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SUBJECT CODE NO:- 2067
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y Sem. I
Examination March/April-2022 (To Be Held In June/July-2022)
Zoology Paper-I
Protozoa to Annelida

[Time: 1:53 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 labeled diagram.

Q.1 Describe in detail morphological structure of euglena with suitable diagram. 20

OR

Give an account on structure of scolex, mature and gravid proglottids in taenia solium

Q.2 Explain in detail digestive system of leech 20

OR

Write short notes on (any four)

- a) Binary fission of euglena
- b) Bladder worm
- c) Redia larva
- d) Trophozoite
- e) Anterior sucker of leech
- f) Choanocytes

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

1. Which the life cycle of plasmodium weaves is

- | | |
|----------------|----------------|
| a) Monogenetic | b) Digenetic |
| c) Polygenetic | d) Monomorphic |

2. Entamoeba histolytica causes -

- | | |
|--------------|----------------------|
| a) Kala-azar | b) Filarial |
| c) Dysentery | d) Sleeping sickness |

3. The number of tentacles of Obelia medeusa is

- | | | | |
|-------|-------|-------|-------|
| a) 08 | b) 16 | c) 32 | d) 64 |
|-------|-------|-------|-------|

4. Flagellated cells in sponger are called
 - a) Pinacocytes
 - b) Choanocyter
 - c) Porocytes
 - d) Therocytes
5. The intermediate lost of *Fasciola hepatica* is
 - a) Goat
 - b) Man
 - c) Lymnea
 - d) Barbus
6. Miracidium is one of the stage in the development of
 - a) *Ascaris*
 - b) *Zaenia solium*
 - c) *Fasciola hepatica*
 - d) *Planaria*
7. Hydra reproduces by budding method
 - a) At unfavourable condition
 - b) Under favourable condition
 - c) Both a & b
 - d) None of these
8. An antiwagulin substance produced in the saliva of leech is
 - a) Heparin
 - b) Histamine
 - c) Haemoglobin
 - d) Hirudin
9. Another name for spongocoel is
 - a) Gastrovascular cavity
 - b) Raragastic cavity
 - c) Coelenterons
 - d) All the above
10. Infection ceused in pig by the sigestion of
 - a) *Onchosphere*
 - b) *Hexacanth*
 - c) *Cysticerces*
 - d) None of the above

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SUBJECT CODE NO:- 2068
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination March/April-2022 (To Be Held In June/July-2022)
Zoology Paper-II
Cell Biology

[Time: 1:53 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 labeled

- Q 1 Describe the Ultra structure and function of Eukaryotic cell. 20
 OR
 What is cell cycle? Explain in detail the mitosis. 20
- Q 2 Discuss morphology, structure and function of mitochondria 20
 OR
 Write short note on any Four of the following 20
 a) Prokaryotic cell
 b) Ribosomes
 c) Metaphase
 d) Light Microscope
 e) DNA
 f) Glogi bodies
- Q 3 Select and write correct answer from the given alternative in each question. 10
 1) Who discovered cell in 1665?
 a) Robert Hook
 b) Robert crook
 c) David Thomson
 d) Marie Francois
 2) Name the outer most boundary of cell
 a) Plasma membrane
 b) Cytoplarm
 c) Nuclear
 d) None of the above
 3) How many daughter cell are produced at the end of mitosis?
 a) 1
 b) 4
 c) 2
 d) 3

- 4) When does synapsis occurs during meiosis
 - a) Zygotene
 - b) Leptotene
 - c) Diplotene
 - d) Pachytene
- 5) The Nucleic acid was first isolated by
 - a) Miescher
 - b) Watson and crick
 - c) Todd
 - d) Meselson and sthal.
- 6) Which of the following RNA molecules convert information stored in the nudeic acids.
 - a) mRNA
 - b) tRNA
 - c) rRNA
 - d) snRNA
- 7) Ribosome are made up of
 - a) DNA and protein
 - b) DNA and RNA
 - c) RNA and protein
 - d) Protein and lipid
- 8) ATP is formed in
 - a) Nucleus
 - b) Nucleolus
 - c) Ribosomes
 - d) Mitochondria
- 9) Which parl of the compound microscope helps in gathering and focusing light raps on the specimen to be viewed?
 - a) Eyepiece lens
 - b) Objective lens
 - c) Condenser lens
 - d) Magnifying len.
- 10) Who first describe the Golgi complex?
 - a) Kreb
 - b) Camillo Golgi
 - c) De Duve
 - d) Palade

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SUBJECT CODE NO:- 2078
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem-III)
Examination March/April-2022 (To be held in June/July-2022)
Zoology Paper-VII
Vertebrate Zoology

[Time: 1:53
Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

N 3

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

Q1 Describe in detail cranial nervous system of scoliodon.

20

OR

Explain in detail outline classification and general characters of Amphibia

Q2 Describe in detail Arterial system of calotes

20

OR

Write short notes on any four of following

- a) General characters of Aves
- b) Blastula of chick
- c) Altitudinal migration
- d) Poisonous snakes
- e) Neotony in Amphibia
- f) Heart of scoliodon

Q3 Multiple choice questions

10

- 1) Poisonous glands in snakes are modified glands of
a) Parotid gland b) lacrimal gland c) thyroid gland d) tear gland
- 2) Cotyledonary placenta is found in
a) Cow and camel b) cow and deer c) cammer and giraffe d) pig and horse
- 3) Teeth of scoliodon are
a) Polyphyodont b) monodont c) pleurodont d) acrodont
- 4) Amphibian are :
a) Homeothermic b) poikilothermic c) heterothermic d) none
- 5) In Rat the blood from right ventricle goes to lungs by
a) Systemic aorta b) precavals c) truncus Arteriosus d) pulmonary aorta

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SUBJECT CODE NO: - 2082
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. FY Sem-II
March/April-2022 (To be held in June/July-2022)
Zoology Paper-IV
Arthropod in Echinodermata and Protochordata

[Time: 1:53 Hours]**[Max. Marks:50]**

Please check whether you have got the right question paper.

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

N.B.

Q.1 Describe in detail nervous system of prawn. 20

OR

Describe in detail digestive system of cockroach. 20

Q.2 Give the external characters of pila globosa. 20

OR

Give short notes on (any four)

- a) Water vascular system in sea star
- b) General characters of Hemichordata
- c) Morphology of bird mania
- d) Digestive system in amphioxus
- e) Cephalic appendages of prawn
- f) Morphology of ant view in ascaris

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

1) The total number of appendages present in the prawn is

- a) Sixteen
- b) Nineteen
- c) Seven
- d) Thirteen

2) Prawn has _____ pairs of walking legs.

- a) 5 pairs
- b) 8 pairs
- c) 13 pairs
- d) 19 pairs

3) Vision of cockroach is

- a) Monocular
- b) Binocular
- c) Mosaic
- d) All

4) Number of male chromosomes in cockroachi.

- a) 33
- b) 34
- c) 32
- d) 30

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5) The type of antenna in cockroach is

- a) Arisole
- b) Filiform
- c) Clubbed
- d) Plumose

6) Excretory organ of pila is

- a) Kidney's organ
- b) Kidney
- c) Renal organ
- d) None

7) Oesophagus is the association with

- a) Digestion
- b) Respiration
- c) Excretion
- d) Olfactory sensation

8) Bipinnaria have

- a) Somatosteel
- b) Hydrossteel
- c) Axosteel
- d) All

9) Water vascular system contains

- a) Madreporite
- b) Stone canal
- c) Ring canal
- d) All of these

10) The power of Regeneration occurs in

- a) Coelenterata
- b) Porifera
- c) Echinodermata
- d) All

2

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SUBJECT CODE NO:- 2084
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y. Sem. II
Examination March/April-2022 (To Be Held In June/July-2022)
Zoology Paper-A
Genetics - I

[Time: 1.53 Hours]**[Max.Marks:50]**

Please check whether you have got the right question paper.

- ii) Attempt all questions
 iii) Illustrate your answer with suitable labeled diagram

N.B

Q.1 Describe in detail mendel's law of independent assortment with suitable example. 20

OR

Give an account of blood group system in man add a note on its importance. 20

Q.2 What is gene interaction? Explain any three modified median ratio. 20

OR

Write a short note on any four 20

- a) Phenylketonuria (pku)
 b) Cystinosis
 c) Inhibiting factor
 d) Albinism
 e) Lethal gene
 f) Karyo particles in paramecium

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

- 1) When a single character is controlled by two or more pairs of alleles independently the gene are called ----- gene.
 a) Triphate b) Duplicate c) Dominant d) Recessive
- 2) Which of the following blood group belonging to the category of universal recipient
 a) A b) AB c) B d) O
- 3) A phenotypic ratio of 9:3:3:1 obtained in F_2 generation is called ----- cross
 a) Trihybrid b) monohybrid c) Dihybrid d) Tetrahybrid
- 4) Hypertrichosis is common in
 a) India b) Sri Lanka c) Both A & B d) None
- 5) A pair of gene located at corresponding positions on a pair of homologous chromosomes is
 a) Alleles b) Lethal gene c) Linked gene d) Antigen

- 6) Cytoplasmic inheritance was first described by
 a) Correns b) Boycott c) Mendel d) Sumichrorn
- 7) Anterior-posterior gynandromorphs is commonly in
 a) Bees b) Drosophila c) muller d) bees
- 8) Cri-du-chat syndrome was first described by
 a) Langdon b) Patau c) Edward d) Lejeune
- 9) DNA fingerprinting is applicable in
 a) Gene therapy b) Cloning c) Forensic science d) Hybridization
- 10) Tyrosine is converted to DOPA and DOPA serves as a precursor for
 a) Adrenaline b) Melanin c) non-adrenalin d) All of these

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SUBJECT CODE NO:- 2078
FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. S.Y (Sem-III)

Examination March/April-2022 (To be held in June/July-2022)

Zoology Paper-VII

Vertebrate Zoology

**[Time: 1:53
Hours]**

[Max. Marks: 50]

N.B

Please check whether you have got the right question paper.

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

Q.1 Describe in detail cranial nervous system of scoliodon.

20

OR

Explain in detail outline classification and general characters of Amphibia

Q.2 Describe in detail Arterial system of calotes

20

OR

Write short notes on any four of following

- a) General characters of Aves
- b) Blastula of chick
- c) Altitudinal migration
- d) Poisonous snakes
- e) Neotony in Amphibia
- f) Heart of scoliodon

Q.3 Multiple choice questions

10

- 1) Poisonous glands in snakes are modified glands of
 a) Parotid gland b) lacrimal gland c) thyroid gland d) tear gland
- 2) Cotyledonary placenta is found in
 a) Cow and camel b) cow and deer c) camor and giraffe d) pig and horse
- 3) Teeth of scoliodon are
 a) Polyphyodont b) monodont c) pleurodont d) acrodont
- 4) Amphibian are :
 a) Homeothermic b) poikilothermic c) heterothermic d) none
- 5) In Rat the blood from right ventricle goes to lungs by
 a) Systemic aorta b) precavals c) truncus Arteriosus d) pulmonary aorta

- 6) Endoskeleton of cyclostomes is
 - a) Absent b) bony c) cartilaginous d) both b and c
- 7) Calotes is
 - a) Herbivorous b) Insectivorous c) omnivorous d) plankton feeder
- 8) Cranial nerves in cyclostomes are
 - a) 4-6 pairs b) 6-8 pairs c) 8-10 pairs d) 10-12 pairs
- 9) The study of reptiles are :
 - a) Herpetology b) Ichthyology c) entomology d) ornithology
- 10) In calotes the precavals are formed by the union of:
 - a) Pulmonary vein
 - b) Azygous vein and jugular vein
 - c) Internal and external jugular vein with subclavian vein
 - d) Caudal and sub-clavian vein

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SUBJECT CODE NO:- 2080
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. S.Y (Sem-III)
Examination March/April-2022 (To be held in June/July-2022)
Zoology Paper-VIII
Genetics- II

[Time: 1:53 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 labeled diagram.

Q.1 Define gene. Explain the process of transcription of gene.

20

OR

What is genetic disorder. Explain Down's syndrome.

Q.2 Give an account on application of rDNA technology.

20

OR

Write short note on any four of the following

- a) Monozygotic twins
- b) PKU
- c) Plasmid
- d) Colour blindness
- e) Bacterial transformation
- f) Properties of genetic code

Q.3 Multiple choice question:

10

1. Which of the following is also called bleeder's disease-
 - a) Anaemia
 - b) Thrombocytopenia
 - c) Polycythemia
 - d) Haemophilia
2. XXY chromosomes complement is found in -
 - a) Down's syndrome
 - b) Turner's syndrome
 - c) Klinefelter's syndrome
 - d) Edwards syndrome

3. Sex determination in human beings is ----- type.
 - a) XY-XX
 - b) XX-XO
 - c) XX-XY
 - d) XO-XX
4. Inability to produce tyrosinase enzyme leads to ----- hereditary defect.
 - a) Fairness
 - b) Albinism
 - c) Pku
 - d) Alkaptonuria
5. The total aggregate of alleles in a population is referred to as -----
 - a) The gene pool
 - b) The allelic frequency
 - c) The genotypic frequency
 - d) The genetic structure
6. The codon is found in -----
 - a) DNA
 - b) r RNA
 - c) t RNA
 - d) m RNA
7. Assumptions underlying Hardy-Weinberg equilibrium are -----
 - a) Organisms are deploid
 - b) mating is random
 - c) Population size is infinitely large
 - d) All of the above
8. Representation of chromosomes of a species in the form of diagram is called -----
 - a) Hologram
 - b) Ideogram
 - c) Milligram
 - d) Sensogram
9. What is the process of introducing vector into the viral vector known as -----
 - a) Transposition
 - b) Transduction
 - c) Transformation
 - d) Transfection
10. Electro phoresis a technique used in DNA finger printing helps to separate -----
 - a) Cells for DNA
 - b) DNA segments
 - c) Tissues
 - d) RNA from DNA

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SUBJECT CODE NO:- 2069
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y Sem. V
Examination March/April-2022 (To Be Held In June/July-2022)
Zoology Paper- XV
(Ecology)

[Time:1:53
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.

Section A

Q1 Explain in detail the concept and variation of light in different environment. 20
 OR

Define competition. Describe the types of competition with suitable Examples.

Q2 What is community succession? 20

Explain with examples of succession and climax:

OR

Write short notes on any four of the following.

- a) Adaption to salinity
- b) Parasitism
- c) Natality
- d) Ecological niche
- e) Food web
- f) Desert Ecosystem

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

- 1) The term ecosystem was coined by _____
 - a) Harvy
 - b) Tansley
 - c) Griffith
 - d) Hqwrod
- 2) Biotic factors are _____
 - a) Chemical factor of soil with effect light life
 - b) Physical factor of soil with effect life
 - c) All living organism which influence other organism
 - d) Factor of atmosphere which effect life
- 3) A pond is _____
 - a) Abcome
 - b) Natural ecosystem
 - c) Artificial ecosystem
 - d) A community of plants & animals.
- 4) Association of sea Anemone with Hermit crab living in gastro rod shell in an example _____
 - a) Mutualism
 - b) Symbiosis

- c) Commensalism
- d) Parasitism
- 5) The term ecology was first proposed by _____
 - a) Wallare
 - b) Cleake
 - c) Haeckel
 - d) Odum
- 6) Natural place where the organisms or communities live is known as _____
 - a) Niche
 - b) Habitat
 - c) Habit
 - d) Biome
- 7) If weak partner is benefited on a strong partner damaged. The relation is known as _____
 - a) Parasitism
 - b) Symbiosis
 - c) Commensalism
 - d) Mutualism
- 8) Symbiosis means _____
 - a) Harmful relationship between two organism
 - b) A process advantages only one
 - c) Mutually beneficial partner
 - d) None of these
- 9) In the food chain the saprophytic organism are _____
 - a) Producer
 - b) Consumer
 - c) Predator
 - d) Decomposer
- 10) Which must be pressured in an ecosystem If the system is to be maintained _____
 - a) Producer are carnivores
 - b) Producer are decomposers
 - c) Carnivores and decomposers
 - d) Herbivores and carnivores

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SUBJECT CODE NO:- 2072
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. T.Y. (Sem-V)
Examination March/April-2022 (To Be Held In June/July-2022)
Zoology Paper-XVI
Entomology - I

[Time: 1:53 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 the nervous system of grasshopper. 20

OR

Describe the general characters of order Thysanura and Collembola with suitable example.

Q.2 Give an account 'Apiculture'. 20

OR

Write short notes on any four of the following.

- a) Mouth parts of Grasshopper
- b) Pediculus
- c) Hemimetamorphosis
- d) Economic importance of Lac
- e) Insects preservation
- f) Mosquito

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

1. _____ is the best way for mounting the smallest insect.

- a) Pinning
- b) Gumming
- c) Embedding
- d) Hanging

2. Identification of short horned and long horned grasshopper based on _____.

- a) Legs
- b) Mouth parts
- c) Antenna
- d) Ovipositor

3. Which of the following is helps to grind food in alimentary canal of insect?

- a) Gizzard

- b) Intestine
- c) Crop
- d) Hepatic caeca

4. Insects are _____ type of animals.

- a) Aminotelic
- b) Ureotelic
- c) Uricotelic
- d) All of these

5. What is the common name of *Lepisma Saccharina*?

- a) Spring tail
- b) Silver fish
- c) Lady bird beetle
- d) Bed bug

6. Which of the following metamorphic stage found in *Lepidoptera*?

- a) Maggots
- b) Caterpillar
- c) Grubs
- d) None of these.

7. Which of the following insect belongs to the group *Exopterygota*?

- a) House fly
- b) Mosquito
- c) Cockroach
- d) Butterfly.

8. An entomophagous insects feeds on _____.

- a) Leaves
- b) Insects
- c) Grains
- d) None of these.

9. Which of the following hormone caused maulting?

- a) Ecdysone
- b) Pheromones
- c) Growth Hormone
- d) None of these

10. The Scape is a part of _____.

- a) Legs
- b) Antenna
- c) Marilla
- d) Labium.