

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2067**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-I)**  
**Examination March / April - 2023**  
**Zoology Paper-I Protozoa to Annelida**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all Questions.
- 2) Illustrate your answer with suitable labelled diagram.

Q1 Give an account on the structure and functions of different types of cells in sycon. 20

**OR**

Explain in detail the external Morphology of Leech.

Q2 Explain in detail structure of Taenia Solium 20

**OR**

Write short notes on (any four)

- a. Metazoa
- b. Trophozoite
- c. Cercaria larva
- d. Medusa
- e. Binary Fission of euglena
- f. Pathogenicity of Entamoeba histolytica

Q3 Select and write correct answer from the given alternatives in each Question. 10

1. The number of tentacles of obelia medusa is \_\_\_\_\_.  
 a) 8      b) 16      c) 32      d) 64
2. Soproamy of malarial parasite occure in \_\_\_\_\_.  
 a) Stomach of mosquito  
 b) Liver of Man  
 c) RBC of Man  
 d) None of these
3. Taenia Solium being a digenetic parasite its intermediate host is \_\_\_\_\_.  
 a) Human being    b) Cow    c) Buffalo    d) Pig
4. Euglena is \_\_\_\_\_.  
 a) Heterotroph    b) Mixotroph    c) Autotroph    d) None of these
5. Which of the following is not a polypoid zooids  
 a) Gastrozooids    b) Pneumatophores    c) Sactylozooids    d) Gonozooids

6. The most favourable food of paramerium is \_\_\_\_\_  
a) Amoeba    b. Deatoms    c. Small Plankton's    d. Bacteria
7. Nutritive Zooid of obelia \_\_\_\_\_  
a) Hydranth    b) Gastrozoid    c) Trophozoid    d) All
8. Saliva a Leech contains \_\_\_\_\_  
a) Haemoglobin    b) Hirudin    c) Heparin    d) Histamine
9. The intermediate host of malarial parasite is \_\_\_\_\_  
a) Man    b) Female Anopheles    c) Culex    d) House fly
10. The cell responsible for the circulation of blood particles within the body of sponges are \_\_\_\_\_  
a) Phagocytes    b) Collencytes    c) Thesocytes    d) Choanocytes

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2068**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-I)**  
**Examination March / April - 2023**  
**Zoology Paper-II Cell Biology**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled diagram.

Q1 What is cell cycle? Describe in detail phases of cell cycle. 20

**OR**

Describe in detail the process of mitosis and add a note on its Significance.

Q2 Describe cancer its types and distinguish between benign and Malignant tumors. 20

**OR**

Write short notes on (any four)

- a) Mitochondria
- b) T-RNA
- c) Fixation
- d) Zygotene
- e) Staining
- f) Nuclear

Q3 Select and write correct answer from the given alternative in each question. 10

- 1) Lysosome is also called as
  - a) Dictyosone
  - b) Mitochondrion
  - c) Golgi Body
  - d) Ribosome
- 2) Cristae represent
  - a) Ground substance of mitochondria
  - b) Outer membrane of mitochondria
  - c) Cell organelles
  - d) Folds of inner walls of mitochondria
- 3) In electron microscope source of light used is
  - a) Ultra violet
  - b) Beam of electrons
  - c) Infra-red
  - d) Ordinary light

- 4) Uracil pairs with \_\_\_\_\_ in RNA
- a) Thymine
  - b) Adenine
  - c) Guanine
  - d) Cytosine
- 5) Uncontrolled growth is the characteristic of
- a) Cancer cell
  - b) Meiosis
  - c) Mitosis
  - d) All of them
- 6) Tissues are fixed in yellow colour fluid known as
- a) Glycerol
  - b) Haemato xylene
  - c) Rosin
  - d) Bouin's fluid
- 7) Endoplasmic reticulum is mainly concerned with
- a) Cholesterol synthesis
  - b) Fatty acid synthesis
  - c) Protein synthesis
  - d) Peptide synthesis
- 8) Cell secretion is carried out by
- a) Nucleolus
  - b) Plastids
  - c) Endoplasmic reticulum
  - d) Golgi complex
- 9) Chiasmata formation during meiosis occurs at which stage
- a) Diplotene
  - b) Pachytene
  - c) Zygotene
  - d) Diapinesis
- 10) Prokaryotic cell lacks
- a) Nuclear membrane
  - b) Nucleolus
  - c) Membrane bound organelles
  - d) All of the above

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - YY-2353**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-II)**  
**Examination March / April - 2023**  
**Zoology Paper-IV**  
**Diversity of Chordata Protochordata to Mammals**

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) All questions carry equal marks.
- 3) Draw neat diagram and give labels wherever necessary

Q1 Give an account of general features of protochordates. 10

**OR**

Explain in brief:-

- a) General features of Amphibia
- b) Catadromous migration in fishes

Q2 Explain identification features of poisonous snakes. 10

**OR**

Explain in brief:

- a) Volant adaptation in birds.
- b) Perching feet of birds.

Q3 Write short notes on. (any two) 10

1. Affinities of cyclostomes
2. Parental care in fishes
3. Symptoms and effect of snake bite
4. Eutheria

Q4 Select and write correct answer from the given alternative in each question. 10

1. Notochord is confined to proboscis in \_\_\_\_\_
  - a. Urochordata
  - b. Hemichordate
  - c. Cephalochordate
  - d. Chordata
2. The most primitive order of placental mammals are \_\_\_\_\_
  - a. Insectivora
  - b. Dermoptera
  - c. Cetacean
  - d. Chiroptera

3. Tail in cyclostomata is \_\_\_\_\_
  - a. Hypocercal
  - b. Homocercal
  - c. Diphycercal
  - d. Heterocercal
  
4. Limbless , blind , elongated worm like amphibian belongs to \_\_\_\_\_
  - a. Apoda
  - b. Urodela
  - c. Anura
  - d. None of these
  
5. Birds fly in 'V'-shaped pattern because \_\_\_\_\_
  - a. To follow the path
  - b. To reduce wind resistance
  - c. To remain together
  - d. To increase wind resistance
  
6. The venom has its effect on \_\_\_\_\_
  - a. Nervous system
  - b. Digestive system
  - c. Excretory system
  - d. Circulatory system
  
7. The accessory organ of respiration in lung fishes is \_\_\_\_\_
  - a. Gills
  - b. Lungs
  - c. Urinary bladder
  - d. Air bladder
  
8. The characteristic of Gnathostomata is \_\_\_\_\_
  - a. Lungs
  - b. Hinged jaws only
  - c. Hinged jaws and paired appendages
  - d. Paired appendages
  
9. In amphibians respiration takes place by \_\_\_\_\_
  - a. Gills, lungs, skin and buccal lining
  - b. Gills and lungs
  - c. Skin and gills
  - d. Gills, lungs and buccal lining
  
10. First aid for snake bite should include:
  - a. Wound should be washed with clean water
  - b. The bitten part should be cooled with ice
  - c. Victim should be shifted to a hospital
  - d. All of the above

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2082**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-II)**  
**Examination March / April - 2023**  
**Zoology Paper-IV**  
**Arthropod to Echinodermata and Protochordata**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable diagram.

Q1 Describe the structure and Morphological characters of prawn. 20

**OR**

Describe respiratory system of cockroach

Q2 Describe water vascular system in asterias. 20

**OR**

Write short notes on (any four)

- a) Shell of pila
- b) Organs of pallial complex
- c) Circulatory system in Amphioxus
- d) General characters and affinities in Hemichordate
- e) General characters and Morphology of Herdmania
- f) Classify pila upto order

Q3 Select and write correct answer from the given alternatives in each sub questions. 10

- 1) Egg case of cockroach is known as
  - a) Embryophore
  - b) Ootheca
  - c) Gonophore
  - d) Female Gamete
- 2) The excretory waste of cockroach and other insect is
  - a) Ammonia
  - b) Uric acid
  - c) urea
  - d) Guanine

- 3) Biggest phylum with reference to number of species is
  - a) Platyhelminthes
  - b) Mollusca
  - c) Porifera
  - d) Arthropoda
  
- 4) Fresh water apple snail is
  - a) Unio
  - b) Pila
  - c) Aeolis
  - d) Doris
  
- 5) How many teeth are found in a row of Radula
  - a) 5
  - b) 7
  - c) 9
  - d) 11
  
- 6) Mode of Respiration in pila is
  - a) Aquatic
  - b) Aerial
  - c) Both
  - d) None
  
- 7) Tegumentary gland is present in
  - a) Epidermis
  - b) Cuticle
  - c) Legs
  - d) Dermis
  
- 8) The power of regeneration occurs in
  - a) Porifera
  - b) Coelenterata
  - c) Echinodermata
  - d) All
  
- 9) Radial symmetry occurs in metazoans
  - a) Porifera coelenterata
  - b) Coelenterata platyhelminthes
  - c) Annelida echino dermeta
  - d) Coelenterata Echinodermata
  
- 10) Sea pentagon is a
  - a) Porifera
  - b) Coelenterata
  - c) Mollusca
  - d) Echinodermata

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - YY-2354**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y (Sem-II)**  
**Examination March / April - 2023**  
**Zoology Paper-V Genetics**

[Time: 1:30 Hours]

[Max. Marks: 40]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) All questions carry equal marks
- 3) Draw diagram whenever necessary.
- 4) Figures to the right indicate full marks.

Q1 What is Epistasis? Explain dominant epistasis with suitable example. 10

**OR**

Explain in brief: -

- a. Types of eukaryotic chromosomes according to position of centromere
- b. Prokaryotic organization of chromosome

Q2 What is mean by chromosomal aberrations explain with examples. 10

**OR**

Explain in brief: -

- a. X-linked inheritance in human
- b. Human polydactyl

Q3 Write short notes on (Any -2) 10

- a. Law of Dominance
- b. Giant Chromosome
- c. Chemical Mutagen
- d. Dizygotic Twins and Monozygotic twins

Q4 Select and write correct answer form the given alternative in each sub question. 10

1. Gene expresses its effect in both homozygous and heterozygous condition called as \_\_\_\_\_  
 a. Dominant      b. Recursive      c. Both      d. none of these
2. Coat colour in mice is an example of \_\_\_\_\_  
 a. Epistasis  
 b. complementary genes  
 c. Supplementary genes  
 d. Dominant genes
3. Individual of this type of blood group is a universal recipient.  
 a. A                      b. B                      c. AB                      d. O

4. Drosophila exhibiting both male and female characters is called as \_\_\_\_
  - a. Heterodrosophila
  - b. Homodrosophila
  - c. Male/Female drosophila
  - d. Gynandromorphy
5. Sex linked characters are \_\_\_\_
  - a. Dominant
  - b. Recessive
  - c. Hybrid
  - d. Lethal
6. The exchange of chromosome segments between non-homologous chromosomes is called as \_\_\_\_
  - a. Duplication
  - b. Deletion
  - c. Translocation
  - d. Inversion
7. Sickle cell anaemia is an example of deletion of \_\_\_\_
  - a. Chromosome
  - b. Gene
  - c. Nucleotide
  - d. Amino acid
8. Damage and errors in DNA cause \_\_\_\_
  - a. Mutation
  - b. DNA repair
  - c. Translation
  - d. Transcription
9. Gene pool can be defined as \_\_\_\_
  - a. all genes of an organism
  - b. all genes of all organisms
  - c. all genes of interbreeding organism
  - d. all genes of interbreeding organisms
10. ZW-ZZ system of sex determination occurs in \_\_\_\_
  - a. Fish
  - b. Reptiles
  - c. Birds
  - d. all of these

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2084**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc F.Y. (Sem-II)**  
**Examination March / April - 2023**  
**Zoology Paper-V**  
**Genetics - I**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) Illustrate your answer with suitable labelled diagram.

Q1 What is genetics? Explain in details mendel's law of dominance with suitable example. 20

**OR**

Define multiple alleles and describe various coat colour in rabbit.

Q2 Describe in detail theory of sex determination in chickens (birds) 20

**OR**

- a) Importance of blood groups
- b) Male sterility
- c) Parthenogenesis
- d) Gene mutation
- e) Complementary factor
- f) History of Gregory Johan Mendel

Q3 Select and write correct answer from the given alternatives in each question 10

- 1) Mendel studied the inheritance of different \_\_\_\_\_ pair of contrasting character
  - a) Eight    b) seven    c) Six    d) Five
- 2) The expression of a single character is controlled by interaction of more than one pair of gene is called
  - a) Factor hypothesis
  - b) Multiple alleles
  - c) Dominant gene
  - d) Inhibitory factor
- 3) The person belonging to blood group "AB" have \_\_\_\_\_ antibody in plasma
  - a) Anti B or b
  - b) Anti A or a
  - c) Both a & b
  - d) No antibody
- 4) Erythroblastosis foetalis is \_\_\_\_\_ disease
  - a) Mental    b) cancer    c) pleotrophy    d) haemolytic
- 5) Diploid chromosome number in human is
  - a) 44    b) 48    c) 46    d) 23
- 6) The sex chromosome was first discovered by
  - a) MC clung    b) stevens    c) Henking    d) Bridges

- 7) The mutation is change that is \_\_\_\_\_
- a) Inherited
  - b) Acquired
  - c) Man made
  - d) Autosome
- 8) Sickle cell anaemia is the classical example in
- a) Hybrid
  - b) Pleotropy
  - c) Mutation
  - d) Haemphilia
- 9) Which of the following ratio show complementary gene interaction?
- a) 9:3:3:1
  - b) 1:2:1
  - c) 3:1
  - d) 9:7s
- 10) The term genetics was first used by
- a) Willam bateson
  - b) mendel
  - c) MC Clung
  - d) Darwin

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2078**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. S.Y (Sem-III)**  
**Examination March / April - 2023**  
**Zoology Paper-VII Vertebrate Zoology**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate Your answer with suitable labelled diagram.

Q1 Describe parental care in amphibian

20

**OR**

Write in detail on flight adaptations in birds.

20

Q2 Describe structure of brain of scoliodon

20

**OR**

Write short notes on any four of the following:

20

- a. Agnatha
- b. Apoda
- c. Poisonous snakes
- d. General characters of aves
- e. Altitudinal migration.
- f. Neotery in amphibia.

Q3 Multiple choice questions:

10

1. Heart of Calotes is \_\_\_\_\_ chambered.
  - a) Four
  - b) Three
  - c) Two
  - d) one
2. Subclass Stegocephalia includes \_\_\_\_\_
  - a) Living amphibians
  - b) Extinct amphibians
  - c) Larval stages
  - d) Toads.
3. The retention of larval characters by the adults is called \_\_\_\_\_
  - a) Metamorphosis
  - b) Neoteny
  - c) Parental care
  - d) Aestivation.
4. Body of rat is divided into \_\_\_\_\_ parts.
  - a) one
  - b) Two
  - c) Three
  - d) four
5. Body of Scoliodon is covered by \_\_\_\_\_
  - a) Ganoid scales
  - b) Placoid scales
  - c) Ctenoid scales
  - d) Cycloid scales
6. Number of cranial nerves in reptiles are \_\_\_\_\_
  - a) 12 pairs
  - b) 10 pairs
  - c) Two pairs
  - d) 6 pairs

7. Subclass anapsida comes under \_\_\_\_\_
  - a) Reptilia
  - b) Amphibia
  - c) Pisces
  - d) Aves
8. Forebrain of scoliodon contains \_\_\_\_\_
  - a) Cerebrum
  - b) Diencephalon
  - c) Spinal card
  - d) both a and b
9. \_\_\_\_\_ is a poisonous snake.
  - a) Russel's viper
  - b) Eryx conicus
  - c) Lycodon avlicus
  - d) All of these
10. Scoliodon is a \_\_\_\_\_
  - a) Estuarine shark
  - b) Marine water shark
  - c) Freshwater shark
  - d) Bony fish

Total No. of Printed Pages: 02

**SUBJECT CODE NO: - Y-2080**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. S.Y (Sem-III)**  
**Examination March / April - 2023**  
**Zoology Paper-VIII Genetics- II**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled diagram.

Q1 Give an account of Genetic code.

20

**OR**

State the Hardy - Weinberg law and give its applications.

Q2 Write an essay on use of human genetics in medical Science.

20

**OR**

Write short notes on any four of the following:

- a) Functions of gene
- b) Gene Pool
- c) Dizygotic twins
- d) Albinism
- e) Conjugation
- f) Types of restriction enzyme

Q3 Multiple choice questions.

10

1. The transcription stops when RNA Polymerase reaches a point of DNA which is \_\_\_\_\_  
 a) Terminator   b) Initiator   c) Promoter   d) Co-ordinator
2. In the Prokaryotic organisms, transcription process occurs in \_\_\_\_\_  
 a) Nucleus   b) DNA   c) cytoplasm   d) Golgi bodies
3. This condition is essential for a population to be in the Hardy-Weinberg equilibrium.  
 a) Random mating   b) No mutations   c) Large Population   d) All of these

4. It is known that the total sum of all the Frequencies of the allele is \_\_\_\_\_
  - a) one
  - b) Two
  - c) Three
  - d) four
  
5. Genes that show tendency to be inherited together is known as \_\_\_\_\_
  - a) Linkage group
  - b) Homologous group
  - c) co-dependent genes
  - d) None of these
  
6. choose the odd one out.
  - a) colour-blindness
  - b) Haemophilia
  - c) Duchenne muscular dystrophy
  - d) faulty tooth enamel
  
7. Y linked inheritance is \_\_\_\_\_ inheritance.
  - a) criss cross
  - b) Straight
  - c) Loop
  - d) Jumping
  
8. In which year, Down's Syndrome was described?
  - a) 1866
  - b) 1986
  - c) 1898
  - d) 1968
  
9. The transfer of genes from one cell to another by a bacteriophage is known as \_\_\_\_\_
  - a) Recombination
  - b) Conjugation
  - c) Transduction
  - d) Transformation
  
10. Cutting and joining of the DNA are which techniques?
  - a) DNA degradation
  - b) DNA replication
  - c) DNA manipulation
  - d) DNA synthesis

Total No. of Printed Pages:2

**SUBJECT CODE NO: - Y-2094**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. S.Y (Sem-IV)**  
**Examination March / April - 2023**  
**Zoology Paper- XI**  
**Animal Physiology (Special Emphasis on Mammals)**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

1. Attempt all question.
2. Illustrate your answer with suitable labelled digestion.

Q1 Describe types of respiratory organs 20

**OR**

Write a note gastric digestion. 20

Q2 Describe process of clotting of blood. 20

**OR**

Write short notes on any four of the following : 20

- a) Synapse
- b) Menstrual cycle
- c) Structure of Neuron
- d) Structure of kidney
- e) Role of hormones in pregnancy.
- f) Striated muscles.

Q3 Multiple choice question : 10

1. Skeletal muscles are known as \_\_\_\_\_
  - a) Voluntary muscles
  - b) Smooth muscles
  - c) Visceral muscles
  - d) Extra muscles
2. Which is the functional unit of kidney?
  - a) Seminiferous tubules
  - b) Uriniferous tubules.
  - c) Secretory tubules
  - d) Malpighian tubules

3. During digestion carbohydrate is converted in to \_\_\_\_\_
- a) Fatty acids                      b) Amino acids  
c) Glucose                            d) Glycerol
4. PH range of saliva is \_\_\_\_\_
- a) 6.02-7.05                      b) 12.5- 13.02  
c) 13.5-14.2                      d) 2.4 – 3.9
5. Term ‘synapse’ was first applied by \_\_\_\_\_
- a) Robert hook                      b) De Duve  
c) Charles Sherrington            d) Charles William
6. Which of the following is polyestrous animal?
- a) fox                                  b) wolf  
c) Rabbit                              d) All of these
7. The junction between two neurons is called \_\_\_\_\_
- a) Synapse                            b) Axon  
c) Cyton                                d) Transmitters
8. Heparin is \_\_\_\_\_
- a) Anti – allergic                    b) Blood dilutor  
c) Antiseptic                         d) Anticoagulant
9. \_\_\_\_\_ is a male sex hormone.
- a) Androgen                         b) Estrogen  
c) Insulin                              d) Pheromones
10. Which glands are located below the tongue?
- a) Parotid gland                      b) Thyroid gland  
c) Renal gland                        d) Sublingual gland

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2095**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. S.Y (Sem-IV)**  
**Examination March / April - 2023**  
**Zoology Paper- XII**  
**Biochemistry and Endocrinology**

**[Time:1:30 Hours]**

**[Max. Marks: 50]**

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled diagrams.

Q1 Define enzyme. Explain the factors influencing enzyme activity. 20

**OR**

What are carbohydrates? Give an account of TCA cycle. 20

Q2 Describe the hormones and its disorders of adrenal cortex. 20

**OR**

Write short notes on any four of the following: 20

- a) Histology of pituitary gland.
- b) Significance of Neuroendocrine system.
- c) Disorders of pancreas.
- d) Deficiency of Vitamin 'A'
- e) Steroids.
- f) Transamination.

Q3 Multiple choice questions: 10

- 1) 'Induced-fit model' of enzymatic action was proposed by.....  
 a) Buncher    b) Emil Fisher    c) Beadle and Tatum    d) kushland.
- 2) The sequential Conversion of glucose into Pyruvic acid is known as.....  
 a) ETS    b) Glycolysis    c) Glycogenesis    d) Gluconogenesis
- 3) The term 'protein' was coined by.....  
 a) Berzelius    b) Liebig    c) Neuberg    d) Sanger

- 4) The cholesterol synthesized daily in the human body is about .....  
a) 1 to 5 gm    b) 5 to 9 gm    c) 1.5 to 2 gm    d) 2 to 9 gm
- 5) Wound healing is enhanced by the vitamin .....  
a) C    b) A    c) B    d) D
- 6) ....is known as master endocrine gland.  
a) Thyroid    b) pituitary    c) Adrenal    d) Pancreas
- 7) Secretion of milk from mammary gland is maintained by-  
a) LH    b) Relaxin    c) STH    d) Prolactin
- 8) The defect caused due to deficiency of iodine in the diet is -  
a) Simple goiter    b) myxoedema    c) R LOW BM    d) Cretinism.
- 9) The appearance of male secondary sexual characters in female is called  
a) Gynaecomastia    b) Addison's disease    c) virilism    d) cushing's disease
10. The Complete lack of insulin in the body results.....  
a) Diabetes mellitus    b) polydipsia    c) Diabetes insipidus    d) Hypoglycemia

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2069**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y (Sem-V)**  
**Examination March / April - 2023**  
**Zoology Paper- XV (Ecology)**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled Diagram.

Q1 Describe the role of Light as an Ecological factor? Give an account of different adaptations of plants & animal's in relation to temperature. 20

**OR**

Define Competition. Describe the types of competition with Examples.

Q2 What is Ecosystem? Describe Pond Ecosystem? 20

**OR**

Write Short Notes on any four of the following: -

1. Ecological dominance
2. Mutualism
3. Climax
4. Natality
5. Ecotone
6. Food Chain

Q3 Select & Write correct answers from the given alternative in Each sub-question. 10

1. Ecology deals with the study of----
  - a) Living being
  - b) Living and non-living components
  - c) Reciprocal relationship
  - d) Environment
2. Primary Consumers in the detritus food chain are ----
  - a) Herbivorous
  - b) Bacteria and Fungi
  - c) Insect larvae, nematodes
  - d) All of the above
3. Air, Water, Light, temperature and pH makes up the ----
  - a) Biotic Environment
  - b) Abiotic Environment
  - c) Ecosystem
  - d) Food Chain

4. Energy flow in Ecosystem is ----
  - a) Unidirectional
  - b) Bidirectional
  - c) Multidirectional
  - d) None of the above
  
5. Human population Growth curve is a ----
  - a) S- Shaped Curve
  - b) Parabola Curve
  - c) J- Shaped Curve
  - d) Zigzag Curve
  
6. A food chain consists of -----
  - a) Producers
  - b) Consumers
  - c) Decomposers
  - d) Producers & Consumers
  
7. When one organism benefited from other without any expense called as ----
  - a) Mutualism
  - b) Parasitism
  - c) Commensalism
  - d) Food Chain
  
8. The largest Ecosystem in the world is contributed by
  - a) Forests
  - b) Rivers
  - c) Oceans
  - d) Grasslands
  
9. In grassland Ecosystem, the pyramid of Biomass is ----
  - a) Linear
  - b) Upright
  - c) Inverted
  - d) Inverted Upright
  
10. The term "Biology" was coined by ----
  - a) Henry Walter Bates
  - b) Gregor Mendel
  - c) Carolus Linnaeus
  - d) Jean- Baptiste Lamarck

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2070**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y (Sem-V)**  
**Examination March / April - 2023**  
**Elective Paper**  
**Zoology Paper-XVI Fishery Science- I**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) Attempt all questions.
- 2) Illustrate your answer with suitable labelled diagram

Q1 Define blue revolution and describe in detail the concept of blue revolution. 20

OR

Describe Ganga river system and its fisheries.

Q2 Write in detail the Bombay duck fisheries. 20

OR

Write short notes on four of the following: -

- a) Pulicat fisheries
- b) Tilapia
- c) Satellities
- d) Milk fish
- e) Pomfret fishery
- f) Cat fishes

Q3 Select and write correct answer from the given alternatives in each sub question 10

- 1) Fish liver oil contain \_\_\_\_\_
 

a) Vitamin A	b) Vitamin D
c) Vitamin A and Vitamin D	d) None of above
- 2) Jaikwadi reservoir constructed on ----- river
 

a) Manjara	b) Krishna	c) Godavari	d) Terna
------------	------------	-------------	----------

- 3) Chilka lake is present in ---- state.
- a) Karnataka      b) Orisa      c) Tamil Nadu      d) Gujrat
- 4) Brackish water is generally defined as -----
- a) Concentrated sea water      b) Pure sea water  
c) Dilute sea water      d) None of above
- 5) Which of the following is not a major carps?
- a) Catla Catla      b) Cirrhinus mrigala  
c) Labeo rohita      d) Wallago attu
- 6) Stanley reservoir in Tamil Nadu is located on the river----
- a) Vaigai      b) Cauvery      c) Palar      d) Tamira parani
- 7) Commercial fishing in the reservoirs is mainly done by using ----
- a) Gill nets      b) Pole and lines  
c) Dip nets      d) Jigging
- 8) Fish is a good source of -----
- a) Vitamin      b) Mineral      c) Protein      d) Carbohydrates
- 9) Method of capturing naturally existing fishes is called-----
- a) Culture fishing      b) Capture fishery  
c) Sericulture      d) Aqua culture
- 10) ----- is a device that uses satellite signals to accurately determine a fishing vessels position in the sea.
- a) Tas      b) aks      c) aps      d) TED

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2085**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y (Sem-VI)**  
**Examination March / April - 2023**  
**Zoology Paper- XIX (601) (Evolution)**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

- 1) All questions are compulsory.
- 2) Illustrate your answer with suitable labelled diagram

Q1 Define Biogenesis Explain Embryological evidences of organic evolution 20

**OR**

Describe in details article selection and sexual selection theory?

Q2 Describe in detail the concept, salient features and mechanisms of microevolution with examples? 20

**OR**

Write short note on any four of the following

- a Types of fossils
- b Recombination
- c Speciation
- d Biogenetic law
- e Allopatric speciation
- f Genetic drift

Q3 Select and write convert answer from the given alternatives in each sub question 10

1. The most accepted theory of organic evolution is \_\_\_\_\_
  - a) Mutation theory    b) Synthetic theory    c) Lamark's theory    d) Natural select
2. Struggle for existence between the members of the different species is called as \_\_\_\_\_
  - a) Home genetic    b) Interspecific    c) Hetero specific    d) Inlier specific

- 3) The most important for speciation is \_\_\_\_\_
- a) Tropical Isolation                      b) Reproductive Isolation  
c) Seasonal Isolation                      d) Behaviour Isolation
- 4) Gene in population remains stable unless and until there is \_\_\_\_\_
- a) Random drift    b) Mutation            c) Random mating            d) Select
- 5) Vestigial organ in man \_\_\_\_\_
- a) Nictitating appendix    b) Coccus    c) Vermiform appendix    d) All of the above
- 6) Which one of the Following is living fossil \_\_\_\_\_
- a) Moss    b) Spirogyra    c) Saccharomyces    d) Cycas
- 7) Speciation is the process of \_\_\_\_\_
- a) Inneverisable    b) Divergent    c) Reversible    d) None
- 8) The Radioactive carbon method of determining the age of process is introduce by \_\_\_\_\_
- a) Troop    b) Libya    c) Bold wood    d) Anderson
- 9) Theory of use disuse of organ is given by \_\_\_\_\_
- a) Lamarck    b) Nanolux    c) Stebbins    d) Aristotle
- 10) Evolution of Horse family Equidae is classical Example of \_\_\_\_\_
- a) Microevolution            b) Mega evolution            c) Retrogressive program    d) variation

Total No. of Printed Pages: 2

**SUBJECT CODE NO: - Y-2086**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y (Sem-VI)**  
**Examination March / April - 2023**  
**Elective Paper Zoology Paper-XX (602) Fishery Science- II**

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N. B

1. Attempt all questions.
2. Illustrate your answer with suitable labelled diagram.

Q1 Describe in detail sewage fed fisheries. 20

**OR**

Give a detail of protozoan and bacterial disease and their control in fishes.

Q2 Describe in detail different types of craft used in fishing. 20

**OR**

Write short notes on any four of the following

- a) Induced breeding by hypophysation
- b) Wet bundh
- c) Preservation of Gears
- d) Nursery pond
- e) Fish spoilage
- f) Fungal disease of fish

Q3 Select and correct answer from the given alternatives 10

- 1) Bundh breeding is -----  
 a) Natural      b) Induced      c) Both a & b      d) None of the above
- 2) The fresh water fish that is imported from china into our country -----  
 a) Catla-catla      b) Cyprinus carpio      c) Wallago attu      d) Clarias batrahus
- 3) Drying of fishes by lowering temperature is -----  
 a) Smoking      b) Freeze dying      c) Salting      d) Chilling
- 4) Spawning of fishes is induced by injecting females with  
 a) Progesterone      b) Prostaglandins      c) FSH and LH      d) Estrogen
- 5) Three carps fishes Catla, Labeo and cirrhiva can be grown together in the same pond more economically as they have -----  
 a) Positive interactions      b) Commensalism  
 c) Symbiosis      d) No competition of food

- 6) Which fish is easily freed in stagnant water  
a) Labeo rohita    b) Cyprinus carpio    c) Clarias fatrachus    d) Catla catla
- 7) The chief spoilage organism smoked fish are  
a) Molds    b) Bacteria    c) Both a & b    d) Fungi
- 8) Most suitable group for treatment and to catch fish are -----  
a) Minor corps    b) Cat fishes    c) Live fishes    d) Major corps
- 9) Net used to capture small fishes  
a) Bag net    b) Gill net    c) Lines    d) Trawl net
- 10) The stage of fish when a mouth is absent  
a) Hatching    b) Fry    c) Fingerlings    d) Spawn