contribution to the global and local economy. It generates employment opportunities in rural and coastal communities. At the primary level, the fisheries and aquaculture sector is a source of income for around 2.8 crore fishers and fish farmers. It supports livelihoods for small-scale farmers, processors, distributors and related industries.

Resource Efficiency

The cons of traditional fishing include habitat destruction and unintentional bycatch. Aquaculture systems can be designed to minimise these negative impacts. This makes them a more environmentally friendly option. The benefits of aquaculture include efficient water use, reduced land footprint and controlled waste management.

What are the Benefits of Aquaculture in India?

The benefits of aquaculture are wide-ranging, more than just food production and economic growth. The key benefits include:

- One of the main benefits of aquaculture is that it is a growing industry. The Global Aquaculture Market Report (2022) reveals that the aquaculture market will grow at 7.7% CAGR to reach 50.38 billion USD in 2026. Thus, it is an important economic driver that contributes to trade, employment and regional and local economic development.
- Fish is a popular, healthy and nutritious protein source. Most people lack important nutrients like omega-3 fatty acids and Vitamin D. Fish provide these nutrients to ensure optimal brain and body function.
- Aquaculture has relatively less damaging environmental impacts than other types of livestock farming. Generally, marine aquaculture operations need less land, less water and fewer resources. Also, its carbon footprint is smaller.

- Overfishing can disrupt marine food chains, causing irreversible damage to marine ecosystems. Aquaculture lessens the need for excessive fishing. It allows marine environments to recover and regenerate.

Types of Aquaculture:

Freshwater Fish: Fish that spend most or all of their life in freshwaters, such as rivers and lakes, having a salinity of less than 0.5 ppt. Around 40% of all known species of fish are found in freshwater. They may be divided into Coldwater Fish (5 – 20 oC); examples: Mahseer, Trout, etc., and Warm water Fish (25 – 35 oC); example: Carps, Catfish, Snakeheads, Feather backs, etc.

• **Brackish water Fish:** Fish that can tolerate a wide range of salinity (0.5 – 30.0 ppt) and live in backwaters, estuaries and coastal waters. Example: Mullet, Milkfish, Seabass, Pearlspot, Mudskipper, etc.

• **Marine Fish:** Fish that spend most or all of their life in seawater, such as Seas and Oceans, having salinity above 30 ppt. There are about 240 species contributing to the marine fisheries. Example: Sardines, Mackerel, Ribbonfish, Anchovies, Grouper, Cobia, Tuna, etc

Aquaculture practices progress from minimal to maximal inputs of external energy, ecosystem manipulation and management. Accordingly, depending on the intensity of operation, aquaculture practices are classified into three operational scales viz.

i) Extensive aquaculture

ii) Semi-intensive aquaculture

iii) Intensive aquaculture

Extensive systems use low stocking densities (5,000-10,000 shrimp post larvae).Extensive aquaculture involves a low degree of control over the environment, nutrition, predator etc. Water change is effected through tidal means, i.e., new water is let in only during high tide and pond can be drained only at low tide. Although, large . size ponds are used but little care is taken with regard to its improvement. Natural food organisms, often generated within the culture unit itself, sustain the system. The yield under this system is modest, hardly more than the natural production. Intensive culture uses very high densities of culture organisms (200,000- 300,000 shrimp post larvae).

Intensive aquaculture, on the other hand, involves high degree of control over the system and high initial costs, a high level of technology and high production levels. Small pond compartments of upto one hectare in size are used. There is a maximum output of product in a minimum of space and water. Virtually, all nutrition for the cultured organisms comes from the use of high quality nutritionally balanced feed. Water quality monitoring, water replacement and aeration is done on daily basis by the use of pumps and aerators.

Semi-intensive aquaculture is a mix of the extensive and intensive aquaculture. Stocking rates are moderately used under this system (50,000- 100,000 shrimps post larvae). Semi-intensive and intensive culture systems are more labour- intensive and are costlier to set up and operate. They also carry higher risks of mortalities from disease and poor management. Production and hence financial returns are much more attractive than those from extensive culture.

A.S.D GOVT. DEGREE COLLEGE FOR WOMEN (A)

Department of Zoology and Aquaculture Technology

Zoology Bridge course Pre-Test questionnaire 2024-2025

1. In Greek "Zoo" means ( )

A) Animal B) Ant C) Plant D) Life

2. Branch of Zoology that deals with classification of animals ( )

A) Anatomy B) Taxonomy C) Morphology D) Ecology

3. Who is the father of Zoology? ( )

A) Aristotle B) Goldfuss C) Haeckel D) Linnaeus

4. Group of cells performing same function is called ( )

A) Tissue B) Organ C) System D) Metabolism

5. Largest Phylum among Animalia ( )

A) Annelida B) Insecta C) Arthropoda D) Mollusca

6. Bat is a ( )

A) Bird B) Mammal C) Dragon D) Fox

7. The cell organelle that helps in amoeboid movement ( )

A) Cilia B) Pseudopodium C) Flagella D) Myonemes

8. A zoologist who studies the behavior of animals in their natural habitat is called as ( )

A) Ethologist B) Anatomist C) Taxonomist D) Physiologist

9. Apiculture is culturing of ( )

A) Fishes B) Birds C) Bees D) Apple

10. Father of Genetics ( )

A) Gregor John Mendel B) Hugo devries C) Bateson D) Morghan

11. A zoologist working in a zoo or aquarium is primarily responsible for ( )

A) Animal care and conservation B) Financial management

C) Marketing and advertising D) Legal affairs

12. Which of these is a popular mollusk species in aquaculture? ( )

A) Shrimp B) Oyster C) Cod D) Eel

13. Study of birds is called as ( )

A).Entomology B).Ornithology C). Saurology D). Ichthyology

14. Distribution of variable number of species on biosphere is called ( )

A). Biodiversity B). Ethology C).Geography D). Zoogeography

15. Study of Cancer is called as ( )

A). Radiology B).Carcinology C). Oncology D). Conchology

16. Global warming is due to which gas ( )

A). O_2 B). H_2 C). CO_2 D) O3

17. study of fossils ( )

A) Geography B) Palaeontology C) Ethology D) Gerontology

18. Which of the following is a major challenge facing zoological research today? ( )

A) Climate change B) Habitat loss C) Pollution D) All of the above

19. The simple microscope was invited by ( )

A).Robert Brown B).Robert Hooke C).Linnaeus D) Darwin

20. Blue revolution is increase the production of ( )

A) Milk B) Fish C) Eggs D) Aquatic organisms

Key: 1).A, 2)B, 3).A, 4).A, 5).C, 6) B, 7).B, 8).A. 9).C, 10).A, 11).A, 12)B, 13).B, 14)D, 15).C, 16)C, 17).B, 18).D, 19).B, 20).D.

A.S.D GOVT. DEGREE COLLEGE FOR WOMEN (A)

Department of Zoology and Aquaculture Technology

Zoology Bridge course Post-Test questionnaire 2024-2025

1. Branch of Zoology that deals with animal habitat ( )

A) Anatomy B) Taxonomy C) Morphology D) Ecology

2. Different tissues organize to perform the same function is called ( )

A) Tissue B) Organ C) System D) Metabolism

3. Largest class among Animalia ( )

A) Sarcodina B) Insecta C) Gastropoda D) Astroidea

4. Largest Animal ( )

A) Elephant B) Dinosaur C) Blue whale D) Ostrich

5. Which of the following organizations primarily focuses on wildlife conservation and research? ( )

A) World Health Organization (WHO) B) World Wildlife Fund (WWF)

C) International Monetary Fund (IMF) D) United Nations (UN)

6. Find the the radio active elememt among the following ( )

A).C14 B).H1 C). N14 D) O16

7. Which of the following is a potential career path for a zoologist with advanced education and research experience? ( )

A) High school science teacher B) University professor

C) Veterinary technician D) Wildlife photographer

8. A zoologist working in a government agency might be involved in: ( )

A) Environmental impact assessment B) Food safety inspection

C) Industrial design D) Financial analysis

9. Study of insects is called as ( )

A).Entomology B).Ornithology C). Saurology D). Ichthyology

10. Study of animal behaviour is called ( )

A). Biodiversity B). Ethology C).Geography D). Zoogeography

11. Study of molluscans is called as ( )

A). Radiology B).Carcinology C). Oncology D). Conchology

12. The term biodiversity hotspot was introduced by ( )

A). Bateson B). Norman Mayer C). Linnaeus D). Robert Hooke

13. What is the primary focus of conservation genomics? ( )

A) Studying the genetic diversity of endangered species

B) Using genetic information to inform conservation strategies

C) Developing genetically modified organisms for conservation purposes

D) All of the above

14. What is the role of zoological research in addressing global health challenges? ( )

A) Studying animal diseases can help to identify potential threats to human health

B) Understanding the ecology of disease-carrying organisms can help to prevent outbreaks

C) Developing new vaccines and treatments based on animal models

D) All of the above

15. Who is the father of Human Genetics? ( )

A) Aristotle B) Morghan C) Haeckel D) Linnaeus

16. Aquaculture is culturing of ( )

A) Fishes B) Birds C) Aquatic organisms D) Apple

17. What is the best way to reduce plastic pollution? ( )

A) Burn all plastic waste B) Reuse and recycle plastics
C) Increase plastic production D) Throw plastic in open areas

18. which of the following actions contributes to sustainable living? ( )

A) Using renewable energy sources B) Over consuming resources
C) Avoiding recycling D) Excessive deforestation

19. What is the role of humans in combating climate change? ( )

A) Reducing carbon footprint B) Ignoring renewable technologies

C) Increasing deforestation D) Promoting wasteful consumption

20. What is mariculture? ( )

a) Farming fish in freshwater ponds. b) Growing plants in water without soil.

c) Raising seafood in the ocean or saltwater. d) Breeding fish for specific traits.

Key: 1).B, 2)B, 3).B, 4).C, 5).B, 6) A, 7).B, 8).A. 9).A, 10).B, 11).B, 12)B, 13).B, 14)D, 15).B, 16)A, 17).B, 18).A, 19).A, 20).C

Bridge course attendance 2024-2025

S.No	Name of the Student	19/8/24	20/8/24	21/8/24	22/8/24	23/8/24	24/8/24					Signature of the Student
1.	Barre Lavanya Nagalakshmi	P	P	P	P	A	P					B. Lavanya Nagalakshmi
2.	Boddela Anitha	P	P	P	P	P	P					B. Anitha
3.	Dokkadi Divya Sai Sri	A	P	P	P	P	P					D. Divya Sai Sri
4.	Doni Uma Devi	P	A	P	P	P	P					D. Uma Devi
5.	Karri Chinni	P	A	P	P	P	P					k. chinni
6.	Malireddy Hrudaya Jyothi	P	P	A	P	P	P					M. Hrudaya Jyothi
7.	Neelam Bindulatha	A	P	P	A	P	A					N. Bindulatha
8.	Nemala Aparnadevi	P	A	P	P	P	P					N. Aparna Devi
9.	Pariyar Divya	P	P	P	P	P	A					Divya. P
10.	Pusam Sriya	P	A	P	P	P	P					P. Sriya
11.	Reddy Alekhya	P	P	P	A	P	P					R. Alekya
12.	Maddimsetti Subramanya Mayuri	P	P	A	P	P	P					MS Mayuri
13.	Tiragati Lakshmi Tulasi	P	P	P	P	A	P					T. Lakshmi tulasi
14.	Valala Sravanthi	P	P	P	P	P	A					V. Sravanthi

Pre and Post Bridge Course Test Marks			
S.No	**Name of Student**	**Pre-Bridge course test marks**	**Post-Bridge course test marks**
1	Barre Lavanya Nagalakshmi	13	17
2	Boddela Anitha	15	17
3	Dokkadi Divya Sai Sri	12	14
4	Doni Uma Devi	11	18
5	Karri Chinni	14	15
6	Malireddy Hrudaya Jyothi	16	17
7	Neelam Bindulatha	8	17
8	Nemala Aparnadevi	13	18
9	Pariyar Divya	13	18
10	Pusam Sriya	12	18
11	Reddy Alekhya	16	18
12	Maddimsetti Subramanya Mayuri	16	18
13	Tiragati Lakshmi Tulasi	15	18
14	Valala Sravanthi	16	19

Signature of the Lecturer Incharge

Principal

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