SH ZOO—05

3rd Semester Examination, 2021

Time : 3 hours

Full Marks : 60

Answer from **all** the Parts as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(MODEL CBCS)

(DIVERSITY AND DISTRIBUTION OF CHORDATES)

PART – I

1. Answer the following questions in *one* word or fill in the blanks : 1×8

   (*a*) The common name of Balanoglossus is _____.

(*b*) All the sea squirts belong to the sub-phylum _____.

(*c*) Tail of cyclostomes is _____.

(*d*) South African lungfishes belong to the genus _____.

(*e*) All snakes belong to the order_____.

(*f*) The Experiment with Starlings to show that day migrants use sun as a compass was done by_____.

(*g*) Whales and dolphins belong to the order _____.

(*h*) _____ postulated plate tectonic theory.

PART – II

2. Answer any *eight* questions within *two* to *three* sentences each: $1\frac{1}{2} \times 8$

(*a*) Differentiate between acrania and craniata.

(*b*) Write three common fundamental Chordate characters.

(*c*) What represents the highest degree of parental care in fishes ?

(*d*) What are regarded as the possible ancestors of modern amphibia ?

(*e*) What is Archaeopteryx ? From where was it first discovered ?

(*f*) What is the basis of reptilian classification ?

(*g*) What are regarded as the unifinished mammals and why ?

(*h*) What are the theories pertaining to the distribution of animals ?

(*i*) Distinguish between Lampray and Hagfish ?

(*j*) Why sphenodon is regarded as a living fossil ?

PART – III

3. Write notes on any *eight* of the following questions within *75* words each : 2×8

(*a*) Dipleurura concept

(*b*) General characters of Cephalochordata

(*c*) Chondrichthyes

(*d*) Agnatha

(*e*) Branchial diverticula

(*f*) Affinities of Sphenodon

(*g*) Types of fangs

(*h*) Problems of bird migration

(*i*) Affinities of Prototheria

(*j*) Continental Drift Theory

PART – IV

Answer the following questions within *500* words each : 6×4

2. 4. Give an account of retrogressive metamorphosis in Herdmania.

Or

Discuss general characteristics of chordates. Give an outline classification of it.

5. Write an essay on fish migration.

Or

Give an account of parental care in amphibia.

6. Briefly describe the biting mechanism of snakes.

Or

Give an account of flight adaptations in birds.

7. Discuss the adaptive radiations with reference to locomotory appendages in mammals.

Or

What are zoogeographical realms ? Mention the distribution of vertebrates in these realms.

———————

SH ZOO—06

3rd Semester Examination, 2021

Time : 3 hours

Full Marks : 60

Answer from **all** the Parts as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(MODEL CBCS)

(PHYSIOLOGY : CONTROLLING AND COORDINATING SYSTEMS)

PART – I

1. Answer the following questions in *one* word or fill in the blanks : 1 × 8

(*a*) Connective tissue is derived from the _____ germ layer.

(*b*) The efferent portion of a neuron is known as _____.

(*c*) Jumping conduction of impulse along the myelinated neuron is also called _____.

(*d*) The membrane that gives us the ability to distinguish different pitches of sound is the _____.

(*e*) _____ is a menstrual cycle in which ovulation does not occur.

(*f*) Testosterone, dihydrotestosterone and androstenedione are collectively called _____.

(*g*) _____ gland was described as seat of the soul by Renee Descartes.

(*h*) Chemically the pituitary hormones are _____.

PART – II

2. Answer any *eight* of the following questions within *two* to *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) How epithelial tissue differs from connective tissue ?

(*b*) What forms the haversian systems ?

(*c*) Differentiate between tendon and ligament.

(*d*) What is action potential ?

(*e*) Write the names of placental hormones.

(*f*) What are the stages of ovarian cycle ?

(*g*) What happens if T4 hormone is high ?

(*h*) Which hormones are catecholamines ?

(*i*) Why are blood and lymph included in connective tissue ?

(*j*) What is stratified epithelium ? Mention its occurrence.

PART – III

3. Write notes on any *eight* of the following within *75* words each : 2×8

(*a*) Ossification

(*b*) T.S. of striated muscle

(*c*) Synapse

(*d*) Physiology of vision

(*e*) Neurotransmitters

(*f*) Puberty

(*g*) Accessory ducts and glands of male reproductive system

(*h*) Gonadotropins and their roles in reproduction

(*i*) Islets of Langerhans

(*j*) Neuroendocrine glands.

PART – IV

Answer the following questions within **500** words each : 6×4

4. Describe the structure and types of cartilages.

Or

Give a brief classification and function of simple epithelium.

5. Explain the molecular and chemical basis of muscle contraction.

Or

Discuss the types and mechanisms of reflex actions.

6. Describe various methods of contraception.

Or

Describe the histology of ovary.

7. Describe the mechanism of hormone action of non-steroidal hormones.

Or

Describe the structure and function of adrenal gland.

———————

SH ZOO—07

3rd Semester Examination, 2021

Time : 3 hours

Full Marks : 60

Answer from **all** the Parts as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(MODEL CBCS)

(FUNDAMENTALS OF BIOCHEMISTRY AND MICROBIOLOGY)

PART – I

1. Answer the following questions in *one* word or fill in the blanks : 1×8

   (*a*) _____ is an unbranched polymer of glucose joined by beta 1-4 glycosidic bonds.

   (*b*) _____ is the main animal sterol.

(*c*) _____ is an example of Sulphur containing amino acid.

(*d*) _____ is the first immunoglobulin expressed in human foetus and phylogenetically the earliest.

(*e*) Name the class of enzymes which catalyze removal of groups from their substrates by mechanism other than hydrolysis leaving double bond.

(*f*) Different forms of a single enzyme having same catalytic activity are known as _____.

(*g*) _____ bacterium causes typhoid fever.

(*h*) The phages infect and replicate only in _____.

PART – II

2. Answer any *eight* of the following questions within *two* or *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) What is a phospholipid and what is its function ?

(*b*) What are glycoconjugates in biochemistry ?

(*c*) What are essential amino acids ?

(*d*) What is protein denaturation and how does it happen ?

(*e*) What do you mean by enzyme kinetics ?

(*f*) Mention the advantages of Lineweaver-Burk plot over the Michaelis-Menten plot.

(*g*) What are transferases ? Give one examples of it.

(*h*) How is prion different from virus ?

(*i*) What is gram stain ? Give two examples of gram-positive bacteria.

(*j*) Distinguish between α-amino acids and β-amino acids.

PART – III

3. Write notes on any *eight* of the following within *75* words each : 2×8

(*a*) Triglycerides

(*b*) Disaccharides

(*c*) Non-covalent bonds that stabilize protein structure.

(*d*) Antigenic determinants

(*e*) Allosteric enzymes

(*f*) Cofactors

(*g*) Classification of bacteria basing on shapes

(*h*) Microbes of industrial interest

(*i*) Enzyme inhibition

(*j*) Structure of a T_4 bacteriophage.

PART – IV

Answer the following questions within **500** words : 6×4

4. Describe the structure and the biological importance of monosaccharides.

(*Continued*)

Or

Give an account of physiologically important saturated and unsaturated fatty acids.

5. Describe the basic structure of an immunoglobulin.

Or

Give a brief classification of amino acids.

6. Discuss the factors affecting the rate of enzyme - catalyzed reactions.

Or

Give an account of the mechanism of enzyme action.

7. Describe ultra-structure of a typical bacterium.

Or

Give an account of viral diseases of human.

SG ZOO-01

3rd Semester Examination, 2021

Time : 3 hours

Full Marks : 60

Answer from **all** the Parts as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(MODEL CBCS)

(ANIMAL DIVERSITY)

PART – I

1. Answer the following questions in *one* word or fill in the blanks : 1 × 8

   (*a*) The intermediate gelatinous layer of the body wall of coelenterate is called _____.

   (*b*) _____ stage of plasmodium is infective for man.

(*c*) What type of coelom is formed by splitting of mesoderm in annelids ?

(*d*) Starfish belongs to the phylum _____.

(*e*) In _____ type of migration a fish migrates from freshwater to marine water for breeding.

(*f*) Retrogressive metamorphosis is observed in _____.

(*g*) In human the last molar is called _____.

(*h*) Which era is regarded as the age of reptiles ?

PART – II

2. Answer any *eight* of the following questions within *two* to *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) How the primary host is infected by Taenia Solium ?

(*b*) Mention the animal nature of sponges.

(*c*) What is the basis of pearl formation in mollusca ?

(*d*) Distinguish between Protostomia and Deuterostomia.

(*e*) Mention some important modifications in amphibia to adapt to terrestrial life.

(*f*) How cartilaginous fishes differ from bony fishes ?

(*g*) What is the dental formula of human ?

(*h*) Differentiate between anamniote and amniote.

(*i*) What is pseudocoelom ?

(*j*) What is a digenetic parasite ? Give an example.

PART – III

3. Write notes on any *eight* of the following within *75* words each : 2×8

(*i*) Parasitic adaptation of helminths

(*ii*) Sycon type of canal system in sponges

(*iii*) Metamerism

SH ZOO–05

3rd Semester Examination, 2020

Time : 3 hours

Full Marks : 60

Answer any **one** Group as per your syllabus

Answer from **all** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

GROUP– A

(MODEL SYLLABUS)

(DIVERSITY OF CHORDATES)

SECTION – A

1. Answer following questions using *one* word only: 1×8

(*a*) What type of metamorphosis is found in ascidian tadpole larvae ?

(*b*) Notochord develops from which germ layers of chordates.

(*c*) Write the name of accessory respiratory organ in *Anabas*.

(*d*) Give an example of Limbless amphibia.

(*e*) How many chambers are there in the heart of Crocodiles.

(*f*) Pygostyle in birds is the fusion product of _____ bones. (Fill up the blank with right term)

(*g*) Give an example of Sea cows.

(*h*) Brazilian sub-region belongs to which zoo-geographical realm.

SECTION – B

2. Answer any *eight* of the following questions within *two* to *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) Why Urochordates are also known as tunicates ?

(*b*) Write down three important characteristics of chordates.

(*c*) What do you mean by ectothermic animals ?

(*d*) Why Petromyzon is classified as Agnatha ?

(*e*) Write down any two flight adoptive features of birds.

(*f*) Write one sentence each about neurotoxin and haemotoxin Venom.

(*g*) To which Zoogeographical realm India and Madagascar belongs.

(*h*) What do you mean by Dipleurula ?

(*i*) Write two important characteristics of Prototheria.

(*j*) What is Viviparity in amphibians ?

SECTION – C

3. Answer any *eight* of the following questions within *75* words each : 2×8

(*a*) Differentiate between Craniate and Acraniata.

(*b*) Write short notes on Cephalochordata.

(*c*) Differentiate between Chondrichthyes and Osteichthyes.

(*d*) Write short notes on Dipnoi.

(*e*) Why spherodon is considered as a living fossil ?

(*f*) Why Archaeopterix is a connecting link between reptiles and birds.

(*g*) Differentiate between arboreal and aerial mode of locomotion in mammals.

(*h*) Write short notes on metatherian mammals.

(*i*) Write short notes on Sinapsidon Reptiles.

(*j*) Write short notes on Hemichordata.

SECTION – D

4. Answer the questions within *500* words each with suitable diagrams wherever necessary : 6 × 4

(*a*) Write a note on Dipleurula concept and the origin of chordates.

Or

Give an account of retrogressive metamorphosis in urochordata.

(*b*) Describe Parental care in amphibia.

Or

Write a note on Migration in fishes.

(*c*) Describe biting mechanism in Snakes.

Or

Give an account of flight adoptations in birds.

(*d*) Write a note on Plate tectonic and Continental drift theory.

Or

Describe about Zoogeographical realms.

GROUP – B

(OLD SYLLABUS)

(BIOLOGY OF CHORDATA)

SECTION – A

1. Answer the following : 2 × 6

(*a*) Flight muscle

(*b*) Ascidian tadpole larva

(*c*) Bunodont

(*d*) Placoid scales

(*e*) Diurnal migration

(*f*) Flying mammals.

SECTION – B

Answer **all** questions : 12 × 4

2. Describe the structural peculiarities and affinities of Petromyzon. 12

Or

Write notes on : 2 × 6

(*i*) Retrogressive metamorphosis

(*ii*) General character Urochordata.

3. Discuss parental care in Amphibians. 12

Or

Write notes on : 2 × 6

(*i*) General character of Pisces

(*ii*) General character of Amphibians.

4. Discuss affinities of Sphenodon. 12

Or

Write notes on : 2 × 6

(*i*) *Archaeopteryx*

(*ii*) Poison apparatus.

5. Give an account of dentition in mammals. 12

Or

Write notes on : 2 × 6

(*i*) Prototheria

(*ii*) Metatheria.

SH ZOO—06

3rd Semester Examination, 2020

Time : 3 hours

Full Marks : 60

Answer any **one** Group as per your syllabus

Answer from **all** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

GROUP – A

(MODEL SYLLABUS)

(PHYSIOLOGY-CONTROLLING AND COORDINATING SYSTEM)

SECTION – A

1. Answer the following questions using only *one* word : 1×8

(*a*) Simple epithelium covering alveoli of lungs is _____ epithelium.

(*b*) Cells responsible for destruction of osteocytes in a bone is called _____ .

(*c*) Fluid present inside anterior chamber of eye is called _____ .

(*d*) Neuromuscular junction is the contact between muscle fibre and _____ neuron.

(*e*) Which cells provide nourishment to spermatozoa inside seminiferous tubule.

(*f*) During ovulation cell that sheds from the mammalian ovary is called ____ Oocyte.

(*g*) Enzyme that forms cyclic AMP from ATP is called _____ .

(*h*) Leaching of calcium from bones is due to a hormone called _____ .

SECTION – B

2. Answer any *eight* of the following questions within *two* to *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) What is the role of Haversian canal in bone tissue ?

(*b*) Write two important characteristics of connective tissue.

(*c*) What is saltatory conduction ?

(*d*) What are ear ossicles ?

(*e*) How FSH and oestrogen are related ?

(*f*) What is menarche ?

(*g*) Write two point difference between insulin and glucagon.

(*h*) What is a neurohormone ?

(*i*) What is liquor folliculi ?

(*j*) Write two point difference between 'A'-band and 'I' band.

SECTION – C

3. Answer any *eight* of the following questions within *75* words : 2×8

(*a*) Differentiate between voluntary and involuntary muscle.

(*b*) Write short notes on neuron.

(*c*) Differentiate between sensory and motor nerve.

(*d*) Write short notes on reflex action.

(*e*) Write short notes on chorionic gonadotropin.

(*f*) Differentiate between Graafian follicle and Corpus luteum.

(*g*) Write short notes on adrenal cortex.

(*h*) Briefly describe structure of thyroid gland.

(*i*) Write short notes on organ of corti.

(*j*) Briefly describe the histology of seminiferous tubules.

SECTION – D

4. Answer the following questions within *500* words with suitable diagrams wherever necessary : 6 × 4

(*a*) Describe bone growth and resorption.

Or

Write a note on epithelial tissue.

(*b*) Describe molecular and chemical basis of muscle contraction.

Or

Write a note on synaptic transmission.

(*c*) Describe the role of Hypothalamus-Pituitary and gonadal axis in reproduction.

Or

Give an account of method of contraception in male and female.

(*d*) Describe the mechanism of hormone action with a suitable example.

Or

Describe Hypothalamus as the master of mastergland in endocrine system.

GROUP – B

(OLD SYLLABUS)

(CONTROLLING AND COORDINATING SYSTEM)

SECTION – A

1. Answer the following : 2 × 6

(*a*) Tendon

(*b*) *Beta*-Cells

(*c*) Muscle twitch

(*d*) Second messengers

(*e*) Resting potential

(*f*) Reflex arc.

SECTION – B

Answer **all** questions : 12 × 4

2. Give an account of the structure and function of epithelial tissue. 12

Or

Write notes on : 6 × 2

(*i*) Areolar tissue

(*ii*) Cartilage.

3. What is a synapse ? Discuss the mechanism of synaptic transmission. 12

Or

Write notes on : 6 × 2

(*i*) Structure of neuron

(*ii*) Neuromuscular junction.

4. Give an account of ultrastructure of skeletal muscles. 12

Or

Write notes on : 6 × 2

(*i*) Cardiac muscle

(*ii*) Muscle tetanus.

5. Discuss the structure and function of thyroid gland. 12

Or

Write notes on : 6 × 2

(*i*) Hypothalamus

(*ii*) Pineal gland.

SH ZOO—07

3rd Semester Examination, 2020

Time : 3 hours

Full Marks : 60

Answer any **one** Group as per your Syllabus

Answer from **all** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

GROUP – A

(MODEL SYLLABUS)

(FUNDAMENTALS OF BIOCHEMISTRY AND MICROBIOLOGY)

SECTION – A

1. Answer the following questions using only *one* word : 1×8

(*a*) Give an example of glycoconjugate.

(*b*) Common sugar is composed of glucose and _____.

(*c*) Give an example of sulphur containing amino acid.

(*d*) In immunoglobulins heavy chains and light chains are connected by _____ bonds.

(*e*) Only protein part of the enzyme is called as _____.

(*f*) In allosteric enzymes regulators bind to the _____ site of the enzyme.

(*g*) What is the genetic material of a viroid ?

(*h*) Give an example of gram negative bacteria.

SECTION – B

2. Answer any *eight* of the following questions within *two* or *three* sentences each : $1\frac{1}{2} \times 8$

(*a*) What is a tetrose sugar ?

(*b*) What is an unsaturated fatty acid ?

(*c*) What kind of weak interactions are there in beta sheet structure of protein ?

(*d*) How renaturation brings native conformation to proteins ?

(*e*) $K_m = [S]$ at $\frac{1}{2} V_{max}$, (Write this statement without using abbreviations).

(*f*) How temperature affects enzyme actions ?

(*g*) What is the genetic material of HIV ? What type of virus it is ?

(*h*) Which bacteria causes tuberculosis ? Structurally its cell wall is made up of _____ ?

(*i*) What is a Prion ?

(*j*) What do you mean by non-essential amino acid ?

SECTION – C

3. Answer any *eight* of the following within *75* words each : 2×8

(*a*) Differentiate between saturated and unsaturated fatty acids.

(*b*) Write short notes on steroids.

(*c*) Draw the labelled diagram of amino acids like alanine and proline or valine and serine.

(*d*) Briefly describe about conjugated proteins.

(*e*) Write short notes on Isozymes.

(*f*) Briefly describe about competitive inhibitor of enzyme action.

(*g*) Differentiate between gram +ve and gram –ve bacteria.

(*h*) Write short notes on swine flu.

(*i*) Draw a neat labelled diagram of λ-phage.

(*j*) Write short notes on Triacylglycerols.

SECTION – D

4. Answer the following questions within *500* words each with suitable diagram wherever necessary : 6×4

(*a*) Describe structure and biological importance of polysaccharides.

Or

Write notes on phospholipids and their importance in cell membrane.

(*b*) What are amino acids ? Describe their general properties.

Or

Write notes on structure and function of different types of immunoglobulins.

(*c*) Describe about mechanism of enzyme action with suitable examples.

Or

Derive Michaelis-Menten equation.

(*d*) Describe reproduction in Bacteria.

Or

Write short notes on Typhoid and Zika fever.

GROUP – B

(OLD SYLLABUS)

(COMPARATIVE ANATOMY OF VERTEBRATES)

SECTION – A

1. Answer the following : 2×6

(*a*) Pronephros

(*b*) Glenoid cavity

(*c*) Metachrosis

(*d*) Ductus caroticus

(*e*) External gills

(*f*) Rods and cones.

SECTION – B

Answer **all** questions : 12×4

2. Give an account of derivatives of integuments. 12

Or

Write notes on : 6×2

(*i*) Autostylic jaw suspensions

(*ii*) Appendicular skeleton of mammal.

3. Give an account of comparative anatomy of esophagus, stomach and intestine of birds and mammals. 12

Or

Write notes on : 6×2

(*i*) Air sacs

(*ii*) Internal gills.

4. Give an account of evolution of aortic arches in vertebrates. 12

Or

Write notes on : 6×2

(*i*) Metanephros

(*ii*) Double circuit heart.

5. Discuss the structure and function of mechanoreceptors. 12

Or

Write notes on : 6×2

(*i*) Diencephalon

(*ii*) Cranial nerves.

SH ZOO–05

2019

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(BIOLOGY OF CHORDATA)

SECTION – A

1. Answer the following : 2 × 6

(*a*) Diadromous migration

(*b*) Dipnoi

(*c*) Heterodont and thecodont dentition

(*d*) Squamata

(*e*) Petromyzon

(*f*) Snake Venom.

SECTION – B

Answer **all** questions : 12 × 4

2. What is "Retrogressive Metamorphosis" ? Discuss the phenomenon with reference to Ascidian tadpole larva. 12

Or

Write notes on : 6 × 2

(*i*) Affinities of Myxine

(*ii*) General characters of cephalochordate.

3. Discuss origin of tetrapoda. 12

Or

Write notes on : 6 × 2

(*i*) Different type of scales in fishes

(*ii*) Osmoregulation in fishes.

4. Give an account of Poison apparatus and briefly mention biting mechanism in snakes. 12

Or

Describe Migration in Birds. 12

5. Give an account of important characteristics and affinities of prototheria. 12

Or

Write notes on : 6 × 2

(*i*) Radiation in Limb structure in mammals

(*ii*) Metatheria.

SH ZOO–06

2019

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(PHYSIOLOGY : CONTROLLING AND CO-ORDINATING SYSTEM)

SECTION – A

1. Answer *all* the following questions : 2 × 6

(*a*) Glandular epithelium

(*b*) Tetanus

(*c*) Steroid hormones

(*Turn Over*

(*d*) Reflex arc

(*e*) Hyaline Cartilage

(*f*) Pineal gland.

SECTION – B

Answer **all** questions : 12 × 4

2. Describe the structure of bone and add a note on its types. 12

Or

Write notes on : 6 × 2

(*i*) Compound epithelium

(*ii*) Structure of skeletal muscle.

3. Describe the mechanism of conduction of nerve impulse along a non-myelinated nerve fibre. 12

Or

Write notes on : 6 × 2

(*i*) Synaptic transmission

(*ii*) Mechanism of Hearing.

4. Explain the molecular mechanism of muscle contraction highlighting the role of different muscle proteins. 12

Or

Write notes on : 6 × 2

(*i*) Muscle twich

(*ii*) Motor unit.

5. Give an account of structure of Adenohypothysis and discuss the functions of the hormones secreted from it. 12

Or

Write notes on : 6 × 2

(*i*) Endocrine Pancreas

(*ii*) Adrenal Cortex.

———————

2019

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(COMPARATIVE ANATOMY OF VERTEBRATES)

SECTION – A

1. Answer *all* questions : 2 × 6

(*a*) Ruminant Stomach

(*b*) Type of feathers in birds

(*c*) Opisthonephros

(*d*) Spinal Cord of Mammal

(*e*) Swim bladder

(*f*) Types of Eutherian Uteri.

SECTION – B

Answer **all** questions : 12 × 4

2. Give a comparative account of Integument of Amphibia, Reptilia and Mammals. 12

Or

Describe Jaw Suspensorium in vertebrates. 12

3. Give a comparative account of respiratory organs of fishes and amphibians. 12

Or

Write notes on : 6 × 2

(*i*) Alimentary canal of Frog

(*ii*) Air Sacs.

4. Briefly discuss the evolution of heart in vertebrates. 12

Or

Write notes on : 6 × 2

(*i*) Aortic arches in reptiles, birds and mammals.

(*ii*) Evolution of urinogenital ducts.

5. Give a comparative account of fore brain in vertebrates. 12

Or

Write notes on : 6 × 2

(*i*) Cranial nerves in mammals

(*ii*) Chemoreceptors and mechanoreceptors.

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SG ZOO – 01

2019

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(ANIMAL DIVERSITY)

SECTION – A

1. Answer the following questions : 2 × 6

(*a*) Ascon type canal system

(*b*) Madreporite

(*c*) Urochordata

(*d*) Stem Reptiles

(*e*) Cysticercus larva

(*f*) Midwife Toad.

SECTION – B

Answer **all** questions : 12 × 4

2. Describe the life cycle of Plasmodium in primary host. 12

Or

Write notes on : 6 × 2

(*i*) General characters of Nemathelminthes

(*ii*) Canal system in Sycon.

3. Briefly discuss social life in insects. 12

Or

Write notes on : 6 × 2

(*i*) Metamerism in Annelida.

(*ii*) Pearl formation in bivalves.

4. Discuss parental care in Amphibia. 12

Or

Write notes on : 6 × 2

(*i*) Osmoregulation in fishes.

(*ii*) Salient features of protochordates.

5. Describe flight adaptation in birds. 12

Or

Write notes on : 6 × 2

(*i*) Terrestrial adaptations in Reptiles.

(*ii*) Dentition in Mammal.

———————

Total Pages—3

SH ZOO-05

2018

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(BIOLOGY OF CHORDATA)

SECTION—A

1. Answer the following : 2×6

   (*a*) Ctenoid scale

   (*b*) Balanoglossus

   (*c*) Anura

   (*d*) Migratory birds

(*Turn Over*)

(*e*) Anapsida

(*f*) Platypus.

SECTION–B

Answer **all** questions : 12 × 4

2. Give an account of structural peculiarities and affinities of petromyzon. 12

Or

Write notes on : 6 × 2

(*i*) General characters of Hemichordata

(*ii*) Retrogressive metamorphosis.

3. Discuss parental care in Amphibians. 12

Or

Write notes on : 6 × 2

(*i*) Osmoregulation in fishes

(*ii*) Migration in fishes.

(*Continued*)

4. Describe flight adaptation in birds. 12

Or

Write notes on : 6 × 2

(*i*) Affinities of Sphenoden

(*ii*) Archaeopteryx-a connecting link.

5. Give an account of General characters and affinities of Metatheria. 12

Or

Write notes on : 6 × 2

(*i*) Dentition in Mammals

(*ii*) Prototheria.

———

SH ZOO–06

2018

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(PHYSIOLOGY : CONTROLLING AND CO-ORDINATING SYSTEM)

SECTION – A

1. Answer *all* the following questions : 2 × 6

   (*a*) Haversian system

   (*b*) Feedback mechanism

   (*c*) Summation

(*d*) Resting membrane potential

(*e*) Insulin

(*f*) Erythrocyte.

SECTION – B

Answer **all** questions : 12 × 4

2. (*a*) Describe various types of epithelial tissue. 12

Or

(*b*) Write notes on : 6 × 2

(*i*) Connective tissue proper

(*ii*) Structure of neuron.

3. (*a*) Define Synapse. Describe the mechanism of synaptic transmission. 12

Or

(*b*) Write notes on : 6 × 2

(*i*) Neuromuscular junction

(*ii*) Mechanism of vision.

4. (*a*) Explain the mechanism of muscle contraction. 12

Or

(*b*) Write notes on : 6 × 2

(*i*) Structure of striated muscle fibre

(*ii*) Sliding-Filament theory.

5. (*a*) Discuss the structure and role of different hormones secreted from Thyroid gland. 12

Or

(*b*) Write notes on : 6 × 2

(*i*) Hormone of Neurohypophysis

(*ii*) Parathyroid gland.

———————

Total Pages—3

SH ZOO—07

2018

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(COMPARATIVE ANATOMY OF VERTEBRATES)

SECTION – A

1. Answer *all* questions : 2×6

   (*a*) Internal gills.

   (*b*) Autostylic jaw suspension.

   (*c*) Sinus venosus.

   (*d*) Cerebellum of scoliodon.

   (*e*) Epidermal glands.

   (*f*) Types of Uteri in mammals.

SECTION – B

Answer **all** questions : 12×4

2. Describe the hard derivatives of integument in vertebrates. 12

Or

Write notes on : 6×2

(*i*) Pectoral girdles in Tetrapods

(*ii*) Skin of mammals.

3. Describe the Alimentary canal of scoliodon and compare it with Pigeon. 12

Or

Write notes on : 6×2

(*i*) Digestive glands in mammals

(*ii*) Accessory respiratory organs in fishes.

4. Trace the evolution of Aortic arches in the vertebrate series. 12

(*Continued*)

Or

Write notes on : 6×2

(*i*) Mesonephric kidney

(*ii*) Succession of urinogenital ducts.

5. Describe the structure of brain of Amphibia and compare it with that of mammal. 12

Or

Write notes on : 6×2

(*i*) Autonomic nervous system

(*ii*) Visual receptors and mechanoreceptors.

———————

BA–1,800

Total Pages—3

SG ZOO–01

2018

(3rd Semester)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

Answer from **both** the Sections as per direction

The figures in the right-hand margin indicate marks

Candidates are required to answer in their own words as far as practicable

(ANIMAL DIVERSITY)

SECTION – A

1. Answer *all* the following questions : 2 × 6

   (*a*) Ookinete

   (*b*) Hexacanth

   (*c*) Social insects

(*d*) Tube feet

(*e*) Migratory birds

(*f*) Cotylosauria.

SECTION – B

Answer **all** questions : 12 × 2

2. Give an account of Polymorphism in Hydrozoa. 12

Or

Write notes on : 6 × 2

(*i*) Canal system in Sycon

(*ii*) General characters of Helminthes.

3. Describe the water vascular system in Asterias. 12

Or

Write notes on : 6 × 2

(*i*) Social life in Insects

(*ii*) How does pearl formation occur in bivalves.

4. Discuss migration in fishes with suitable examples. 12

Or

Write notes on : 6 × 2

(*i*) Parental care in Amphibia

(*ii*) Salient features of protochordates.

5. Give an account of origin and ancestry of Birds. 12

Or

Write notes on : 6 × 2

(*i*) Structure of typical tooth and various types of teeth in mammai

(*ii*) Terrestrial adaptations in Reptiles.

———————

SHZOO 05

2017

(Semester-III)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

The figures in the right-hand margin indicate marks

Answer from both the Sections as per direction

Candidates are required to answer in their own words as far as practicable

(Biology Of Chordata)

SECTION–A

2×6

1. Answer *all* of the following :

(*a*) Diphoi

(*b*) Cycloid scale

(*c*) Myxine

(*d*) Fangs

(*e*) Ratitael

(*f*) Flying Mammals.

SECTION–B

Answer **all** questions : 12×4

2. What is Retrogressive metamorphosis ? Discuss the phenomenon with reference to Ascidian tad-pole larva. 12

Or

Write notes on : 6×2

(*a*) General characters of cephalochordate

(*b*) Affinities of petromyzon.

3. Discuss migration in fishes. 12

Or

Write notes on : 6×2

(*a*) Parental care in Amphibians

(*b*) Scales in fishes.

4. Give an account of poison apparatus and biting mechanism of a poisonous snake. 12

Or

Write notes on : 6×2

(*a*) Migration in Birds

(*b*) Archaeopteryx- a connecting link

5. Describe the general characters and affinities of prototheria. 12

Or

Write notes on : 6×2

(*a*) Affinities and distribution of Metatheria

(*b*) Structure of typical tooth and types of teeth in mammal.

SHZOO 06

2017

(Semester-III)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

The figures in the right-hand margin indicate marks

Answer from both the Sections as per direction

Candidates are required to answer in their own words as far as practicable

(Physiology Controlling And Coordinating System)

SECTION–A

1. Answer the following : 2×6

(*a*) Glandular epithelium

(*b*) Reflex arc

(*c*) Motor unit

(*d*) Types of Neurons

(*e*) ADH

(*f*) Thyroxine

SECTION–B

Answer all questions : 12 × 4

2. Give an account of different types of skeletal tissues. 12

Or

Write notes on : 6 × 2

(*a*) Stratified epithelium

(*b*) Leucocytes

3. Describe the transmission of nerve impulse along a non-myelinated nerve fibre. 12

Or

Write notes on : 6 × 2

(*a*) Reflex Action

(*b*) Physiology of hearing.

4. Discuss the mechanism of striated muscle contraction. 12

Or

Write notes on : 6 × 2

(*a*) Muscle twitch

(*b*) Muscle and its types.

5. Give an account of the structure of Adenohypophysis and functions of the hormones secreted from it. 12

Or

Write notes on : 6 × 2

(*a*) Pancreatic hormones

(*b*) Second messenger hypothesis.

SHZOO-07

2017

(Semester-III)

Time : $2\frac{1}{2}$ hours

Full Marks : 60

The figures in the right-hand margin indicate marks

Answer from both the Section as per direction

(Comparative Anatomy Of Vertebrates)

SECTION–A

1. Answer *all* questions : 2×6

(*a*) Scales of fishes

(*b*) Branchial heart

(*c*) Air bladder

(*d*) Mullerian duct

(*e*) Liver

(*f*) Mechanoreceptors

SECTION–B

Answer all questions : 12 × 4

2. Give a comparative account of integument and its derivatives in fishes and birds. 12

Or

Write notes on : 6 × 2

(*a*) Types of centrum

(*b*) Jaw suspensorium in vertebrates

3. Describe respiratory organs of fishes. 12

Or

Write short notes on : 6 × 2

(*a*) Alimentary canal of frog

(*b*) Air sacs.

4. Trace the evolution of Kidney in the vertebrate series. 12

Or

Write notes on : 6 × 2

(*a*) Comparative account on heart of reptile and Mammal.

(*b*) Evolution of urinogenital ducts

5. Compare the brains of Scoliodon and Rabbit. 12

Or

Write notes on : 6 × 2

(*a*) Cranial nerves in mammals

(*b*) Autonomic nervous system.
