

SUBJECT CODE NO:- B-2035
FACULTY OF SCIENCE
B.Sc. F.Y (Sem-II) Examination March/April 2018
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 labeled diagram.

Q.1 Give an account of the digestive system and physiology of digestion in cockroach. 20

OR

Describe in detail the cephalic and thoracic appendages of prawn. 20

Q.2 Describe in detail Reproductive system of Amphioxus. 20

OR

Write short notes on (any four) 20

- a) Pedicellariae
- b) Stone canal
- c) Radula of pila
- d) General characters of hemichordata
- e) Heart of pila
- f) Herdmania

Q.3 Select and write correct answer from given alternatives in each sub questions. 10

- 1) Walking legs in prawn ----
 - a) 5 pairs
 - b) 8 pairs
 - c) 19 pairs
 - d) 13 pairs
- 2) Mouth parts of cockroach are ----
 - a) Cutting and chewing
 - b) Sucking
 - c) Piercing
 - d) Lapping and sucking
- 3) Body of cockroach is covered by -----
 - a) Cuticle
 - b) Chitin
 - c) Sclerites
 - d) Suberin

- 4) Ctenidium performs respiration in -----
a) Air
b) Water
c) Both
d) Terrestrial
- 5) Pila is -----
a) Carnivorous
b) Herbivorous
c) Sangvivorous
d) Omnivorous
- 6) Water vascular system is peculiarity of -----
a) Porifera
b) Coelentrata
c) Echinodermata
d) Mollusca
- 7) Stone canal connects with the -----
a) Ring canal and polian vesicles
b) Ring canal and Radial canal
c) Madreporite and ring canal
d) None of above
- 8) Eggs of echinoderms are -----
a) Homolecithal
b) Telolecithal
c) Microlecithal
d) None of above
- 9) Protochordata are -----
a) Marine
b) Fresh water
c) Terrestrial
d) None
- 10) Connecting link between invertebrate and chordata –
a) Amphioxus
b) Balanoglossus
c) Echinodermata
d) Herdmania

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SUBJECT CODE NO:- B-2036
FACULTY OF SCIENCE
B.Sc. F.Y (Sem-II) Examination March/April 2018
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. Attempt all questions.
2. Illustrate your answer with suitable labeled diagram.
- Q.1 What is variation? Describe Mendel's law of heredity. 20
OR
Explain in brief cytoplasmic inheritance and add a note on Kappa particles in Paramecium. 20
- Q.2 Describe in detail chromosomal mutation (Structural & Numerical) 20
OR
Write short notes on: (any four) 20
a) X-linked inheritance
b) Gynandromorphy in Drosophila
c) Complementary gene
d) ABO blood group in man
e) Dominant Epistasis
f) Multiple alleles in Rabbit
- Q.3 Select and write correct answer from the given alternatives in each sub-question. 10
1) The concept of sudden genetic change which breeds true in an organism is visualized in principle of --

a) Natural selection
b) Heredity
c) Variation
d) Mutation
2) Both male and female characters present in a drosophila are known are
a) Hetero drosophila
b) Gynandromorphy
c) Male drosophila
d) Female drosophila
3) Which one of the following is a sex linked disease?
a) Cretinism
b) Beri beri
c) Colour blindness
d) Tylosis

- 4) Coat colour in Rabbit is an example of -----
a) Multiple allele
b) Epistasis
c) Heredity
d) Variation
- 5) A child receives -----
a) 25% genes from his father
b) 50% genes from his father
c) 100% genes from his father
d) 75% genes from his father
- 6) For a child having blood group 'B'. If father has blood group 'A' what may be the blood group of mother?
a) 'O' or 'A'
b) 'O'
c) 'B' or 'AB'
d) 'A'
- 7) In a dihybrid cross typical genotypic ratio is -----
a) 3:1
b) 1:2:1
c) 4:1
d) 9:3:3:1
- 8) Gregor Mendel purposed -----
a) Theory of Evolution
b) Theory of Mutation
c) Laws of Heredity
d) The cell Theory
- 9) What type of gametes are formed from a plant of genotype of Tt Rr-----
a) Tt and Rr
b) TR, Tr, tR, tr
c) TR and tr
d) Tr, tr only
- 10) Sex linked characters are -----
a) Dominant
b) Lethal
c) Recessive
d) Not inherited

SUBJECT CODE NO:- B-2038
FACULTY OF SCIENCE
B.Sc. S.Y (Sem-IV) Examination March/April 2018
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. Illustrate your answer suitable labeled diagram.

Q.1 Define Respiration. Explain the process of external respiration in Mammals. 20

OR

Describe the structure & physiology of mammalian heart. 20

Q.2 Describe the synaptic transmission of impulses. 20

OR

Write short notes on (any four) 20

- a) Cardiac muscle
- b) Structure of Testis
- c) estrous cycle
- d) Mechanism of urine formation
- e) Progesterone
- f) Neurotransmitters

Q.3 Multiple choice questions 10

- 1) What is common among amylase, rennin and trypsin
 - a) Produced in stomach
 - b) Acts at lower PH
 - c) All are proteins
 - d) Produced in buccal cavity
- 2) Which of the following is correct pairing of site of action and substrate of Rennin?
 - a) Mouth – starch
 - b) Stomach – fat
 - c) Stomach – casein
 - d) Small intestine – casein
- 3) The life span of WBC is approximately.
 - a) Less than 10 days
 - b) Between 20 – 30 days
 - c) Between 2-3 months
 - d) More than three months

- 4) The exchange of gases between inhaled air and blood is referred as -----
a) Cellular respiration
b) External respiration
c) Internal respiration
d) Circulatory respiration
- 5) Neurotransmitters are -----
a) Large molecules
b) Small molecules
c) Medium molecules
d) None of these
- 6) The matrix of blood is known as -----
a) Plasma
b) Serum
c) RBC/WBC
d) Platelets
- 7) Which of the following is not a neurotransmitter
a) Acetylcholine
b) Cyclic AMP
c) Noradrenaline
d) Dopamine
- 8) Aerobic respiratory pathway is also termed as ----- pathway.
a) Anabolic
b) Catabolic
c) Amphibolic
d) Creatine phosphate
- 9) Kine of Reproduction which results in male and female gametes is called -----
a) Asexual reproduction
b) Sexual reproduction
c) Fragmental reproduction
d) Propagation reproduction
- 10) Reproductive cells are also called -----
a) Ovaries
b) Embryos
c) Gametes
d) Zygotes

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SUBJECT CODE NO:- B-2039
FACULTY OF SCIENCE
B.Sc. S.Y (Sem-IV) Examination March/April 2018
Zoology Paper- XII
Biochemistry and Endocrinology

[Time: 1:30 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 Define Protein. Explain in detail the protein metabolism. 20
- OR**
- Describe the mechanism of enzyme action. 20
- Q.2 Explain the hormones secreted by pituitary gland. 20
- OR**
- Write short notes on (any four) 20
- a) Hormones of Pancreas
 - b) Structure of Thyroid gland
 - c) Adrenal cortex
 - d) Islets of Langerhans structure
 - e) Effect of Hyperthyroidism & hypothyroidism
 - f) Structure of pituitary gland
- Q.3 Multiple Choice Questions. 10
- 1) Adrenaline causes
 - a) Hyperglycemia
 - b) Hypoglycemia
 - c) Diabetes insipidus
 - d) Diabetes mellitus
 - 2) ADH has it greatest influence on the kidneys at
 - a) Cortex
 - b) Convoluted tubules
 - c) Medulla
 - d) Nephron

- 3) Enzymes are -----
- Carbohydrates
 - RNA
 - Proteins
 - Fats
- 4) β – Oxidation of fatty acids is promoted by which of the following?
- ATP
 - NAD^+
 - $FADH_2$
 - Acetyl CoA
- 5) Which of the following secrete estrogen and progesterone?
- Ovary
 - Testis
 - Adrenal gland
 - Thyroid gland
- 6) The citric acid cycle is inhibited by which of the following?
- Fluoroacetate
 - Aerobic condition
 - Malic acid
 - Fluorouracil
- 7) Graves' disease is known as
- Hypothyroidism
 - Parathymia
 - Hyperinsulinism
 - Toxic goiter
- 8) Which of the following product is released in α – oxidation of fatty acids?
- CoA
 - CO_2
 - H_2O
 - Acetyl CoA

9) The first person to discover vitamins was

- a) Jenner
- b) Funk
- c) Calvin
- d) Mellanby

10) A steroid vitamin is

- a) A
- b) D
- c) E
- d) K

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SUBJECT CODE NO: B-2155
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Zoology Paper- XV
Ecology

[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 Write an essay on temperature as an abiotic factor. 20

OR

Explain in detail mutualism and parasitism with its examples.

Q.2 What is ecosystem? Explain in detail Marine ecosystem. 20

OR

Write a short note on any four of the following.

- a) Producer
- b) Ecological Niche
- c) Types of community
- d) Decomposers
- e) Edge effect
- f) Primary production

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

1. The study of interactions between organisms and their environment is called -----

- a) Environmental studies
- b) Meteorology
- c) Ecology
- d) Ecosystem

2. A natural ecosystem depends upon -----

- a) Plants
- b) Animals
- c) Man
- d) Self-operating system

3. Bell-shaped polygonal pyramid indicates -----

- a) Low percentage of young individuals
- b) Moderate percentage of young individuals
- c) High percentage of Non-reproductive
- d) None

4. Phytoplanktons are -----
 - a) Producers of forests
 - b) Producers of lakes
 - c) Omnivores
 - d) Consumers of sea ecosystem
5. The source of energy in an ecosystem is -----
 - a) Sunlight
 - b) ATP
 - c) DTP
 - d) DNA
6. The transitory community in an ecological succession is called -----
 - a) Seral stage
 - b) Terrestrial community
 - c) Freshwater community
 - d) Climax community
7. Diversity of producers are found in -----
 - a) Agro ecosystem
 - b) Marine ecosystem
 - c) Desert ecosystem
 - d) Forest ecosystem
8. The term ecology was coined by
 - a) Odum
 - b) Foster
 - c) Haeckel
 - d) Blackman
9. Which of the following is a biotic factor -----
 - a) Light
 - b) Plant
 - c) Temperature
 - d) Sun
10. Radiant energy is converted into potential energy by -----
 - a) Consumers
 - b) Decomposers
 - c) Producers
 - d) All of these

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
A) Fishery Science

[Time: 1:30 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 the reservoir fisheries and its management. 20

OR

Write in detail importance of fishes. 20

Q.2 Give an account of chilka lake and describe its fisheries. 20

OR

Write short notes on any four of the followings.

- a) General aids to fishing operations.
- b) Bombay duck fishery
- c) Arial remote sensing
- d) Tilapia fish
- e) Kolleru lake
- f) Pomfret fishery

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

1) In fish, high protein content is present in-----.

- a) Muscle
- b) Heart
- c) Liver
- d) Head

2) GIFT is-----.

- a) Genetic Improved in Fish culture
- b) Genetically improved farmed Tilapia
- c) Government incentives for fisheries trials
- d) None of above

- 3) Milk fish feeds largely on-----.
- Plankton
 - Detrius
 - Lab-labster
 - None of the above
- 4) The scientific name of Pomfret fish is -----.
- Scomberomorous guttatus
 - Pampus argenteus
 - Eleuthronema tetradactylum
 - Cynoglossus arel
- 5) Stanley reservoir in Tamilnadu is located on-----river.
- Vaigai
 - Cavery
 - Tamiraparani
 - Palar
- 6) The breeding season of sardine is-----.
- From December to January
 - From February to June
 - From July to September
 - From October to November
- 7) Brackish water is generally as-----.
- Concentrated sea water
 - Pure sea water
 - Dilute sea water
 - None of the above
- 8) Jaikawadi reservoir constructed on-----river.
- Manjara
 - Krishna
 - Godavari
 - Torna

9) Sonar instrument is used to detect -----.

- a) Ships
- b) Boats
- c) Fishes
- d) None of the above

10) -----fish is found in estuaries and fresh water of India and are costly and highly nutritive.

- a) Labeo
- b) Channa
- c) Annatas
- d) Clarius

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
B) Animal Culture

[Time: 1:30 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 Give a brief account of life history of honey bee. 20

OR

Explain the seasonal management of bee colony. 20

Q.2 Give an account of various courses of beekeeping. 20

OR

Write a short note on any four of the following: 20

- a) Stone brood disease
- b) Collection of bee venom
- c) Benefits of bee pollination
- d) Pollen trap
- e) Honey extraction
- f) Methods of extraction of wax

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

- 1) The process of rearing honey bee artificially is called as-----.
 - a) Horticulture
 - b) Apiculture
 - c) Sericulture
 - d) Pisciculture
- 2) In Maharashtra board is engaged in research and extension of bee keeping-----.
 - a) KVI
 - b) CBI
 - c) AGI
 - d) KVIC

- 3) -----species honey is more medicinal importance.
- a) Apis mellifera
 - b) A. dorsata
 - c) Apis cerana indica
 - d) A. florea
- 4) -----Indian species is popularly domesticated in India.
- a) Apis mellifera
 - b) A. dorsata
 - c) Apis cerana indica
 - d) A. florea
- 5) The antenna cleaner is present on -----leg.
- a) Prothoracic
 - b) Aesothoracic
 - c) Metathoracic
 - d) All the above
- 6) The string apparatus is absent in -----.
- a) Worker
 - b) Queen
 - c) Drone
 - d) All of the above
- 7) -----invented the bee language.
- a) Aristotle
 - b) Mendel
 - c) Karl von Frisch
 - d) Fleming
- 8) The period denoting the blossom of flower.
- a) Numerical calendar
 - b) Floral calendar
 - c) Periodic calendar
 - d) Alphabetical calendar

9) -----is the resinous material collected from trees.

- a) Royal jelly
- b) Honey
- c) Propolis
- d) Venom

10) Nosema disease is caused by-----.

- a) Aspergillus flavus
- b) Nosema apis
- c) Pericystis apis
- d) All the above

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
C) Entomology

[Time: 1:30 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 reproductive system of grasshopper. 20
- OR
- Describe in detail general characters of insect orders Lepidoptera and thysanura with suitable examples. 20
- Q.2 What is house hold human insect pest? Explain in detail Rat flea and mosquito. 20
- OR
- Write short notes on any four of the following. 20
- House fly
 - Hemimetabolous
 - Maintenance of sericulture
 - Pediculus
 - Holometabolous
 - Importance of wax and honey.
- Q.3 Select and write correct answer from the given alternatives. 10
- Antennae of grasshopper is-----type.
 - Serrate
 - Filiform
 - Fusiform
 - Plumose
 - Seminal receptacle is present in-----reproductive system of grasshopper.
 - Male
 - Female
 - Both
 - None of the above

3) Tunnel for egg laying is formed with the help of-----by grasshopper.

- a. Anal style
- b. Anal cerci
- c. Ovipositor
- d. Leg

4) Wasp is the example of order-----.

- a. Coleoptera
- b. Hemiptera
- c. Diptera
- d. Hymenoptera

5) -----mosquito causes malaria.

- a. Culex
- b. Female anopheles
- c. Ades
- d. All the above

6) Eggs of pediculus is called as-----.

- a. Nits
- b. Orum
- c. Cocoon
- d. Ootheca

7) Biting and chewing type of mouth parts were seen in-----.

- a. House fly
- b. Butterfly
- c. Cockroach
- d. Pediculus

8) Aquatic nymph is called as-----.

- a. Naiads
- b. Grubs
- c. Larva
- d. Caterpillar

9) Swarming are found in-----.

- a. Silk moth
- b. Lac insect
- c. Honey bee
- d. All the above

10) Auditory organ of grasshopper is-----.

- a. Visual cell
- b. Ommatidium
- c. Tympanum
- d. Klings

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
D) Parasitic Protozoa and Helminthes-I

[Time: 1:30 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 Write an essay on trypanosoma-gambiense. 20

OR

Explain schizogony of plasmodium vivax with suitable diagram. 20

Q.2 What is parasitology? Discuss different types of host and parasite. 20

OR

Write a short note on any four of the following: 20

- a) E.coli
- b) Exflagellation
- c) Ookinete
- d) Giardiasis
- e) E. gingivalis
- f) Treatment of ovale

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

- 1) Trypanosome measures about-----.
 - a. 10-60um
 - b. 11-30um
 - c. 10-50um
 - d. 10-40um
- 2) -----is where one organisms lives on or in another organism utilizing its nourishment.
 - a. Neutrality
 - b. Parasitism
 - c. Antibiosis
 - d. None of these

- 3) The parasite of man which causes sleeping sickness-----.
- Malaria
 - T. gambiense
 - Jaundice
 - None of these
- 4) The tick is a-----type of parasite.
- Ectoparasite
 - Endoparasite
 - Permanent parasite
 - None of these
- 5) The malarial parasite was discovered in the RBC of human beings by-----.
- Haldane
 - Laveran
 - Ronald ross
 - Stephens
- 6) Nutrition in Eimeria is -----.
- Saprophytic
 - Holozoic
 - Holophytic
 - Mixotrophic
- 7) The symptoms of caecal coccidiosis in chickens are-----.
- Drooping wing
 - Ruffled feathers
 - Unsteady gait
 - All
- 8) -----are bigger & stronger than parasites.
- Commensals
 - Host
 - Parasite
 - All of these

9) -----parasite is attacks an unusual host.

- a. Occasional
- b. Ecto
- c. Periodic
- d. None of these

10) When the association is between the members of same species is called as----- association.

- a. Symbiosis
- b. Commensalism
- c. Interspecific
- d. Intraspecific

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI

E) Computer Application and Laboratory Technology -I

[Time: 1:30 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 What do you mean by operating system? Explain in detail DOS. 20

OR

Define software's and explain any two application software's. 20

Q.2 What are input/output devices? Explain any two output devices. 20

OR

Write short notes on any four of the following: 20

- a) Monitor
- b) Keyboard
- c) Scanner
- d) SSD
- e) Webcam
- f) ROM

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

1) Which of the following is the first operating system in windows?

- a. Windows 4.3
- b. Windows 95
- c. Windows XP
- d. Windows Me

2) Operating system is a -----.

- a. Application software
- b. Computer language
- c. Application hardware
- d. System software

3) Calculator belongs to-----.

- a. Main
- b. Accessories
- c. Windows explorer
- d. Control panel

4) Which of the following is not a word processor?

- a. Word pad
- b. Word star
- c. Ms-word
- d. Ms-access

5) Windows first screen is called as-----.

- a. Desktop
- b. Wallpaper
- c. Home page
- d. None of above

6) DBMS stands for-----.

- a. Data base management source
- b. Data base management system
- c. Data base management shell
- d. None of above

7) Protocol is a set of-----.

- a. Groups
- b. Rules
- c. Actions
- d. Classes

8) Speakers are the example of -----.

- a. Only input
- b. Both input/output
- c. Only output
- d. None of above

9) GB stands for-----.

- a. Greater bite
- b. Giga bite
- c. Greater byte
- d. All of the above

10) The default file name of a power point file is -----.

- a. Data 1
- b. Document 1
- c. Presentation 1
- d. Book 1

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
F) Bio Technology-I

[Time: 1:30 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 What is PCR? Briefly describe the various steps of PCR and list its variations. 20
- OR
- Discuss DNA polymerases and describe all their types. 20
- Q.2 Describe Immunochemical method. 20
- OR
- Write a short notes on the following any four. Each carry five marks. 20
1. M13 bacteriophage
 2. Liposome fusion
 3. Application in medicinal biotechnology
 4. Alkaline phosphates
 5. Plaque blotting
- Q.3 Select and write correct answer from the given alternatives in each sub-questions. 10
- 1) Which of the following is a recombinant DNA?
 - a) DNA of one bacteria to another bacteria
 - b) DNA of virus and bacterium
 - c) DNA of one bacteria and a man
 - d) All of the above
 - 2) Restriction enzymes are also called as-----.
 - a) Biological scissors
 - b) Molecular scalpels
 - c) Molecular knives
 - d) All of these

- 3) The plasmid used by Cohen and Boyer for their transformation experiment was-----.
- PSC 101
 - PUC 17
 - PBR 322
 - E. coli plasmids
- 4) Who created the first rDNA molecule?
- Nathan, Arber and smith
 - Watson, crick and Wilkins
 - Boyer and Cohen
 - Paul berg
- 5) The first step of PCR is -----.
- Denaturation
 - Annealing
 - Primer extension
 - None of these
- 6) Mode of DNA replication in E. coli is-----.
- Conservative and unidirectional
 - Semiconservative and unidirectional
 - Conservative and bidirectional
 - Semiconservative and bidirectional
- 7) Eco R1 is a-----.
- Endonuclease
 - Polymerase enzyme
 - Ligase
 - Exonuclease
- 8) In PBR 322, PBR stands for-----.
- Plasmid bacterial recombination
 - Plasmid bacterial replication
 - Plasmid bolivar and Rodriguez
 - Plasmid Baltimore & Rodriguez

9) DNA solution injected directly into the cell using micromanipulators is called-----.

- a) Macroinjection
- b) Micromanipulator mediated DNA delivery
- c) Microfection
- d) Microinjection

10) Types of DNA libraries are -----.

- a) 4
- b) 3
- c) 6
- d) 2

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
G) Diary Technology-I

[Time: 1:30 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 Explain the method of buying and collection of milk. 20
- OR
- Explain the microbiology of milk and destruction of micro-organism with its classification. 20
- Q.2 Define khoa and write down methods of production and defects of khoa. 20
- OR
- Write a short note on any four of the following: 20
- a) Physico chemical properties of milk
 - b) Manufacturing of pasteurized milk
 - c) Channa
 - d) Dahi
 - e) Classification of Indian dairy products
 - f) Clean milk production
- Q.3 Select and write correct answer from the given alternatives: 10
- 1) The total solids content in buffalo milk ranges between-----percent.
 - a) 20-25
 - b) 15-16
 - c) 5-6
 - d) 12-15
 - 2) Thermophilic bacteria can grow at temperature above-----.
 - a) 20°C
 - b) 50°C
 - c) 100°C
 - d) 65°C

3) Fermentation is the principle of manufacture of -----.

- a) Channa
- b) Khoa
- c) Basundi
- d) Dahi

4) For preparation of kalakand-----type of khoa is used.

- a) Pindi
- b) Danedar
- c) Dhar
- d) All of above

5) Acid coagulation is the principle of manufacture of -----.

- a) Chakka
- b) Butter
- c) Shrikhand
- d) Channa

6) The yield of surati paneer from cow milk is approximately-----.

- a) 20%
- b) 15%
- c) 30%
- d) 34%

7) Jacketed vat are used for -----cooling of milk.

- a) Batch
- b) Continuous
- c) All of above
- d) None of above

8) After pasteurization milk is immediately cooled to-----.

- a) 161°F
- b) 145°F
- c) 35°F
- d) 41°F

- 9) The corresponding western product of-----is evaporated milk.
- a) Basundi
 - b) Butter
 - c) Kheer
 - d) Khoa
- 10) Two stage homogenization is needed for products with more than-----fat.
- a) 10%
 - b) 6%
 - c) 3%
 - d) 15%

OR

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SUBJECT CODE NO:- B-2156
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-V) Examination March/April 2018
Elective Paper
Zoology Paper-XVI
H) Poultry Sciences-I

[Time: 1:30 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 circulatory system of poultry. 20
- OR
- Define poultry science? Give an account of American and Asiatic breeds. 20
- Q.2 Write an essay on management of Incubators. 20
- OR
- Write a short note on any four of the following: 20
- Breed character
 - Helminth Disease in poultry
 - Hatching of eggs
 - Natural mating
 - Ectoparasite
 - Care of eggs
- Q.3 Select and write correct answer from the given alternatives in each question. 10
- The egg contains large amounts of these mineral elements-----.
- Phosphorus
 - Manganese
 - Calcium
 - Iron
- Dubbing in poultry is meant for -----.
- Faster growth and better egg laying
 - Eradication of diseases
 - Eliminating the old birds
 - None of the above

3. Tick fever is technically called-----.
- Coryza
 - Spirochaetosis
 - Aphlotoxicosis
 - Ranikhet
4. Average weight of hen's egg-----.
- 63 grams
 - 21 grams
 - 18 grams
 - 57 grams
5. It is a fungal disease of poultry.
- Ranikhet
 - Cholera
 - Thrush
 - Pox
6. Poultry product is a good source of minerals and vitamins excepting the vitamin.
- A
 - B
 - C
 - D
7. Mating one hen with one cock once in every week is called-----.
- Stud mating
 - Pen mating
 - Flock mating
 - None
8. Grower mash is given to those fowls of age-----.
- 1 to 7 weeks
 - 8 to 30 weeks
 - 8 to 20 weeks
 - All

9. In a poultry shed the space for a layer bird is-----.

- a) 2.0 to 2.5 sq.feet
- b) 1 to 1.5 sq.feet
- c) 2.5 to 3.0 sq.feet
- d) None

10. For incubation of fowl egg the optimum temperature is -----.

- a) 40 to 42° C
- b) 37 to 39° C
- c) 43 to 45° C
- d) 46 to 50° C

SUBJECT CODE NO:- B-2171
FACULTY OF SCIENCE
B.Sc. F.Y (Sem-I) Examination March/April 2018
Zoology Paper-I
Protozoa to Annelida

[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 the suitable labeled diagram.

Q.1 Describe in detail life cycle of plasmodium vivax with suitable diagram. 20

OR

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

Q.2 Explain in detail the excretory system and mode of excretion in leech. 20

OR

Write short notes on (any four) 20

- (a) Mature proglottids
- (b) Medusa
- (c) Palmella stage
- (d) Pathogenicity of Entamoeba histolytica.
- (e) Polymorphism
- (f) Metazoa

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

1. The number of tentacles of obelia medusa is _____.
 (a) 8
 (b) 16
 (c) 32
 (d) 64
2. Sexual phase in the life cycle of Plasmodium vivax occurs in _____.
 (a) Gut of mosquito
 (b) Blood in man
 (c) Salivary gland of mosquito
 (d) Body cavity of mosquito
3. Reserved food in Euglena is in the form of _____.
 (a) Starch
 (b) Glycogen
 (c) Fatty acid
 (d) Paramylon

4. Simplest type of Canal system is _____.
(a) Sycon Type
(b) Ascon Type
(c) Diplodal type
(d) All above
5. The intermediate hosts of fasciola hepatica is _____.
(a) Goat
(b) Lymnaea
(c) Planorbis
(d) barbus
6. Pig acquired infection of Taenia by ingestion of _____.
(a) Oncosphere
(b) hexacanth
(c) cysticercus
(d) none of the above
7. Ascaris is _____.
(a) Host
(b) bisexual
(c) dioecious
(d) digenetic
8. Movement of food vacuole in paramecium along a definite paths is known as _____.
(a) Cytokinesis
(b) Cyclosis
(c) Endomixis
(d) Metagenesis
9. The number of chambers found in crop of Leech is _____.
(a) Six
(b) Eight
(c) Nine
(d) Ten
10. In Sponges central cavity is known as _____.
(a) Haemocoel
(b) Spongocoel
(c) Coelom
(d) None

SUBJECT CODE NO:- B-2172
FACULTY OF SCIENCE
B.Sc. F.Y (Sem-I) Examination March/April 2018
Zoology Paper-II
Cell Biology

[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 labeled diagram.

- Q.1 Give detail account on ultra structure and function of Endoplasmic reticulum 20
- OR
- Describe in detail structure and function of Prokaryotic cell. 20
- Q.2 What is mitosis? Explain different stages in mitosis. 20
- OR
- Write short notes on (any four) 20
- a) Eukaryotic cell
 - b) Staining
 - c) Golgi complex
 - d) Ribosome
 - e) Cell cycle
 - f) Function of Mitochondria
- Q.3 Select and Write correct answer from the given alternatives in each sub question. 10
1. 'Dictyosome' is also known as _____.
 - (a) Golgi bodies
 - (b) Ribosomes
 - (c) Lysosome
 - (d) Nucleoli
 2. The site of respiration within the cell is _____.
 - (a) Ribosome
 - (b) Mitochondria
 - (c) Golgi body
 - (d) Plasma membrane
 3. Longest phase in meiotic division is _____.
 - (a) Prophase
 - (b) Metaphase
 - (c) Anaphase
 - (d) Telophase

4. During cell division nuclear membrane reappear in _____.

- (a) Inter phase
- (b) S-phase
- (c) Metaphase
- (d) Telophase

5. Genes are located on _____

- (a) Chromosome
- (b) Nucleus
- (c) Endoplasmic reticulum
- (d) Nuclear membrane

6. Which of the following is found only in RNA and Not in DNA.

- (a) Adenine
- (b) Uracil
- (c) Cytosine
- (d) Guanine

7. Who first saw the cell under microscope?

- (a) A.V. Leeuwenhoek
- (b) M.I. Schleiden
- (c) Robert Hook
- (d) T. Schwann

8. Meiosis is also known as _____

- (a) Equatorial division
- (b) Reduction division
- (c) Both
- (d) None.

9. Magnification is defined as

- (a) The ratio between image size and object size.
- (b) The ratio between eye piece and objective
- (c) The ratio between mirror and the object
- (d) None of these.

10. The membrane of Golgi apparatus is _____

- (a) Rough
- (b) Smooth
- (c) Both a & b
- (d) None of the above.

SUBJECT CODE NO:- B-2174
FACULTY OF SCIENCE
B.Sc. S.Y (Sem-III) Examination March/April 2018
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 What is gastrulation? Describe process of gastrulation. 20
- OR
- Describe cranial nervous system in scoliodon. 20
- Q.2 Write a note on adaptive radiation in mammals. 20
- OR
- Write short notes on any four of the following. 20
- 1) Blastula
 - 2) Poisonous and nonpoisonous snake
 - 3) Chorio-allantoic placenta.
 - 4) External features of calotes
 - 5) Migration in birds
 - 6) Working of mammalian heart
- Q.3 Multiple choice questions 10
- 1) Members of the order myxiniformes as commonly known as
 - a) Lung fishes
 - b) Sharks
 - c) Lampreys
 - d) Hagfishes
 - 2) Scales in cyclostomes are
 - a) Placoid
 - b) Cycloid
 - c) Absent
 - d) Ctenoid
 - 3) Nostrils in scoliodon are
 - a) Dorsal and olfactory
 - b) Ventral and olfactory
 - c) Dorsal and respiratory
 - d) Ventral and respiratory

- 4) Brain of scoliodon is enclosed in
 - a) Bony skull
 - b) Muscles
 - c) Muscular cover
 - d) Chondrocranium
- 5) Neoteny refers to
 - a) Retention of rudimentary organ
 - b) Metamorphosis
 - c) Retention of larval characteristics in adults
 - d) Reproduction in larval forms
- 6) During hibernation or aestivation frog lives upon
 - a) Stored glycogen and fat
 - b) Stored protein and fat
 - c) Stored starch and fat
 - d) Stored galactose and fat
- 7) Calotes is predominantly
 - a) Herbivorous
 - b) Insectivorous
 - c) Omnivorous
 - d) Plankton feeder
- 8) Birds are glorified
 - a) Vertebrates
 - b) Fishes
 - c) Amphibians
 - d) Reptiles
- 9) The secretion of sebaceous glands is
 - a) Sweat
 - b) Tears
 - c) Sebum
 - d) Ear wax
- 10) Largest mammalian suborder
 - a) Logomorpha
 - b) Rodentia
 - c) Cetacea
 - d) Sirenia

Total No. of Printed Pages:03

SUBJECT CODE NO:- B-2175
FACULTY OF SCIENCE
B.Sc. S.Y (Sem-III) Examination March/April 2018
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 gene. Explain the process of transcription of gene. 20
- OR
- What is genetic disorder? Explain Down's syndrome. 20
- Q.2 Write on account on restriction enzymes. 20
- OR
- Write short notes on any four of the following. 20
- a) Hemophilia
 - b) Transduction
 - c) Albinism
 - d) Phase vector
 - e) Dizygotic twins
 - f) Gene therapy
- Q.3 Multiple choice questions 10
- 1) Genes for colorblindness are in -----
 - a) Eye cells
 - b) Sex cells
 - c) Body cells
 - d) Heterosomes
 - 2) Turner's syndrome has ----- chromosomes
 - a) 47
 - b) 45
 - c) 44
 - d) 48

- 3) Sum total of gene in population is -----
- Gene bank
 - Gene linkage
 - Gene pool
 - Genome
- 4) Non sex chromosomes-
- Heterosomes
 - Autosomes
 - Allosomes
 - Cytosomes
- 5) The codon is found in
- DNA
 - rRNA
 - tRNA
 - mRNA
- 6) 1st licensed drug produced by genetic engineering -----
- Interferon
 - Insulin
 - Penicillin
 - Somatotrophin
- 7) Identical twins are
- Heterozygous
 - Homozygous
 - Monozygotic
 - Dizygotic
- 8) Representation of chromosomes of a species in the form of diagram is called-----
- Hologram
 - Milligram
 - Idiogram
 - Sensogram

9) Mating among close relations is referred as -----

- a) Permanent marriage
- b) Line breeding
- c) Inbreeding
- d) Cross breeding

10) The genes controlling body characters located on Y- chromosomes are called-----

- a) Sex mosaics
- b) Holandric genes
- c) Wobble genes
- d) Complementary genes