

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF ZOOLOGY



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|----------------------|--------------------|-------------------|---------|-------------------|----|
| Course Code: | 09CT21 | Programme: | B.Sc | CIA: | II |
| Date: | 03.04.2021 | Course: | Zoology | Semester: | 2 |
| Duration: | 2 Hours | Year: | I | Max.Marks: | 50 |
| Course Title: | CHORDATES I | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Palcoid scales are characteristics of ----- fishes CO 3
 - a. Ostracoderms
 - b. Placoderms
 - c. Elasmobranch
 - d. Common carps
- 2 Crop milk is applicable to CO 3
 - a. Crocodiles
 - b. *Scoliodon*
 - c. Birds
 - d. Mammals
- 3 The four chambers stomach possess by CO 3
 - a. Reptiles
 - b. Elasmobranch
 - c. Ruminants
 - d. None of these
- 4 The most efficient lungs are found in CO 3
 - a. Mammals
 - b. Birds
 - c. Reptiles
 - d. Amphibians
- 5 In frog the spinal cord enters the cranium through CO 5
 - a. Exoccipitals
 - b. Occipital condyles
 - c. Foramen magnum
 - d. Fenestra ovalis
- 6 Which one of the following is found in the mammalian heart? CO 4
 - a. Foramen ovale
 - b. Annulus ovalis
 - c. Fossa ovalis
 - d. All of these
- 7 How many spinal nerves are present in frog? CO 4
 - a. 8 pairs
 - b. 10 pairs
 - c. 12 pairs
 - d. 15 pairs
- 8 Muscles are: CO 4
 - a. Thermoreceptor
 - b. Mechanoreceptor
 - c. Chemoreceptor
 - d. Photoreceptor
- 9 Bone of upper arm is called CO 5
 - a. Femur
 - b. Tibia
 - c. Humerus
 - d. Ulna
- 10 The basic functional unit of kidney is CO 5
 - a. Neruron
 - b. Nephron
 - c. Henle;s loop
 - d. Nephridium

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 What you meant by digital tips? CO 3
- 12 Comment on uropygial gland. CO 3
- 13 Define the term photoreceptors CO 3
- 14 Write any four key function of Integument system. CO 5
- 15 Define neuron. CO 4
- 16 List out the types of receptors in mammals CO 4
- 17 Comment on nephron. CO 5

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Write an account on dermal scales of fishes. CO 3
- 19 Mention the main differences between digestive system of birds and mammals. CO 3
- 20 Write a short note on respiratory system of birds. CO 3
- 21 Draw the structure of photoreceptor in rabbit and comment on it. CO 4
- 22 Describe the structure and functions of excretory system in rabbit. CO 5

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Write an essay on the endoskeleton of frog CO 5
- 24 With a neat sketch, describe and compare the various animals heart. CO 4



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| Course Code: | 09CT22 | Programme: | B.Sc | CIA: | II |
| Date: | 13.04.2021 | Major: | Zoology | Semester: | II |
| Duration: | 2 Hours | Year: | I | Max.Marks: | 50 |
| Course Title: | CHORDATES - II | | | | |

SECTION – A (Remembering)

Answer ALL the Questions:

(10 X 1 = 10 Marks)

- 1 Cleidoic and megalecithal egg is present in _____ (CO5)
a) Metatheria b) Prototheria c) Eutheria d) All the above
- 2 Which one is Prototheria? (CO5)
a) Echidna b) Cat c) Kangaroo d) Lion
- 3 _____ is true placental mammals (CO5)
a) Eutheria b) Echidna c) Prototheria d) Metatheria
- 4 Allantoic placenta present in _____ (CO5)
a) Metatheria b) Echidna c) Eutheria d) Prototheria
- 5 Metatheria are also called _____ (CO5)
a) Pinna b) Oviparous c) Marsupials d) Monoremata
- 6 In _____ skin function as an accessory respiratory organ (CO2)
a) Anguilla b) Electric Eel c) Lung fishes d) Mud-skipper
- 7 Tubular sacs are the accessory respiratory organs found in _____ (CO2)
a) Lepidosiren b) Saccobranchus c) Dipnoi d) Protopterus
- 8 Amia is a _____ (CO2)
a) Air bladders b) Lungs fish c) Tubular sacs d) Intestinal fish
- 9 The poison glands of poisonous snake are modified _____ (CO3)
a) Buccal glands b) Palantine glands. c) salivary glands. d) Lacrymal glands
- 10 The most poisonous snake is (CO3)
a) Krait b) Tree snake c) Python d) Rat snake

SECTION – B (Remembering)

Answer any FIVE Questions:

(5 X 2 = 10 Marks)

- 11 Name any two egg laying mammals. (CO5)
- 12 Write a short note on marsupials. (CO5)
- 13 Define monotremes. (CO5)
- 14 Give a short note on adaptive radiation. (CO5)
- 15 Define accessory respiratory organs. (CO2)
- 16 What are the needs for accessory respiratory organs? (CO2)
- 17 Mention the chemical nature of snake venom. (CO3)

SECTION – C (Understanding)

Answer any THREE Questions:

(3 X 6 = 18 Marks)

- 18 Enlist the salient features of prototheria. (CO5)
- 19 Give an account on aquatic mammals. (CO5)
- 20 Write a note on labyrinthine organs in fishes. (CO2)
- 21 Characterize the morphological features of *Naja naja* with a figure. (CO3)
- 22 Give an account on snake biting, identification, first aid, and treatment. (CO3)

SECTION – D (Applying)

Answer any ONE Question:

(1 X 12 = 12 Marks)

- 23 Write an essay on origin of mammals. (CO5)
- 24 Elaborate the features of poisonous and non – poisonous snakes of South India with illustrations. (CO3)





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|----------------------|---------------------------|---------------|-----------|-------------------|----|
| Course Code: | 09NE21 | Major: | Non-Major | CIA: | II |
| Date: | 08.04.2021 | | | Semester: | II |
| Duration: | 2 Hours | Year: | I | Max.Marks: | 50 |
| Course Title: | FOOD AND NUTRITION | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Which one is the building blocks of the body? CO1
a) Carbohydrate b) Protein c) Fat d) Vitamins
- 2 Which is the basic unit of carbohydrates? CO1
a) Glucose b) Amino acid c) Fatty acid d) Enzyme
- 3 Pick out the non-mineral from the following CO2
a) Iodine b) calcium c) sodium d) Protein
- 4 Beriberi is caused by the deficiency of CO2
a) Vitamin B₁ b) Vitamin C c) Vitamin D d) Vitamin K
- 5 Deficiency of iodine leads to CO3
a) anaemia b) tetany c) goitre d) fluorosis
- 6 Which syndrome is caused by the deficiency of vitamin C? CO3
a) Xerophthalmia b) Scurvy c) Beriberi d) Pellagra
- 7 Marasmus is caused by the deficiency of CO4
a) Proteins b) carbohydrates c) Minerals d) Vitamins
- 8 The technique is used to preserve milk is CO4
a) Drying b) Salting c) Pasteurization d) Smoking
- 9 Which of the following is not a food born disease? CO5
a) Salmonellois b) Botulism c) Malaria d) Marasmus
- 10 Which one of the following is common insect contaminating food? CO5
a) House fly b) Honeybee c) Grasshopper d) Mosquito

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 Expand WHO and FAO. CO1
- 12 What is balanced diet? CO1
- 13 List out the biochemical name of water soluble vitamins. CO2
- 14 Comment on anemia. CO3
- 15 Why water is essential for survival? Comment on it. CO4
- 16 What is food spoilage? CO4
- 17 Enlist the food poisoning organisms. CO5

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Expand and comment on RDA. CO1
- 19 Describe the physiological role of major nutrients. CO2
- 20 Comment on the disorders of malnutrition. CO3
- 21 Explain the controlling measures for insects and rodents CO4
- 22 Describe the causes, prevention and treatment for food poisoning. CO5

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Describe the sources and functions of fat soluble vitamins. CO2
- 24 Write an essay on various food preservation techniques. CO4



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|----------------------|------------------------------|-------------------|---------|-------------------|----|
| Course Code: | 09CT41 | Programme: | B.Sc. | CIA: | II |
| Date: | 03.04.2021 | Major: | Zoology | Semester: | IV |
| Duration: | 2 Hours | Year: | II | Max.Marks: | 50 |
| Course Title: | DEVELOPMENTAL BIOLOGY | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- In chick development, the cell movement during gastrulation is called: (CO3)
a. invagination b. Involution c. ingression d. epiboly
- The process in which the three germ layers form is called: (CO3)
a. fertilization b. Cleavage c. Gastrulation d. organogenesis
- During organogenesis, hypomere mesoderm flanks the (CO3)
a. Gut region b. Neural tube c. Notochord d. Intermediate
- During gastrulation in frog, the prospective nervous system mainly expand due to (CO3)
a. involution b. Invagination c. Epiboly d. Delamination
- Gastrulation in Amphioxus occurs by a process of (CO3)
a. Hyperboly b. Hypoboly c. Delamination d. Invagination
- The transformation of one form from embryo during development to adult is (CO4)
a. Metamorphosis b. Gastrulation c. Diffrentiation d. Dedifferentiation
- The hormone chiefly responsible for metamorphosis is (CO4)
a. Pitutary b. Thyroxine c. Adrenaline d. Estrogen
- In insect that hormone that controls the growth, moulting and onsect of metamophosis is _____ hormone (CO4)
a. Brain b. Prothorocotrophic c. Thorasic d. Juvenile
- The organiser is the route cause for the development of (CO4)
a. Ectoderm b. Endoderm c. Mesoderm d. All the above
- The induction for embryonic eye formation is coming from (CO4)
a. Brain b. Procencephalon c. metancephalon d. Diencephalon

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- What is morphogenetic movement? CO3
- Define cleavage furrow. CO3
- What is tabulation? CO3
- Write a short note on differentiation? CO3
- What is progressive metamorphosis? CO5
- Comment on douching birth control. CO5
- Write a short note on super regeneration. CO4

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- Discuss the formation of mesoderm in chick. CO2
- Describe the fate map in amphioxus. CO3
- Define and explain blastulation. CO3
- Describe the process of test tube baby formation. CO4
- Explain the modification of morphological and anatomical changes in metamorphosis of amphibian. CO4

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- Through suitable diagram, explain the process of planes and cleavage in chick CO2
- Give a detailed account on various methods of birth control in Human. CO5



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| Course Code: | 09CT42 | Programme: | B.Sc. | CIA: | II |
| Date: | 13.04.2021 | Major: | Physiology | Semester: | IV |
| Duration: | 2 Hours | Year: | 2021 | Max.Marks: | 50 |
| Course Title: | PHYSIOLOGY | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Ammonia is not the excretory product of
a) Polychaetes b) Mammals c) Crustaceans d) Molluscs (CO3)
- 2 Uricotelism is an adaptation to
a) Flight of birds b) Aquatic habitat (CO3)
c) Embryonic development in cleidoic eggs d) Both a and c
- 3 The structural and functional unit of nervous system is (CO4)
a) Colon b) Neuron c) Dendron d) Nephron
- 4 Light band has which of the following filament protein? (CO4)
a) Myosin b) Actin c) both a and b d) none of these
- 5 Muscle get fatigue is due to accumulation of (CO4)
a) Lactic acid b) ATP c) Phosphate molecules d) Carbon dioxide
- 6 The hormone regulating excretion is (CO3)
a) TSH b) ADH c) FSH d) Thyroxin
- 7 Bowman's capsular space is filled with a fluid called (CO3)
a) Glomerular filtrate b) Lymph c) Blood d) Urine
- 8 Which gland is located just superior to the kidney? (CO5)
a) Pituitary gland b) Adrenal gland c) Pancreas d) Ovaries
- 9 Which of these is not an endocrine gland? (CO5)
a) Pancreas b) Testes c) Salivary gland d) parathyroid
- 10 Which gland control basal metabolic rate? (CO5)
a) Thyroid b) Parathyroid c) Testes d) Pancreas

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 Define osmoregulation. (CO3)
- 12 Interpret the term hibernation. (CO3)
- 13 What is fasciculus? (CO4)
- 14 What is synapse? (CO4)
- 15 Comment on nephron. (CO3)
- 16 List out the endocrine glands. (CO5)
- 17 Give a note on biological clock. (CO5)

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Enlist the salient features of osmoregulators. (CO3)
- 19 Give an account on ultrastructure of a typical neuron with a neat diagram. (CO4)
- 20 With a neat sketch explain the structure of kidney. (CO3)
- 21 Classify the animals based on their excretory products with illustrations. (CO3)
- 22 Enumerate the physiological roles of pituitary hormones. (CO5)

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Describe the ultrastructure of skeletal muscle with labelled sketches. Add some properties of it. (CO4)
- 24 Write a detailed account on the mechanism of urine formation. (CO3)





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|----------------------|--------------------------------|-------------------|---------|-------------------|-----------|
| Course Code: | 09SB41 | Programme: | B.Sc. | CIA: | II |
| Date: | 02.04.2021 | Major: | Zoology | Semester: | IV |
| Duration: | 1 Hour | Year: | 2021 | Max.Marks: | 25 |
| Course Title: | CLINICAL LAB TECHNOLOGY | | | | |

SECTION – A

Answer **ALL** the Questions:

(5 X 1 = 5 Marks)

- 1 HPLC is an abbreviation for?
a) High Profit Liquid Chromatography b) High Pressure Liquid Chromatography
c) Higher Performance Low Chromatography d) Higher Profit Low Chromatography
CO4
- 2 The normal composition of feces includes all of the following except: CO5
a) Bacteria b) Blood c) Electrolytes d) Water
- 3 Ion exchange chromatography is based on? CO4
a) Electrostatic attraction b) Electrical mobility of ionic species
c) Partition chromatography d) Adsorption chromatography
- 4 pH of normal sperm is_____ CO5
a. 7.2 to 8 b. 7 to 7.5 c. 8 to 9 d. 7.2 to 7.8
- 5 Counting chamber of RBC in_____ small squares CO4
a. 70 b. 60 c. 50 d. 80

SECTION – B

Answer any **TWO** Questions:

(2 X 2 = 4 Marks)

- 6 Write the symptoms of anaemia. CO5
- 7 What is CHD? CO5
- 8 What is arthritis? CO4
- 9 Expand: MRI and ESR CO3

SECTION – C

Answer any **ONE** Questions:

(1 X 6= 6 Marks)

- 10 Explain the causative organism, symptoms and control measures of Jaundice. CO4
- 11 Explain the principle and applications of paper chromatography. CO3

SECTION – D

Answer any **ONE** Question:

(1 X 10= 10 Marks)

- 12 Describe the medical importance of ECG. CO4
- 13 Give a detailed account on Urine profile. CO5

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|----------------------|----------------------------------|-------------------|----------------------|-------------------|----|
| Course Code: | 09AT02 | Programme: | B.Sc. | CIA: | II |
| Date: | 12.04.2021 | Major: | Chemistry/ Botany | Semester: | IV |
| Duration: | 2 Hours | Year: | II | Max.Marks: | 50 |
| Course Title: | BIOLOGY AND HUMAN WELFARE | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Earthworm belongs to the Phylum ____
a) Protozoa b) Porifera c) Annelida d) Arthropoda (CO4)
- 2 The percentage of nitrogen in earthworm casting is
a) 3% b) 2% c) 1% d) 4% (CO4)
- 3 The predominant gas in biogas is
a) Methane b) Oxygen c) Nitrogen d) Hydrogen (CO5)
- 4 Which is the unfertile female of the honey comb?
a) Queen b) Worker c) Drone d) Wax moth (CO5)
- 5 Reserve food material of fungi is
a) Starch b) Protein c) Glucose d) Glycogen (CO5)
- 6 Pisciculture is culture of
a) Frogs b) Fishes c) Prawns d) Birds (CO4)
- 7 The important food fish is
a) Rohu b) Catla catla c) Wallago attu d) Clarius (CO4)
- 8 In India, the best aquarium is located at
a) Z.S.I Calcutta b) Tarapur, Bombay c) Madras d) Vishakhapatnam (CO4)
- 9 Which one of the following is exotic fish?
a) Anabas b) Singhi c) Mirror carp d) Payas (CO4)
- 10 Which of the following gland is involved in the induced breeding?
a) Pituitary b) Thyroid c) Para-thyroid d) Thymus (CO4)

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 What is vermiwash? (CO4)
- 12 Give a note on bee venom and bee wax. (CO5)
- 13 Comment on methanogens. (CO5)
- 14 Mention the aim of fish culture. (CO4)
- 15 Name any two major carps. (CO4)
- 16 What is natural breeding? (CO4)
- 17 Define fish meal. (CO4)

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Describe the methods of cultivation of paddy straw mushroom. (CO5)
- 19 Write about the characteristic features of biogas. (CO5)
- 20 Give an account on major carps of economic importance. (CO4)
- 21 Enlist the qualities of culturable fishes. (CO4)
- 22 Give a short account on edible fishes in India. (CO4)

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Write an essay on biology of honey bee. (CO5)
- 24 Write a detailed account of induced breeding in fishes. (CO4)

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| | | | | | |
|----------------------|------------------|-------------------|---------|-------------------|----|
| Course Code: | 09CT61 | Programme: | B.Sc | CIA: | II |
| Date: | 03.04.2021 | Major: | Zoology | Semester: | 6 |
| Duration: | 2 Hours | Year: | III | Max.Marks: | 50 |
| Course Title: | EVOLUTION | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Genetic Drift is also known as
a. Founder effect b. Sewall Wright effect c. Bottleneck effect d. Gene migration CO 2
- 2 Which one of the following about Hardy-Weinberg law is correct? CO 2
a. A simple mathematical model showing how genetic equilibrium can be maintained in a gene pool
b. Helps in calculation of gene frequencies
c. Helps in the calculation of genotypic frequencies
d. All of these
- 3 The law of adaptive radiation was proposed by CO 5
a. Lamarck b. Bates c. Osborn d. De Varies
- 4 Cursorial adaptation are found in CO 5
a. Dogs b. Cats c. Deers d. All of these
- 5 The body of a burrowing animal is CO 5
a. Worm like b. Spindled shaped c. Fusiform d. All of these
- 6 The first mass extinction occurred during the CO 4
a. Permian-Triassic b. Triassic-Silurian c. Jurassic d. Cretaceous
- 7 The science of fossils are called CO 4
a. Ecology c. Mycology c. Palaeontology d. Immunology
- 8 The complete disappearance of a species or race from the earth is called CO 4
a. Evolution b. Extinction c. Speciation d. Formation
- 9 The evolutionary history of which one of the following is well documented in palaeontology? CO 5
a. Elephants b. Humans c. Horses d. None of these
- 10 Bipedal locomotion was first exhibited by CO 5
a. *Australopithecus* b. *Dryopithecus* c. *Ramapithecus* d. *Pitecanthropus*

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 State Hardy – Weinberg's law. CO 2
- 12 Add evolutionary significance of Sewall Wright. CO 2
- 13 Define adaptive radiation. CO 2
- 14 Comment on Mesozoic era CO 4
- 15 Define the Wagner hypothesis on animal distribution. CO 4
- 16 Comment on the formation of petrified fossil CO 4
- 17 What is orthogenesis? CO 5

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6= 18 Marks)

- 18 Describe the behavior of genes in natural population through Hardy – Weinberg's law. CO 2
- 19 Enumerate the effects of genetic drift on gene frequency. CO 2
- 20 Give a general account on distribution of animals CO 3
- 21 What is fossilization? Describe briefly its formation and types. CO 4
- 22 Write a short note on orthogenesis in the evolution of horse. CO 5

SECTION – D (Applying)

Answer any **ONE** Question:

(1X 12= 12 Marks)

- 23 Describe in a tabular form the geological divisions of the earth crust along with their salient features of fauna. CO 4
- 24 Discuss the adaptive radiation in mammals with appropriate illustrations. CO 5

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|----------------------|----------------------|-------------------|---------|-------------------|-----------|
| Course Code: | 09EP61 | Programme: | B.Sc. | CIA: | II |
| Date: | 10.04.2021 | Major: | Zoology | Semester: | VI |
| Duration: | 2 Hours | Year: | III | Max.Marks: | 50 |
| Course Title: | DAIRY FARMING | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions:

(10 X 1 = 10 Marks)

- 1 Basic function of amino acids is CO2
a) Respiration b) photosynthesis c) growth and repair d) digestion
- 2 Emulsification of fat is carried out by CO2
a) Bile pigments b) bile salts c) HCl d) pancreatic juice
- 3 A digestive upset in cattle where large amounts of gas are trapped in the rumen is called CO2
a) Acidosis b) Founder c) Shipping fever d) Bloat
- 4 Hemorrhagic septicemia is mainly affected the cattle CO3
a. Head b. Legs c. Abdomen d. Thoracic cavity
- 5 Rinderpest is caused by CO3
a) RPV b) HIV c) Retrovirus d) TMV
- 6 The percentage of immunoglobulin is much higher in CO4
a. Milk b. Fresh milk c. Dried milk d. Colostrum
- 7 The important source of butter preparation in CO4
a. Ghee b. Separated cream c. Gova d. Milk
- 8 Alcohol test is used to determine the _____ in milk CO4
a. Saltness b. Sourness c. Acidity d. Alkalinity
- 9 The volume of semen used during service through the semen straw is CO5
a) 2 to 10 ml b) 0.2 to 1.0 ml c) 20 to 100 ml d) 0.1 to 0.2 ml
- 10 In electro ejection method the amount of electric current applied in the rectal floor is CO5
a) 50 Volts b) 40 Volts c) 30 Volts d) 20 Volts

SECTION – B (Remembering)

Answer any **FIVE** Questions:

(5 X 2 = 10 Marks)

- 11 What is silage? CO2
- 12 Specify any four protein supplementary food for cow. CO2
- 13 What is bloat? CO2
- 14 Comment on quantity of semen. CO5
- 15 What is loose bran? CO5
- 16 Write the composition of egg yolk citrate diluter. CO5
- 17 What is Haemorrhagic- septicemia? CO3

SECTION – C (Understanding)

Answer any **THREE** Questions:

(3 X 6 = 18 Marks)

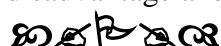
- 18 Comment on Milk fever disease. CO3
- 19 What is Mastitis? Explain. CO3
- 20 Discuss the digestive system of cow. CO2
- 21 Compare the tail to tail and head to head housing system. CO5
- 22 Differentiate artificial vagina and electro ejaculation methods of semen collection. CO5

SECTION – D (Applying)

Answer any **ONE** Question:

(1 X 12 = 12 Marks)

- 23 Explain the Causative organism, symptoms and control measures of viral diseases of cow. CO3
- 24 Give a detail account on advantage, disadvantage and limitation of artificial insemination. CO5



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| | | | | | |
|----------------------|------------------------------|-------------------|---------|-------------------|-----------|
| Course Code: | 09EP62 | Programme: | B.SC. | CIA: | II |
| Date: | 12.04.2021 | Major: | Zoology | Semester: | VI |
| Duration: | 2 HOURS | Year: | III | Max.Marks: | 50 |
| Course Title: | ENVIRONMENTAL BIOLOGY | | | | |

SECTION – A (Remembering)

Answer **ALL** the Questions: **(10 X 1 = 10 Marks)**

- 1 The effects of parasite on the host is **CO2**
 - a. Anaemia
 - b. Elephantiasis
 - c. Ancylostomiasis
 - d. All
- 2 Mutualism literally means **CO2**
 - a. messmates
 - b. living together
 - c. watchman
 - d. guest
- 3 Which one of the following is an intra-specific relationship? **CO2**
 - a. Social organisation
 - b. commensalism
 - c. mutualism
 - d. antibiosis
- 4 Minamata disease is caused by **CO5**
 - a. Mercury
 - b. Carbon dioxide
 - c. DDT
 - d. Methyl isocyanate
- 5 Disease that are caused by air pollution includes **CO5**
 - a. lung cancer
 - b. respiratory illness
 - c. skin diseases
 - d. All
- 6 Bandipur wild life sanctuary is situated in **CO5**
 - a. Chennai
 - b. Mysore
 - c. Hyderabad
 - d. Cochin
- 7 Wild life week is celebrates during the month of **CO5**
 - a. October
 - b. November
 - c. December
 - d. August
- 8 Gir National Park is for conserving the **CO5**
 - a. Tiger
 - b. Lion
 - c. Lion tailed Macaque
 - d. Rhinos
- 9 Chernobyl incident of USSR was due to **CO5**
 - a. Thermal power plant
 - b. Nuclear power plant
 - c. Caustic soda industry
 - d. Petroleum refinery
- 10 Sunderben Tiger Sanctuary is situated in the state of **CO5**
 - a. Rajasthan
 - b. Jharkhand
 - c. Madhya Pradesh
 - d. West Bengal

SECTION – B (Remembering)

Answer any **FIVE** Questions: **(5 X 2 = 10 Marks)**

- 11 Comment on Animal relationship **CO2**
- 12 What is biomagnification? **CO5**
- 13 List out the pollutants **CO5**
- 14 What is Bhopal episode? **CO5**
- 15 Comment on Neritic zone **CO5**
- 16 What is Noise pollution? **CO5**
- 17 Define Nekton **CO5**

SECTION – C (Understanding)

Answer any **THREE** Questions: **(3 X 6= 18 Marks)**

- 18 What is symbiosis? Explain its types with examples **CO2**
- 19 Analyse the causes of water pollution **CO5**
- 20 Write an account on ecological effects of water pollution **CO5**
- 21 Explain the parasitic adaptations of ecto and endo parasites **CO4**
- 22 Write short notes on impacts of radioactive pollution **CO5**

SECTION – D (Applying)

Answer any **ONE** Question: **(1X 12= 12 Marks)**

- 23 Explain the ecological effects and control measures of air pollution **CO5**
- 24 Write an essay on wild life conservation and management **CO5**

VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF ZOOLOGY



| | | | | | |
|----------------------|---------------------|-------------------|---------|-------------------|-----------|
| Course Code: | 09SB61 | Programme: | B.Sc. | CIA: | II |
| Date: | 31.03.2021 | Major: | Zoology | Semester: | VI |
| Duration: | 1 Hour | Year: | III | Max.Marks: | 25 |
| Course Title: | FISH CULTURE | | | | |

SECTION – A

Answer **ALL** the Questions: **(5 X 1 = 5 Marks)**

- 1 The optimum temperature for fish is _____ **CO4**
 a. 20 – 25⁰C b. 30 – 35 ⁰C c. 35 - 40⁰C d. 15 - 20⁰C
- 2 Which of the following is an endoparasite in fishes? **CO4**
 a. Argulus b. Hemilepsis c. Ligula d. Lerneae
- 3 The scientific name of molly is **CO5**
 a. *C. auratus* b. *B. splendens* c. *Poecilia* d. *Colisa*
- 4 Simplest method of curing fish is **CO5**
 a. Drying b. Salting c. Freezing d. Smoking
- 5 The common name of *Carassius auratus* **CO5**
 a. angel fish b. fighter c. gourami d. gold fish

SECTION – B

Answer any **TWO** Questions: **(2 X 2 = 4 Marks)**

- 6 Define ectoparasite **CO4**
- 7 Write the symptoms of gill rot **CO4**
- 8 Mention any four features of culturable fish **CO5**
- 9 What is live fish feed? **CO5**

SECTION – C

Answer any **ONE** Questions: **(1 X 6= 6 Marks)**

- 10 Enumerate the principles of feed formulation **CO5**
- 11 Describe the setting an aquarium **CO5**

SECTION – D

Answer any **ONE** Question: **(1 X 10= 10 Marks)**

- 12 Write an essay on symptoms and treatments of fungal and helminth diseases of fish **CO4**
- 13 Summarize the morphological features of Indian Major Carps **CO5**





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DEPARTMENT OF ZOOLOGY

| | | | | | |
|----------------------|------------------------|-------------------|---------|-------------------|-----------|
| Course Code: | 09SB62 | Programme: | B.Sc. | CIA: | II |
| Date: | 01.04.2021 | Major: | Zoology | Semester: | VI |
| Duration: | 1 Hour | Year: | III | Max.Marks: | 25 |
| Course Title: | VERMITECHNOLOGY | | | | |

SECTION – A

Answer **ALL** the Questions:

(5 X 1 = 5 Marks)

- 1 Which is the secretion of earthworm?
a) Slime b) Silk c) Wax d) Poison (CO3)
- 2 Which organism is called as friend farmers?
a) Earthworm b) Hookworm c) Pinworm d) Tapeworm (CO3)
- 3 What is the locomotory organ of earthworm?
a) Setae b) Cilia c) Legs d) Fins (CO4)
- 4 The percentage of nitrogen in earthworm casting is
a) 3% b) 2% c) 1% d) 4% (CO5)
- 5 Which one is used as bait for fishing?
a) Earthworm b) Cockroach c) Grasshopper d) Roundworm (CO5)

SECTION – B

Answer any **TWO** Questions:

(2 X 2 = 4 Marks)

- 6 Comment on hermaphrodite. (CO3)
- 7 Define: vermibed. (CO4)
- 8 Give a short note on worm casts. (CO4)
- 9 What is vermiwash? (CO5)

SECTION – C

Answer any **ONE** Questions:

(1 X 6= 6 Marks)

- 10 Explain the methods for preservation of earthworms. (CO4)
- 11 Describe the method for preparation of vermiwash. (CO5)

SECTION – D

Answer any **ONE** Question:

(1 X 10= 10 Marks)

- 12 Give a detailed account on methods for collection of earthworm. (CO4)
- 13 Describe elaborately the methods of vermicomposting. (CO5)



VIVEKANANDA COLLEGE, TIRUVEDAKAM WEST - 625234
DEPARTMENT OF ZOOLOGY

| | | | | | |
|----------------------|--|-------------------|---------|--------------------|-----------|
| Course Code: | 09SB63 | Programme: | B.Sc. | CIA: | II |
| Date: | 02.04.2021 | Course: | Zoology | Semester: | VI |
| Duration: | 1 Hour | Year: | III | Max. Marks: | 50 |
| Course Title: | ZOOLOGY FOR COMPETITIVE EXAMINATION | | | | |

SECTION – A

Answer **ALL** the Questions:

(50 X 1 = 50 Marks)

- 1 Synthesis of vitamin A takes place in CO3
 - a) Blood
 - b) Spleen
 - c) Pancreas
 - d) Liver
- 2 The total iron content of the adult body is normally CO3
 - a) 1 to 3 grams
 - b) 5 to 6 grams
 - c) 3 to 5 grams
 - d) 6 to 8 grams
- 3 Who coined the term vitamin? CO3
 - a) Calvin
 - b) Funk
 - c) A.G.Tansley
 - d) Vesalius
- 4 Deficiency of vitamin D in children is CO3
 - a) Beri-beri
 - b) Pellagra
 - c) Rickets
 - d) Osteomalacia
- 5 The hardest part of a tooth is CO3
 - a) Pulp
 - b) Dentine
 - c) Enamel
 - d) Crown
- 6 The salivary glands are example of CO3
 - a) Endocrine glands
 - b) Exocrine glands
 - c) Mucous glands
 - d) Lacrimal glands
- 7 Basic unit of protein is CO3
 - a) Helical strand
 - b) Peptones
 - c) Amino acids
 - d) Glucose
- 8 Vermiform appendix is a part of CO3
 - a) Intestine
 - b) Liver
 - c) Rectum
 - d) Stomach

- 9 Glucose can be converted into glycogen in the **CO3**
a) Small intestine
b) Pancreas
c) Adipose tissue
d) Skeletal muscles
- 10 Zymogen cells and chief cells secrete **CO3**
a) Hydrochloric acid
b) Pepsin
c) Mucus
d) Gastrin
- 11 In the liver, the kupffer's cells are **CO3**
a) Blood cells
b) Regenerative cells
c) Adipose cells
d) Phagocyte cells
- 12 The end product of fat digestion is **CO3**
a) Amino acids
b) Starch
c) Fatty acids
d) Glucose
- 13 Bacteria entered with food are killed in stomach in **CO3**
a) Hcl
b) Rennin
c) Pepsin
d) Sodium bicarbonate
- 14 No digestive enzyme is secreted by **CO3**
a) Intestine
b) Liver
c) Pancreas
d) Stomach
- 15 Best source of casein is **CO3**
a) Milk
b) Egg
c) Meat
d) Rice
- 16 The number of salivary glands in man is **CO3**
a) Two pairs
b) Three pairs
c) Four pairs
d) Five pairs
- 17 Normal growth and development of an organism **CO3**
depends on
a) A balanced diet
b) Rich carbohydrate diet
c) Rich protein diet
d) Rich fatty diet
- 18 Enzyme arginase occurs mostly in **CO3**
a) Liver
b) Brain
c) Kidney
d) Heart

- 19 Islets of langerhans secretes CO3
a) Glucogon
b) Insulin
c) Enzymes
d) None of these
- 20 Citric cycle was proposed by CO3
a) H.J.Muller
b) T.Caperson
c) F.Sanger
d) H.A.Kreb
- 21 Kreb's cycle is associated with CO3
a) Fermentation
b) Photosynthesis
c) Aerobic respiration
d) Anaerobic respiration
- 22 Energy in hydrolysis is liberated as CO3
a) Heat energy
b) Light energy
c) Potential energy
d) Kinetic energy
- 23 All enzymes CO3
a) Are best at 0°C
b) Are best of pH 7.0
c) Are amino acids
d) Are proteins
- 24 Covering of lung is called CO3
a) Pericardium
b) Perichondrium
c) Pleural membrane
d) Peritoneum
- 25 In all vertebrates, the oxygen transport is through CO3
a) Haemocyanin
b) Haemoglobin
c) Myoglobin
d) Haemoerythrin
- 26 Colour of oxyhaemoglobin is CO4
a) Dull red
b) Bluish red
c) Bright red
d) Dull brown
- 27 The functional unit of the lung is CO4
a) Neuron
b) Alveolus
c) Bronchus
d) None of these
- 28 All are lung diseases except CO4
a) Asthma
b) Pericarditis
c) Bronchitis
d) Pneumonia

- 29** The maximum volume of inspirable air is **CO4**
a) Vital capacity
b) Residual volume
c) Inspiratory capacity
d) Any of these
- 30** If the CO₂ content of blood increases, the breathing shall **CO4**
a) Increase
b) Decrease
c) Stop
d) Increase or decrease
- 31** Expiration after full inspiration is called **CO4**
a) Vital capacity
b) Lung capacity
c) Tidal volume
d) Residual volume
- 32** Oxygen dissociation curve of Hb is **CO4**
a) Hyperbolic
b) Sigmoid
c) Linear
d) Stationary
- 33** Universal donor is the person with the blood group **CO4**
a) A
b) AB
c) B
d) O
- 34** Pacemaker of the heart is **CO4**
a) S.A. node
b) A.V.node
c) A.V.Septum
d) I.A.septum
- 35** The sympathetic nerve causes the heart rate to **CO4**
a) Increase
b) Decrease
c) Show no change
d) Stroke volume increases
- 36** The pH of blood in arteries and veins is **CO4**
a) Same
b) More in arteries and less in veins
c) Not definite
d) Less in arteries and more in veins
- 37** Mammalian erythrocytes in blood are **CO4**
a) Mononucleated
b) Anucleated
c) Dinucleated
d) Multinucleated
- 38** Urea is synthesized in **CO4**
a) Kidney
b) Lungs
c) Intestine
d) Liver

- 39** Vitamin excreted in urine by higher vertebrates is **CO4**
a) A
b) B
c) K
d) C
- 40** Urea is transported by **CO4**
a) WBC
b) RBC
c) Blood
d) Plasma
- 41** The yellow colour of urine of vertebrates is due to **CO5**
a) Cholesterol
b) Urochrome
c) Uric acid
d) Melanin
- 42** The structural and functional unit of kidney is **CO5**
a) Neuron
b) Nephron
c) Medulla
d) Cortex
- 43** Which of the following is not a structure of kidney? **CO5**
a) Cortex
b) Medulla
c) Pelvis
d) Urethra
- 44** ADH influences the reabsorption of **CO5**
a) Glucose
b) Proteins
c) Water
d) Salts
- 45** Bats are included under order **CO5**
a) Chiroptera
b) Rodentia
c) Insectivora
d) Edentata
- 46** The smallest bird is **CO5**
a) Finch
b) Humming bird
c) Weaver bird
d) Shrew
- 47** Connecting link between reptiles and birds is **CO5**
a) Archaepteryx
b) Dimetrodon
c) Sphenodon
d) Dodo
- 48** The Scientific study of birds is called **CO5**
a) Serpentology
b) Entomology
c) Ornithology
d) Dendrology
- 49** The flying frog is **CO5**
e) Hyla
f) Bufo
g) Rhacophorus
h) Rana

50 Cod liver oil is a rich source of

C05

- a) Vitamin A
- b) Iron
- c) Calcium
- d) Vitamin B complex

2024