

09CT21



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

(Autonomous & Residential)

[Affiliated to Madurai Kamaraj University]

B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Second Semester : Paper – I

**CHORDATES – I**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Which of the following one is commonly known as tongue worm  
a) Amphioxus    b) Ascidian    c) Balanoglossus    d) Frog
2. Find the dog fish  
a) Catla    b) Shark    c) Mirghal    d) Eel
3. Scroll valve is found in  
a) Frog    b) Shark    c) Lizard    d) Pigeon
4. Eye is a  
a) Phonoreceptor    b) Photoreceptor  
c) Chemoreceptor    d) Rheoreceptor
5. In frog, the sacral vertebra is  
a) Procoelous    b) acoelous    c) Amphicoelous    d) Pseudocoelous
6. Name the larva of Frog.
7. What type of migration is exhibited by Petromyzon?
8. Which animal has scroll valve in digestive system?
9. Write down the bones of middle ear in rabbit.
10. What do you mean by urinogenital system?

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

11. a) List out the general characters of prochordates.    **(OR)**  
b) Describe the excretory system of Amphioxus.
12. a) Write down the salient features of Ammocoetus larva. **(OR)**  
b) Describe the morphology of shark with a neat sketch.
13. a) Give an account on the structure of a typical integument in vertebrate.    **(OR)**  
b) Compare the respiratory system of a fish and an amphibian.
14. a) Compare the heart of mammal with bird.    **(OR)**  
b) Compare the organs of hearing of a fish and a mammal.
15. a) Comment on pectoral and pelvic girdles of Frog.    **(OR)**  
b) Compare the excretory system of a fish with a mammal.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

16. Write an essay on retrogressive metamorphosis in ascidian. Add a note on its significance.
17. Classify the vertebrates upto classes with examples.
18. With a neat sketch, describe the digestive system of shark.
19. With neat diagrams, compare the anatomical structure of brain of a fish and a mammal.
20. Discuss in detail about the hormones of pituitary gland in vertebrates.



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Second Semester : Paper – II

**CHORDATES – II**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

- Golden age of reptiles is
  - Proterozoic era
  - Palaeozoic era
  - Coenozoic era
  - Mesozoic era
- The fish famous for parental care is \_\_\_\_\_.
  - Clarias
  - Labeo rohita
  - Gumbusia
  - Scoliodon
- Which of the following is limbless amphibian?
  - Alytes
  - Ichthyophis
  - Hyla
  - Phyllobotamus
- The flightless birds are known as
  - Ancient birds
  - Ratites
  - Modern birds
  - Extinct birds
- Which of the following vertebrates have Acrodont dentition
  - Birds
  - Amphibians
  - Mammals
  - all the above
- Chromatophores.
- Arborescent organs.
- Antivenine.
- Causes of bird migration.
- Blue whale.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

- a) State the distinctive characters of reptiles. (OR)  
b) Describe the distinctive features of class aves.
- a) What is migration? Describe migration in Fishes. (OR)  
b) Give a brief account on parental care in fishes.
- a) Write short notes on Neoteny in amphibians. (OR)  
b) Distinguish between poisonous and non poisonous snakes of South India.
- a) Write short notes on flight adaptations in birds. (OR)  
b) Give a brief account on types of migration in birds.
- a) Write a note on Metatherians. (OR)  
b) Explain the theories for origin of mammals.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

- Write an essay on accessory respiratory organs in fishes.
- Give a detailed account on Parental care in amphibians.
- Write an essay on Flightless birds.
- Describe in detail about aquatic mammals.
- Write an essay on Dentition in mammals.



09NE21



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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B.A. / B.Sc. Degree (Semester) Examinations, April 2015

Part – IV : Non-Major Elective Subject : Second Semester : Paper – I

**FOOD AND NUTRITION**

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Iron deficiency causes
  - a) Tetany
  - b) Goitre
  - c) Anaemia
  - d) Wilson's disease
2. Which one is the basic unit of Protein?
  - a) Glucose
  - b) Amino acid
  - c) Fatty acid
  - d) Enzyme
3. The deficiency of Vitamin E causes
  - a) Sterility
  - b) Anaemia
  - c) Blindness
  - d) Hemophilia
4. Which is the common insect contaminating the food?
  - a) Honeybee
  - b) Mosquito
  - c) Grasshopper
  - d) House fly
5. Kwashiorkor caused by
  - a) Bacteria
  - b) Virus
  - c) Fungi
  - d) Malnutrition
6. What is Anaemia?
7. What is Spoilage?
8. What is WHO?
9. What is trapping?
10. What is RDA?

**SECTION – B**

**Answer ALL Questions :**

**(4 × 10 = 40)**

11. a) Write an account on the food poisoning.

**(OR)**

b) What is Recommended Dietary Allowances? How can it be used?
12. a) Write an account on obesity.

**(OR)**

b) Write short note on sources and physiological functions of Vitamin A and D.
13. a) Comment on any two minerals and their functions.

**(OR)**

b) Describe the disorders of Malnutrition.
14. a) Critically comment on the food borne diseases and preventive measures.

**(OR)**

b) How can the insects and rodents be controlled at home?

**SECTION – C**

**Answer any TWO Questions :**

**(2 × 12½ = 35)**

15. Give an account on the water soluble vitamins.
16. Describe the various methods of food preservation.
17. Write an essay on functions of the food.



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Fourth Semester : Paper – I

**DEVELOPMENTAL BIOLOGY**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

- Female gamete is
  - Sperm
  - Egg
  - Zygote
  - Blastula
- Development of an egg without fertilization is known as
  - Fertilization
  - Gastrulation
  - Parthenogenesis
  - Organogenesis
- Following one is a photoreceptor
  - heart
  - ear
  - kidney
  - eye
- Retrogressive metamorphosis can be seen in
  - tadpole larva
  - zoea larva
  - trochophore larva
  - miracidium larva
- Which of the following method is used to control birth
  - Vasectomy
  - Tubectomy
  - Abortion
  - All the above methods
- What are cleidoic eggs?
- What is the role of acrosome during fertilization?
- Define gastrulation.
- Name the larva of frog.
- Write the use of laparoscope.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

- a) With a neat sketch, describe the structure of human sperm.  
**(OR)**  
b) Give an account on types of eggs.
- a) Write short notes on acrosomal and cortical reactions during fertilization.  
**(OR)**  
b) Define cleavage. Add a note on planes of cleavage.
- a) Write an account on foetal membranes in chick.  
**(OR)**  
b) Explain briefly the development of an eye.
- a) Enumerate the functions of placenta.  
**(OR)**  
b) Describe the events in the process of regeneration.
- a) Write a short account on nuclear transplantation experiments.  
**(OR)**  
b) Suggest the necessity for birth control. Comment on tubectomy.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

- Explain about the various theories on development of the organisms.
- Write an essay on parthenogenesis.
- Describe the process of gastrulation in Frog.
- Give an account on amphibian metamorphosis.
- How is test tube baby born? Add a note on merits of this technique.



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Fourth Semester : Paper – II

**PHYSIOLOGY**

Under CBCS – Credit 5

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

- Digestion of maltose results in the formation of
  - Glucose + Fructose
  - Glucose + Galactose
  - Glucose + Glucose
  - Galactose + Fructose
- Which of the following blood group is known as Universal Recipient?
  - A Group
  - B Group
  - O Group
  - AB Group
- The major excretory substance of man is
  - Uric acid
  - Urea
  - Ammonia
  - Xanthine
- The structural and functional unit of nervous system is
  - Neuron
  - Nephron
  - Pleuron
  - Nexon
- Pick out the phonoreceptor from the following
  - Eye
  - Ear
  - Tongue
  - Skin
- What is meant by bile?
- What is meant by Respiratory Quotient?
- Define the term aestivation.
- Mention the components involved in reflex arc.
- Mention the hormones produced by Islets of Langerhans.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

- Bring out various branches of Physiology. (OR)
  - Analyse any seven minerals and their physiological role.
- Write an account on composition of blood. (OR)
  - Analyse various types of respiratory pigments in animals.
- Classify animals based on their excretory products with examples. (OR)
  - Describe the ultra structure of human nephron with an illustration.
- Analyse any five biochemical changes that occur during muscle contraction. (OR)
  - Explain the sequential steps that occur during neuromuscular transmission of nerve impulse.
- Analyse different types of biological rhythms with examples. (OR)
  - Enumerate different types of receptors in animals.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

- Write a detailed account on the digestion and absorption of proteins in man.
- Describe the mechanism of transport of O<sub>2</sub> and CO<sub>2</sub> through blood.
- Analyse the problems encountered and adaptations seen in freshwater and marine teleosts with reference to osmoregulation.
- Discuss the ultra structure of skeletal muscle fibre and mechanism of muscle contraction.
- 'Pituitary gland is the master gland of all other endocrine glands' – substantiate.



09SB41



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B.Sc. Zoology Degree (Semester) Examinations, April 2015  
Part – IV : Skill Based Subject : Fourth Semester : Paper – I

**CLINICAL LAB TECHNOLOGY**

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Which blood group is called Universal Donor?  
a) O                      b) A                      c) AB                      d) B
2. Which technique is used to separate molecules based on colour?  
a) Electrophoresis                      b) Chromatography  
c) Autoclaving                      d) Centrifuging
3. Which instrument is used to estimate the Haemoglobin in blood?  
a) Haemoglobinometer                      b) Haemocytometer  
c) EEG                      d) ECG
4. Cytology is the study of  
a) Tissue                      b) Cells                      c) Parasites                      d) Insects
5. The disease Anemia is caused by lack of  
a) Calcium                      b) Iron                      c) Potassium                      d) Cobalt
6. Expand HDL.
7. Expand LDL.
8. Expand PPE.
9. Expand ESR.
10. Expand EEG.

**SECTION – B**

**Answer ALL Questions :**

**(4 × 10 = 40)**

11. a) Describe the General plan of the Laboratory bio safety.  
**(OR)**  
b) How to estimate the WBC count by using Haemocytometer?
12. a) Discuss the working principles of Autoclave.  
**(OR)**  
b) Give an account on Arthritis.
13. a) Discuss the blood groups and blood bank.  
**(OR)**  
b) Describe the Lipid Profile and its uses.
14. a) Write an account on ECG.  
**(OR)**  
b) Critically comment on Paper Chromatography.

**SECTION – C**

**Answer any TWO Questions :**

**(2 × 12½ = 25)**

15. Give an account on Composition of blood.
16. Explain the semen analysis.
17. Explain the principle and applications of Electron microscope.



09AT02



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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B.Sc. (Chem. / Bot.) Degree (Semester) Examinations, April 2015

Part – III : Allied Subject : Fourth Semester : Paper – II

**BIOLOGY AND HUMAN WELFARE**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. In virus, the head is covered by a protein coat known as
  - a) capsid
  - b) cosmid
  - c) phagemid
  - d) promid
2. BCG vaccine is used to prevent the disease
  - a) cholera
  - b) tuberculosis
  - c) tetanus
  - d) mumps
3. Ascaris may found in the \_\_\_\_\_ of man.
  - a) mouth
  - b) stomach
  - c) intestine
  - d) pharynx
4. The culture of silkworm is known as
  - a) sericulture
  - b) vermiculture
  - c) apiculture
  - d) lacculture
5. The fleshy fruiting body is present in.
  - a) yeast
  - b) mushroom
  - c) bacteria
  - d) virus
6. Comment on bacteriophage.
7. What is capsule?
8. What do you know about malaria?
9. Comment on silk gland.
10. Define honey.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

11. a) Explain briefly the chicken pox. **(OR)**  
b) Write short notes on influenza.
12. a) Describe briefly the bacterial disease cholera. **(OR)**  
b) Give a brief account on the tetanus.
13. a) Explain briefly the helminthes parasite wucheraria. **(OR)**  
b) Write briefly on amoebic dysentery.
14. a) Give a brief account on the composite fish culture. **(OR)**  
b) Describe briefly the life cycle of silkworm.
15. a) Write an account on beehive with neat diagram. **(OR)**  
b) Explain briefly the biogas production.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

16. Discuss in detail the structure of a typical virus.
17. With a neatly labeled diagram, explain the structure of bacteria.
18. Discuss in detail: a) Ringworm b) Ancylostoma
19. Give an account on the importance and significance of vermiculture.
20. Explain in detail the importance and advantages of mushroom culture.



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Sixth Semester : Paper – I

**APPLIED BIOTECHNOLOGY**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. The enzyme tPA is a  
a) Lipase      b) Protease      c) Amylase      d) Hydrolase
2. Molecular farming refers to  
a) Use of Transgenic animals as bioreactor for the mass production of drugs and proteins  
b) Use of Transgenic animals for Agricultural works  
c) Use of Farm animals for molecular engineering  
d) Use of farm animals for the production of drugs
3. Which of the following microbe converts simple sugars into ethanol?  
a) C. Thermohydro sulphuricum      b) C. Thermosaccharolyticum  
c) Zymomonas mobilis      d) C. Acetobutylicum
4. Which of the following cells are amenable for Gene therapy?  
a) Erythrocytes      b) Myeloblasts      c) Platelets      d) WBC
5. Cleaning up of toxic contaminants in the environment using the activity of natural microbial population in the wastes is called as  
a) Biomining      b) Bioremediation      c) Biosensing      d) Bioreactivation
6. From which mammalian cell culture Blood factor VIII is produced?
7. What is bacterization?
8. Which is the biggest spirulina farm in India?
9. What is monoclonal antibody?
10. Give an example of a biodegrading agent.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

11. a) Discuss the applications of animal bioreactor.  
(OR)  
b) How are transgenic sheeps useful than a normal sheep?
12. a) Bring out the salient features of disease resistant plants.  
(OR)  
b) Explain the method of production of single cell protein.
13. a) Describe the Extraction of ethanol from yeast.  
(OR)  
b) Write a short account on bacterial Pesticides.
14. a) Explain the application of monoclonal antibodies.  
(OR)  
b) How are DNA probes used in diagnosis of diseases?
15. a) List out the advantages of Biomining.  
(OR)  
b) Give a short account on bio leaching by micro organisms.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

16. What are the products of Animal cell culture?
17. Write an essay on Biofertilizers.
18. Explain commercial production of Penicillin.
19. What are the improvements in the field of Medicine acquired from the development of biotechnology?
20. How do Genetically Modified Organisms (GMOS) employed in the management of environmental wastes?





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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Core Subject : Sixth Semester : Paper – II

**MICROBIOLOGY**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Transformation in bacteria was reported in 1928 by \_\_\_\_\_.  
a) Fraenkel      b) Pasteur      c) G. Gaffky      d) Fred Griffith
2. Elimination of microorganisms of all types from an environment by physical or chemical means is called \_\_\_\_\_.  
a) Incineration      b) Pasteurization      c) Sterilization      d) Disinfection
3. Which of the following disease is caused by clostridium?  
a) Salmonellosis      b) Botulism      c) Mycotoxigenesis      d) Giardiasis
4. The study of factors that determine the distribution and frequency of disease is termed as  
a) Epidemiology      b) Pathology      c) Toxicology      d) Etiology
5. Chicken pox is caused by  
a) Polio virus      b) Varicella      c) Rubeola      d) Paramyxovirus
6. What are viroids?
7. What is a nutrient broth?
8. At which depth in a garden soil does the maximum number of microorganisms per gram occur?
9. What is MPN?
10. Define common cold.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

11. a) Write the salient features of bacteria.  
**(OR)**  
b) Write the structure of virus with diagram.
12. a) Explain briefly the bacterial growth curve in batch culture.  
**(OR)**  
b) Define sterilization. Comment on wet sterilization.
13. a) Define nitrogen fixation. Explain its physiology.  
**(OR)**  
b) Write notes on food spoilage and food poisoning.
14. a) Write the standard plate count method to determine the potability of water.  
**(OR)**  
b) List out the common bacterial and viral diseases of man and their causative organisms.
15. a) Explain briefly the vinereal diseases.  
**(OR)**  
b) Write a note on fungal diseases.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

16. Explain in detail the events of conjugation in bacteria.
17. Give a detailed account on the preservation of bacteria.
18. Describe the various methods followed in food preservation.
19. Discuss on AIDS.
20. Write a detailed account on rabies.



09EP61



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Elective Subject : Sixth Semester : Paper – I

**IMMUNOLOGY**

Under CBCS – Credit 4

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Maturation of B lymphocytes occurs in
  - a) Thymus
  - b) Spleen
  - c) Bone marrow
  - d) Lymph node
2. The lymphoid organ, Bursa of Fabricius is seen in
  - a) Man
  - b) Birds
  - c) Bats
  - d) Fishes
3. The part of the antigen with which the antibody reacts is known as
  - a) Paratope
  - b) Atope
  - c) Halotope
  - d) Epitope
4. The factors causing hypersensitivity are called as
  - a) Allergens
  - b) Immunogens
  - c) Antigens
  - d) Antibodies
5. If the graft is being done between two individuals of two different species, it is known as
  - a) Syngraft
  - b) Allograft
  - c) Xenograft
  - d) Autograft
6. What are interferons?
7. Expand MALT.
8. What is meant by hapten?
9. Expand AIDS.
10. What do you mean by precipitation?

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

11. a) 'Louis Pasteur is popularly known as Father of Immunology' – Substantiate.

**(OR)**

b) Analyse various biochemical factors of innate immunity.
12. a) Bring out the steps involved in T cell activation by a flow chart.

**(OR)**

b) Write a critical account on Peyer's patches.
13. a) Describe any three salient features of antigen – antibody reaction.

**(OR)**

b) Analyse different types of histocompatible molecules.
14. a) Give an account on humoral immunity.

**(OR)**

b) Discuss the biological functions of complement system.
15. a) Explain the principle and procedure of ELISA.

**(OR)**

b) What is a vaccine? Mention its types.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

16. Write a detailed account on the fate of stem cells.
17. Describe the structure and immunological function of thymus.
18. Explain the structure of a typical Ig molecule with a neat diagram.
19. Analyse the different types of hypersensitivity with examples.
20. Discuss the steps involved and applications of Radio Immuno Assay.



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – III : Elective Subject : Sixth Semester : Paper – II

**ENVIRONMENTAL BIOLOGY**

Under CBCS – Credit 3

Time: 3 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

- Homeothermic animals are
  - Ectothermic
  - Endothermic
  - Heterothermic
  - None of these
- Q<sub>10</sub> ranges from
  - 1.5-2
  - 1.5-3
  - 1.5-4
  - 1.5-5
- In commensalisms
  - One partner is benefited
  - both partner s are benefited
  - one partner is harmed
  - both partner s are harmed
- Conversion of dead organic matter into inorganic matter is done by
  - carnivores
  - herbivores
  - omnivores
  - detritivores
- Nativity is due to
  - Growth
  - Birth
  - Death
  - None of these
- What is community?
- What is zonation?
- Name the marine habitat stratifications.
- Compare and contrast eutrophication and biomagnification.
- Compare and contrast a sanctuary and a national park.

**SECTION – B**

**Answer ALL Questions :**

**(5 × 7 = 35)**

- a) List out a few water problems of terrestrial habitat? (OR)  
b) Write about pedogenesis.
- a) Illustrate the nitrogen cycle in the environment. (OR)  
b) Explain commensalism with a few examples.
- a) Describe the dispersal in population. (OR)  
b) Classify succession.
- a) Write about the fauna of pond eco system. (OR)  
b) List out the forest adaptations.
- a) Write short notes on i) acid rain ii) ozone depletion  
(OR)  
b) Describe the ecological effects of noise pollution.

**SECTION – C**

**Answer any THREE Questions :**

**(3 × 10 = 30)**

- Give an account of the effects of light on organisms.
- Define ecosystem. Write in detail the components of ecosystem.
- Briefly explain the types and patterns of ecological succession with a note on its characteristics.
- Discuss about the estuary habitat in detail.
- Write an essay on Wildlife conservation and management.



09SB61



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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – IV : Skill Based Subject : Sixth Semester : Paper – I

**FISH CULTURE**

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. The fishes belongs to the sub-phylum \_\_\_\_\_.  
a) Chordata      b) Prochordata      c) Vertebrata      d) None of these
2. The optimum temperature for fish growth is \_\_\_\_\_.  
a) 20 – 25°C      b) 30 – 35°C      c) 35 – 40°C      d) 15 – 20°C
3. Which one of the following is integrated fish farming?  
a) Paddy cum fish culture      b) monoculture  
c) Monosex culture      d) Polyculture
4. The common fish disease caused by crustacean is \_\_\_\_\_.  
a) Trichodinosis      b) Argulosis      c) Aeromonas      d) None of these
5. Which one of the following fish is fastest growing of the Indian Major Carps?  
a) Catla      b) Rohu      c) Murrel      d) Mystus
6. What is aquaculture?
7. Mention the name of fungal disease in fish.
8. What is mono culture?
9. Expand CMFRI.
10. Mention any two aims of aquarium.

**SECTION – B**

**Answer ALL Questions :**

**(4 × 10 = 40)**

11. a) Explain the different types of culture systems in fish.  
**(OR)**  
b) Write a brief account on importance of fish culture.
12. a) Discuss the maintenance and management of fish pond.  
**(OR)**  
b) Describe the types of fish pond.
13. a) Explain the symptoms and treatments of bacterial diseases of fish.  
**(OR)**  
b) Discuss the Integrated fish farming with suitable example.
14. a) Write a detailed account on culture of daphnia and brachionus.  
**(OR)**  
b) Enumerate the salient features of any two ornamental fish.

**SECTION – C**

**Answer any TWO Questions :**

**(2 × 12½ = 25)**

15. Write an essay on physical and chemical properties of fish culture with suitable illustrations.
16. Explain the Induced breeding technique in fish.
17. Summarize the morphological features of Indian Major Carps.



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VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST

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B.Sc. Zoology Degree (Semester) Examinations, April 2015

Part – IV : Skill Based Subject : Sixth Semester : Paper – II

**VERMITECHNOLOGY**

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. Clitellum.
2. Setae.
3. Vermi Soup.
4. Epigeic.
5. Humus.
6. Black gold.
7. Metamerism.
8. Hermaphrodite.
9. Regeneration.
10. Anecic.

**SECTION – B**

**Answer ALL Questions :**

**(4 × 10 = 40)**

11. a) Explain the harvesting of Vermicast.

**(OR)**

b) Describe the basic requirements for Vermitechnology.

12. a) Explain the rearing of earthworms.

**(OR)**

b) Describe the methods of Vermicomposting.

13. a) Indicate the economics of Vermiculture.

**(OR)**

b) Write about the preparation and collection of Vermiwash.

14. a) Describe the role of NABARD in the development of Vermitechnology.

**(OR)**

b) Elucidate the role of earthworms in pollution control and waste land development.

**SECTION – C**

**Answer any TWO Questions :**

**(2 × 12½ = 25)**

15. Explain the features of exotic and indigenous species of earthworm.

16. Explain the following: i) Vermibed preparation

ii) Role of KVIC

17. Write down the applications of Vermicomposting in agriculture and horticulture.



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Part – IV : Skill Based Subject : Sixth Semester : Paper – III

**DAIRY FARMING**

Under CBCS – Credit 2

Time: 2 Hours

Max. Marks: 75

**SECTION – A**

**Answer ALL Questions :**

**(10 × 1 = 10)**

1. What is Silage?
2. Expand DCP.
3. Write down the Storage temperature of straw semen.
4. What is Colostrum?
5. What is line breeding?
6. What is a loose bran?
7. Name one Exotic breed of cow.
8. What is Wallowing?
9. Name four Chambers of cow stomach.
10. Expand MDMPCU.

**SECTION – B**

**Answer ALL Questions :**

**(4 × 10 = 40)**

11. a) Discuss various by – products of dairy.

**(OR)**

- b) How will you detect various adulteration in milk.

12. a) Explain the infection, pathology and treatment of any two bacterial disease.

**(OR)**

- b) Explain the infection, pathology and treatment of any two viral disease.

13. a) Classify cattle feeds and their nutritive values.

**(OR)**

- b) Discuss various measures of feeding Pregnant cow and calf.

14. a) Give an account on various scopes of Dairy in India.

**(OR)**

- b) Describe the characteristics of any three Exotic breeds of cow

**SECTION – C**

**Answer any TWO Questions :**

**(2 × 12½ = 25)**

15. What is system of breeding? What are its types?  
Discuss its merits & demerits.
16. Write an essay on Artificial in Semination.
17. Explain the Composition and Nutritive value of Milk and Colostrum.

