

Total No. of Printed Pages: 3

SUBJECT CODE NO:- B-2067
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination November/December- 2022
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
- Q.1 Give a detailed account on polymorphism in coelenterates 20
- OR
- Describe in detail life cycle of Fasciola Hepatica
- Q.2 Explain in details reproductive system of leech 20
- OR
- a) Nephridia
 - b) Cercaria larva
 - c) Hydranth
 - d) Amoebic dysentery
 - e) Metazoa
 - f) Polymorphism
- Q.3 Select and write correct answer from the give alternatives in each rule questions 10
1. Reserved food in Euglena is in the form of
 - a) Starch
 - b) Glycogen
 - c) Fatty acid
 - d) Paramylon

2. Sexual phase in the life cycle of plasmodium vivax occurs in;

- a) Cut of mosquito
- b) Blood of man
- c) Salivary gland of mosquito
- d) Body cavity of mosquito

3. Simplest type of canal system is

- a) Sycon type
- b) Ascon type
- c) Diplodal type
- d) All of the above

4. Ascaris is

- a) Host
- b) Bisexual
- c) diocelious
- d) Digenetic

5. The number of chambers in crop of leech is:-

- a) Six
- b) Eight
- c) Nine
- d) Ten

6. Bladder worm is formed in

- a) Human muscles
- b) Muscles of pig
- c) Human forces
- d) Soil

7. Organelle of defense in paramecium is:-

- a) Nematocyst
- b) Oocyst
- c) Sporocyst
- d) Trichocyst

8. Entamoeba histolytica is a:-

- a) Polygenetic parasite
- b) Digenetic parasite
- c) Monogenetic parasite
- d) None of these

9. In sponge central cavity is known as__

- a) Haemocoel
- b) Spongocoel
- c) Coelon
- d) None

10. Metacercaria is one of the stages in the development of _

- a) Ascaria
- b) Taenia solium
- c) Fasciola hepatica
- d) planaria

Total No. of Printed Pages: 3

SUBJECT CODE NO:- B-2068
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination November/December- 2022
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

Q.1 What is cell cycle? Explain in detail the meiosis. 20

OR

Discuss the structure of prokaryotic cell with example

Q.2 Explain in detail the structure and function of plasma membrane 20

OR

Write shorts notes on any four of the following

- 1) Eukaryotic cell
- 2) Lysosome
- 3) Telophase
- 4) Electron microscope
- 5) Cancer
- 6) Staining

Q.3 Select and write correct answer from the given alternative in each question 10

1. Which of the following is the largest single membrane –bound intracellular compartment?

- a) Ribosome
- b) Golgi apparatus
- c) Nucleus
- d) Endoplasmic reticulum

2. Who observed the “mitochondria” first
 - a) Kolliker
 - b) Robert Brown
 - c) Robert Hook
 - d) Altmann

3. Digestion of cells own components is known as
 - a) Autophagy
 - b) Heterophagy
 - c) Phagocytosis
 - d) Pinocytosis

4. The plasma membrane is impermeable to all molecules except
 - a) Glucose
 - b) APT
 - c) K⁺
 - d) Area

5. In 70s ribosomes ‘S’ stand for
 - a) SI unit
 - b) Solubility factor
 - c) Svedbergs unit
 - d) All of these

6. Chromosomes are arranged along equator during.
 - a) Prophase
 - b) Metaphase
 - c) Anaphase
 - d) Telophase

7. Which phase come between G1 and G2 Phase?

- a) Go
- b) M
- c) S
- d) I

8. Chiasmata formation take place during

- a) Prophase-I
- b) Metaphase-I
- c) Anaphase-I
- d) Telophase-I

9. Molecule which plays the role in the transfer of genetic information during protein synthesis are

- a) DNA
- b) RNA
- c) Lipids
- d) Nucleic acid

10. Who introduced the term 'Nucleic acid'?

- a) Meisher
- b) Robert Brown
- c) Altmann
- d) Lipmann

Total No. of Printed Pages: 2

SUBJECT CODE NO:- B-2078
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. S.Y. (Sem-III)
Examination November/December- 2022
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 Labeled diagram.
- Q.1 Describe in detail digestive system of scoliodon. 20
OR
Explain out Line classification and general characters of Reptiles.
- Q.2 Describe in detail respiratory system of columba livia. 20
OR
Write Short notes on any four of the following.
a) General characters of cyclostomata.
b) Brain of scoliodon
c) Non-poisonous snakes
d) Chorion- allantois placenta
e) Latitudinal migration
f) Bipedal locomotion in Birds.
- Q.3 Multiple choice questions. 10
1) Petromyzon has _____ pairs of gills are present.
a. Single b. seven c. fourteen d. Six

- 2) Neoteny refers to _____
- Retention of rudimentary organ.
 - Metamorphosis
 - Retention of larval characters in adult
 - Reproduction in larval forms.
- 3) Scales in cyclostomes are _____
- Absent
 - cycloid
 - ctenoid
 - placoid
- 4) The eggs of frog is _____
- Isolecithal
 - Telolecithal
 - Centrolecithal
 - Alecithal.
- 5) Heart of Rat _____
- 2-chamber
 - 3-chamber
 - 6-chamber
 - 4 chamber
- 6) Tailed Amphibia are _____
- Apoda
 - Anura
 - Gymnophiono
 - Urodela
- 7) Mammals are _____
- Cold blooded
 - Warm blooded
 - a and b
 - None of these
- 8) Endoskeleton of scoliodon is made up of _____
- Cartilage
 - bone
 - scales
 - plates
- 9) Placenta is totally absent in _____
- All monotremes
 - Metatremes
 - Eutherians
 - All primates
- 10) Columba Livia have _____ major sacs in Lungs.
- 8
 - 9
 - 7
 - 10

Total No. of Printed Pages:02

SUBJECT CODE NO:- B-2080
FACULTY OF SCIENCE & TECHNOLOGY
B. Sc. S.Y. (Sem- III)
Examination November/December- 2022
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 labeled diagram.
- Q.1 Define population genetics. Explain gene pool. 20
 Define gene. Explain transcription of gene. **OR**
- Q.2 Define microbial genetics, explain transduction. 20
OR
 Write short note on any FOUR of the following.
 a. Hemophilic
 b. Dizygotic twins
 c. Turner’s syndrome
 d. PKU
 e. Phase Vector
 f. Hardy Weinberg’s Law
- Q.3 **Multiple Choice Questions: -** 10
 1) Sex linked characters are _____
 a) Recessive b) Forend only in Man c) Dominant d) Not inherited
- 2) Conjoined twins are also known as _____
 a) Fraternal twins b) Siamese twins c) Dizygotic twins d) None of the above
- 3) Red blindness is called _____
 a) Night blindness b) Protonopia c) Deuteronopia d) Albinism
- 4) Name the bacteria which were used by Griffith for his experiments.
 a) E. coli b) Diplococcus Pneumonia c) Lacto bacillus d) Salmonella Typhi
- 5) Which of the following enzyme is not a tool for a DNA technology?
 a) Endonuclease b) polymerase c) Lipase d) Ligases

- 6) First licensed drug produced through genetic engineering is _____
a) Interferon b) Insulin c) Penicillin d) Somatotropin
- 7) Mongolian syndrome is due to _____
a) One extra chromosome
b) One extra sex chromosome
c) One extra chromosome in 21st pair
d) One less sex chromosome
- 8) Albinism is a congenital disorder resulting from the lack of which enzyme?
a) Tyrosinase b) Xanthine oxidase c) Catalase d) Fructokinase
- 9) Which of the following are non-sense codons?
a) AUG b) GUG c) UAA d) UCU
- 10) Restriction enzymes are also called _____
a) Restriction sites
b) Restriction endonuclease
c) Restriction polymerase
d) Endonuclease

Total no of printed pages 3

SUBJECT CODE NO:- B-2069
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y (Sem-V)
Examination November/December-2022
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

Q.1 Describe effect of temperature on animals and add a note on thermal adaption? 20

OR

Define population. Explain in details of population Growth & Regulation

Q.2 Define Ecosystem. Describe in details forest Ecosystem? 20

OR

Write short notes on any four of the following

- 1) Mutualism
- 2) Population Density
- 3) Structure of community
- 4) Ecotone
- 5) Components of Ecosystem
- 6) Marine Ecosystem

Q.3 Select and write correct answer from the given alternatives in each question 10

- 1) Abiotic components of Ecosystem consists of the _____
 - a) Radiant solar energy
 - b) Water
 - c) Solid mineral water
 - d) All of the above

- 2) The carrying capacity of a populations is determined by its _____
 - a) Limitary resources
 - b) Population growth rate
 - c) Velocity
 - d) Mortality

- 3) The term ecosystem was coined by____
 - a) Griffith
 - b) Howard
 - c) Tansley
 - a) Harvey

- 4) Branch of Eco way concerned with the study of individual organism is
 - a) Biocoenosis
 - b) Autecology
 - c) Synewlogy
 - d) Paleoecology

- 5) the association in which none in harmed is____
 - a) Neutralism
 - b) Synopsis
 - c) Antagonism
 - d) All

- 6) The number of individual species is a unit area is called ____
 - a) Density
 - b) Cover
 - c) Abundance
 - d) Frequency

- 7) Study of fossil is known as_____
- a) Herpaltogy
 - b) Anatomy
 - c) Paleontology
 - d) Ornithology
- 8) Animals migrating from ocean to land have under gone_____
- a) Adoptive modification to changing salinity conditions
 - b) Adoptive modification to changing body pans
 - c) Aestivation
 - d) Tubernetion
- 9) In any food chain the largest population is that by_____
- a) Primary communities
 - b) Tertiary consumers
 - c) Producers
 - d) Decomposers
- 10) Phytol planktons of a pond Ecosystem are as_
- a) Producer
 - b) Primary consumer
 - c) Secondary consumer
 - d) Decomposers

Total No. of Printed Pages: 2

SUBJECT CODE NO:- B-2070
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. T.Y. (Sem-V)
Examination November/December- 2022
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
- i) Attempt all questions.
 - ii) Illustrate your answer with suitable labelled diagram.

Q.1 Give detail account of the general characters and outline classification of fishes. 20

OR

Write in detail about status of fresh water fisheries (past, present, future)

Q.2 Describe in detail the Principle fisheries of Brackish water with examples. 20

OR

Write short notes on any four of the following.

- a) Chilka lake fisheries
- b) Reservoir of Maharashtra
- c) Bombay duck fishery
- d) Mullet fish fisheries
- e) Importance of fishes
- f) Trout fisheries

Q.3 Select and write correct answer from the given alternatives. 10

1. Fishing by artificial method is _____
- a) Capture fishery
 - b) Culture fishery
 - c) Estuarine fishery
 - d) Riverine fishery

2. The west coast riverine system name the river flow in western direction of the country are _____.
 - a) Kaveri and Krishna
 - b) Ganga and Yamuna
 - c) Narmada and Tapi
 - d) Mahananda and Godavari
3. The main nets used for fishing of oil Sardine are.
 - a) Traditional serine nets
 - b) Cast nets
 - c) Purse net
 - d) All above
4. The physicochemical characteristic of the pelagic fishing zone is provided by.....
 - a) Remote Sensing technique
 - b) volumetric method.
 - c) Numerical method
 - d) Qualitative and Quantitative analysis
5. Pelagic fish capture became easy to operates during first phase of remote sensing program in the coastal map of.....
 - a) Karnataka
 - b) Kerala and Tamil Nādu
 - c) Maharashtra & Gujrat
 - d) Andhra Pradesh
6. Koller lake is
 - a) Marine water lake
 - b) Brackish water lake
 - c) Freshwater lake
 - d) None
7. The common name of Rastrelliger Kanagurta
 - a) Bombay duck
 - b) Cat fishes
 - c) Mackerel
 - d) Oil Sardine
8. Study of fishes means.....
 - a) Ichnology
 - b) Ichthyology
 - c) Genecology
 - d) Lepidopterology
9. ____ pairs of cranial nerves are present in fishes.
 - a) 10
 - b) 12
 - c) 14
 - d) None
10. Brackish water fisheries are also called as
 - a) riverine fishery
 - b) Deep-Sea fishery
 - c) Estuarine fishery
 - d) Mackerel fishery

Total No. of Printed Pages: 3

SUBJECT CODE NO: - CB-2341
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination December/January-2022-23

Zoology Paper-I ZOO-011 Animal Diversity Protozoa to Echinodermata

[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 diagrams and give labels wherever necessary.

Q1 Give an account of general characters and classification of Amoeba.

10

OR

Explain in brief:

- a) Polyp
- b) Parasitic adaptation in Taenia Solium

Q2 Describe in detail life history of Ascaris lumbricoides

10

OR

Explain in brief:

- a) Crustacea
- b) Compound eye in Arthropoda

Q3 Write short notes on (any two)

10

- 1) Ascanoid type of canal system
- 2) Dimorphic pattern of polymorphism in coelenterates
- 3) Metamerism in Annelida
- 4) Tube feet

Q4 Select and write correct answer from the given alternatives in each sub question.

10

- 1) Locomotory organelle in Euglena is
 - a) Cilia
 - b) Flagellum
 - c) Pseudopodia
 - d) None of these

- 2) Body wall of sponges are
 - a) Acellular
 - b) Diploblastic
 - c) Triploblastic
 - d) None of these

- 3) Nematocysts take part in
 - a) Locomotion
 - b) Offence and defence
 - c) Food capture
 - d) All of these

- 4) Free living Platyhelminthes form belongs to the class
 - a) Turbellaria
 - b) Trematode
 - c) Cestoda
 - d) Nematode

- 5) Life cycle of Ascaris is
 - a) Monogenetic
 - b) Digenetic
 - c) With no definite host
 - d) None of these

- 6) Annelids are characterized by
- Segmentation
 - Closed circulatory system
 - Ventral nerve cord
 - Pseudocoelom
- 7) Compound eyes in arthropods forms apposition image
- In bright light
 - In dim light
 - Both a and b
 - None of these
- 8) Which one of the following Mollusc is formed by a larva which have torsion
- Lamelledens
 - Sepia
 - Pila
 - Octopus
- 9) Madreporite is associated with
- Nervous system
 - Digestive system
 - Ambulacral system
 - All of these
- 10) The function of dactylozoid is
- Defence
 - Obtaining food
 - Both a and b
 - None of these

Total No. of Printed Pages: 3

SUBJECT CODE NO: - CB-2342
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination December/January-2022-23
Zoology Paper-II ZOO-021 Cell Biology

[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 diagrams and give labels wherever necessary
- 4) Figures to the right indicate full marks.

Q1 Describe general structure of Eukaryotic cell.

10

OR

Explain in brief.

- a) Proteins
- b) Salts & ions

Q2 Explain in detail fluid mosaic model of plasma membrane.

10

OR

Explain in brief.

- a) Structure of Nucleus
- b) m-RNA

Q3 Write short notes on (any 2)

10

- 1) Metaphase of mitosis
- 2) Vitamins
- 3) Ribosomes
- 4) Effect of radiations on cell

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

10

- 1) The prokaryotic cell lacks -----
 - a) Cytoplasm
 - b) Ribosomes
 - c) Well organized nucleus with nuclear membrane
 - d) All of these

- 2) Mitosis occurs in -----
 - a) Germ cells
 - b) Somatic cell
 - c) Both a and b
 - d) None of these

- 3) Polysaccharides are made up of -----
 - a) Glucose monomer
 - b) Amino acid monomer
 - c) Fatty acid monomer
 - d) Nucleotides

- 4) Chromosomes become shorter and thicker during -----
 - a) Prophase
 - b) Metaphase
 - c) Anaphase
 - d) Telophase

- 5) Phagocytised food is digested in -----
 - a) Golgi body
 - b) Ribosomes
 - c) Lysosomes
 - d) Plasma membrane

- 6) The site of respiration within the cell is -----
- a) Nucleolus
 - b) Mitochondria
 - c) Ribosomes
 - d) None of these
- 7) Who discovered the structure of DNA?
- a) Camillo Golgi
 - b) Robert Brown
 - c) Watson and Crick
 - d) Robert Hook
- 8) DNA is a polymer of -----
- a) Amino acid
 - b) Monosaccharides
 - c) Fatty acid
 - d) Nucleotides
- 9) Nucleosomes are -----
- a) Nucleous
 - b) Chromosomes
 - c) Repeating units of chromatin
 - d) None of these
- 10) Metastatic cancer developed in fibroblast is known as -----
- a) Leukemia
 - b) Malignant
 - c) Sarcoma
 - d) None of these

Total No. of Printed Pages: 02

SUBJECT CODE NO:- B-2082
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y (Sem-II)
Examination November/December-2022
Zoology Paper-IV
Arthropod to Echinodermata and Protochordata

[Time: 1:30 Hours]

[Max.Marks:50]

N.B Please check whether you have got the right question paper.

- i) Attempt all questions.
 ii) Illustrate your answer with suitable labelled diagram.

Q.1 Describe in detail Reproductive system of prawn.

20

OR

Give the general characters of pila globosa.

Q.2 Explain in brief morphology of oral and aboral view in Asterias

20

OR

Write short notes on (any four)

- a) Distinguish between trachea and tracheole
- b) Metamorphosis in Cockroach.
- c) External features of Amphioxus
- d) General characters of Herdmania
- e) External characters of Hemichordates
- f) Bipinnaria larva

Q.3 Select and write correct answer from the given alternative.

10

- 1) Periplaneta belongs to the phylum.
 - a) Annelida b) Arthropoda c) Platyhelminthes d) Porifera
- 2) The skeleton of cockroach is formed of
 - a) chitin b) cuticle c) amino acid d) cartilage
- 3) Number of paired spiracles in cockroach are
 - a) 10 b) 02 c) 06 d) 04
- 4) Heart of cockroach is -----
 - a) Multichambered b) Single c) Longitudinally beaded d) All of these
- 5) The shell coiling right handed is known as -----
 - a) Dextral b) Sinistra c) Anticlockwise d) None of these
- 6) Osphradium is associated with
 - a) Digestion b) Olfactory sensation c) Respiration d) Exertion

- 7) Pila is a -----
a) Carnivorous b) Herbivorous c) Sanguivorous d) Omnivorous
- 8) -----is a viviparous Echinodermata
a) Amphira b) Antidoni c) Holothuria d) None of above
- 9) Madreporite absent in -----
a) Holothuroidea b) Crinoidea c) Echinoidea d) Asteroidea.
- 10) How many segments in Cephalothorax
a) 11 b) 13 c) 19 d) 15

Total No. of Printed Pages:2

SUBJECT CODE NO:-B-2084
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F. Y. (Sem-II)
Examination November/December- 2022
Zoology Paper-V
Genetics – I

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
- i) Attempt all questions.
 - ii) Illustrate your answer with suitable labelled diagram.

Q.1 What is mutation? Explain spontaneous and induced mutation? 20

OR

What are sex chromosomes? Explain in detail genic balance mechanism of sex determination

Q.2 Give an account of Mendel's law of Inheritance and explain Law of segregation with example? 20

OR

Write a short note on any four

- (a) Test cross
- (b) CO₂ sensitivity
- (c) Supplementary factor
- (d) Rh factor
- (e) Turners syndrome
- (f) Types of chromosome

Q.3 Select and write correct answer from the given alternatives in each question 10

- (1) Gene mutation occurs at the time of
 - (a) Cell division
 - (b) DNA repair
 - (c) RNA transcription
 - (d) DNA replication
- (2) _____ Law is of great value for plant breeders who tries to produce new plants with new combination
 - (a) Law of segregation
 - (b) Law of recombination
 - (c) Law of dominant
 - (d) Law of Independent

- (3) Gene for colour blind is _____ present on X-chromosome
(a) Recessive (b) Heterozygous
(c) Dominant (d) Homozygous
- (4) _____ is an example of cytoplasmic inheritance
(a) Coat colour in rabbit (b) Supplementary gene
(c) Kappa particle in paramecium (d) Epistasis
- (5) Erythroblastosis foetalis is a _____
(a) Anemia (b) Pleiotropy
(c) Albinism (d) Hemolytic disease
- (6) Mendel select garden pea as his experimental material because
(a) Flowers are self fertilized (b) Easy to cultivate
(c) Short live cycle (d) All above
- (7) Down syndrome is commonly is known as
(a) Sex-linked disease (b) Mongolism
(c) Albinism (d) None of these
- (8) Mendel's law of segregation can be checked by _____ method
(a) Dihybrid cross (b) Monohybrid cross
(c) Back cross (d) All above
- (9) Gynandromorphy is _____
(a) Intersex (b) Super male
(c) Both a and b (d) Female with male trait
- (10) The resemblance between parent and their offspring is called
(a) Variation (b) Heredity
(c) Evolution (d) None of these

Total No. of Printed Pages: 02

SUBJECT CODE NO:- B-2094
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem-IV)
Examination November/December-2022
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 questions.
- 2) All questions carry equal marks.
- 3) Illustrate your answer with suitable labelled diagram.

Q.1 Describe in detail formation of urine & add a note on counter current multiplier system. 20

OR

Give a detail account on composition of blood.

Q.2 Give a detail account on Menstrual Cycle in mammals 20

OR

Write short notes on (any four)

- a) Gastric secretion
- b) Respiratory pigment
- c) Structure of neuron
- d) Smooth muscle
- e) Neurotransmitters
- f) T.S. of ovary

Q.3 Multiple choice questions 10

1. Proteins are digested by enzyme called:
 a) Amylase b) Trypsin c) Lipase d) Pepsin
2. Secretion of stomach is called:
 a) Mucous gland b) Gastric juice c) Saliva d) Pepsin
3. The type of respiration in mammals is called:
 a) Pulmonary respiration c) Cutaneous respiration
 b) Gill respiration d) Tracheal respiration
4. During inspiration the diaphragm -----
 a) Expands b) Contracts c) No change d) Relaxes

5. In double circulatory system function of veins is to carry:
a) Oxygenated blood b) Deoxygenated blood c) Lymph d) Signals
6. Sarcomere is represented between:
a) Two 'Z' disc b) Two 'H' disc c) Two 'A' lines d) Two 'I' lines
7. Striated muscles have:
a) Single nucleus b) Double nucleus c) Multinucleated d) Lack nucleus
8. Heart is composed of:
a) Cardiac muscles b) Smooth muscles c) Lack muscles d) Skeletal muscles
9. The cavity present in graffian follicle is -----
a) Amniotic cavity b) Archenteron c) Antrum d) Ostium
10. Bowman's capsule occurs in :
a) Pancreas b) Pituitary c) Brain d) Kidney

Total No. of Printed Pages: 2

SUBJECT CODE NO:- B-2095
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem-IV)
Examination November/December-2022
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.

- i) Attempt all questions.
- ii) Illustrate your answer with suitable labelled diagram.

Q.1 What are Carbohydrates? Classify them giving suitable example. 20

OR

Define enzyme. Describe the mechanism of enzyme action.

Q.2 Explain in detail various hormones and their functions of pituitary gland. 20

OR

Write short notes on (any four)

- 1) Classification of proteins
- 2) FSH
- 3) Cholesterol Biosynthesis
- 4) Vitamin K
- 5) Structure of Thyroid gland
- 6) Glycogenesis

Q.3 Multiple choice questions : 10

- 1) Complete oxidation of one gram mole of glucose yield energy in calories _____.
 a) 6860000 b) 68600 c) 686000 d) 686
- 2) The term Vitamin was given by _____.
 a) Starling b) Kuhn c) Funk d) Calvin
- 3) Transamination can occur in _____.
 a) Cells b) Tissue c) Nerves d) Plasma
- 4) The reabsorption of water in the kidney is under the control of hormone _____.
 a) LH b) ADH c) STH d) ACTH
- 5) Blood Pressure is controlled by _____.
 a) Adrenal b) Thyroid c) Thymus d) Corpus luteum
- 6) The absence of iodine in the food cause the disease known as _____.
 a) Cretinism b) Myxedema c) Goitre d) Exophthalmic goiter

- 7) Glucagone hormone is secreted by _____.
a) Pituitary c) Beta cell of islet of langerhans
b) Adrenal d) Alfa cell of islet of Langerhans
- 8) The pituitary gland is called as master gland because it controls _____.
a) Growth c) Thyroid gland
b) Gonads and adrenals d) Thyroid, gonads and adrenals
- 9) Which is the best source for vitamin B₁ _____.
a) Cod liver b) Egg c) Whole wheat bread d) Curd
- 10) Kreb's cycle is associated with _____.
a) Fermentation c) Aerobic respiration
b) Photosynthesis d) Anaerobic respiration

SUBJECT CODE NO:B- 2085
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y (Sem-VI)
Examination November/December-2022
Zoology Paper- XIX (601)
(Evolution)

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all questions
 - ii. Illustrate your answer with Suitable Labelled diagram.
- Q. 1 Define Organic evolution. Explain Embryo - Logical evidences of Organic evolution 20
- OR
- Explain Natural selection theory and artificial selection theory.
- Q. 2 what is species? Describe morphological genetical and Biological concept of species. 20
- OR
- Write short notes on any four of the following
- a) Catastrophism
 - b) Isolation
 - c) Sequential evolution
 - d) Salient feature of microevolution,
 - e) Allopatric speciation
 - f) Fossil formation
- Q. 3 Select and write Correct answer from the given alternatives in Each sub- question. 10
- 1) Mammoth are the ancestors of _____
 - a) Camel
 - b) Elephant
 - c) giraffe
 - d) All of the above.
 - 2) Genetic drift operates only in
 - a) Island population
 - b) Large population
 - c) Smaller population
 - d) Mendelian population
 - 3) Struggle for existence between the members of the different species is called as _____
 - a) Homogenetic
 - b) Interspecific
 - c) Heterospecific
 - d) Intraspecific

- 4) Material selection acts directly on
- Phenotypes
 - Mutations
 - Alleles
 - genes
- 5) Organic evolution theory of Lamarck is known as _____
- continuity of germplasm
 - Natural selection
 - Inheritance of acquired character
 - Artificial selection.
- 6) Crane is a population remains stable unless and until there is _____
- Random drift
 - Mutation
 - Random Mating
 - Selection
- 7) Evolution is _____
- Development of race allen
 - Progressive development of race
 - Race along with variation
 - History of race.
- 8) Evolution of horse family equidae is classical Example of _____
- Micro and Mega evolution
 - Micro evolution
 - Retrogressive progress
 - Variation
- 9) Vestigial Organ in man —
- Nictitating appendix
 - Coccus
 - vermiform appendix
 - All of the above.
- 10) Which one of the following is living fossil _____
- Moss
 - spirogyra
 - Saccharomyces
 - cycas

Total No. of Printed Pages:3

SUBJECT CODE NO:- B-2086
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. T.Y (Sem-VI)
Examination November/December- 2022
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
- i) Attempt all questions.
 - ii) Illustrate your answer with suitable labelled diagram.

Q. 1 Explain in detail artificial breeding by hypophysalism. 20

OR

Describe in detail design, construction and maintenance of fish farm.

Q. 2 Describe in detail value added fish By-products. 20

OR

Write short notes on any four of the following

- a) Gill net
- b) Dry bundh
- c) Protozoan parasite
- d) Chilling
- e) HACCP
- f) Cutline of cat fish

Q. 3 Select and write correct answer from the given alternatives 10

1. Stocking ponds are used for culturing of carps_____

- a) Hatching
- b) Fry
- c) Fingerlings
- d) Seeds

2. Which extract is used to found fish for induced freeing _____
 - a) Thyroid
 - b) Pituitary
 - c) Pineal gland
 - d) None

3. Sewage is the _____
 - a) Domestic wastes which include wastes from kitchen, detergent from washing cloths droops, faces and ursine
 - b) Domestic waster plus industrial waster
 - c) Domestic waster plus rain water
 - d) water pours water from a community domestic , industrial and surface water

4. one of the following is viral durians _____
 - a) Dropsy
 - b) Suproligniiasis
 - c) JPN
 - d) All of the above

5. principles for selection of fishes are _____
 - a) Fish should have a fast growth and large size
 - b) fish should have be hardy and resistant to disease
 - c) fish should be able to freed in confined water
 - d) all of the above

6. The most common old method of the fish presentation is
 - a) Chilling
 - b) Sum-dryers
 - c) Smoking
 - d) Selling

7. If more than single species of fish is cultured at a time, than it is called
 - a) Monoculture
 - b) Algaculture
 - c) Poly -culture
 - d) Mori- culture

8. Hypothecation is done in major carps
 - a) To increase sing
 - b) To increase their growth
 - c) To increase breeding
 - d) To increase their palatability

9. Which one of the following is not a fishing gears _____
 - a) Net trap
 - b) Hooks
 - c) Seines
 - d) Crafts

10. Which one is bottom dweller.

- a) Mrigal
- b) Catla
- c) Lamprey
- d) Dolphin