

ZOOLOGY

2019

Time: 15 Minutes.

Max.Marks:09

SECTION "A" MULTIPLE CHOICE QUESTIONS

1. Choose the correct answer for each from the given options:

(i) This is the cavity of gastrula:

- Gastrocoel
- Blastocoel
- **Archenteron**
- Coelom

(ii) This is not a sexually transmitted disease

- Gonorrhoea
- Aids
- **Tetanus**
- Syphilis

(iii) The excretory organs of cockroach are:

- **Malpighian tubules**
- Nephridia
- Green glands
- Flame cells

(iv) The given animal excretes:



- **Urea**
- Water
- Ammonia
- Uric acid

(v) These are cells of hard bones:

- **Osteocytes**
- Porocytes
- Chondrocytes
- Amoebocytes

(vi) Physical trauma in the vertebrate of human results in:

- Osteocytes
- Spondylosis
- Arthritis
- **Dise slip**

(vii) Anticonvulsant drugs are administered in:

- Parkinson's disease
 - **Epilepsy**
 - Alzheimer's disease
 - Addison's disease
- (viii) This disease is caused due to deficiency of insulin:
- High blood pressure
 - **Diabetes**
 - Diarrhoea
 - Anaemia
- (ix) The unit of measurement of noise is:
- Liter
 - **Decibel**
 - Milligram
 - Meter
- (x) Lamarck's theory does not include this point:
- **Natural Selection**
 - Effect of environment
 - Inheritance of acquired character
 - Use and disuse of organs
- (xi) This disease is controlled by gene therapy:
- Aids
 - **Cystic Fibrosis**
 - Diabetes
 - Epilepsy
- (xii) The joint between two consecutive vertebrae in human beings is:
- Ball and socket
 - Sliding
 - **Gliding**
 - Hinge
- (xiii) Overproduction of cortisol causes:
- Addison's disease
 - **Cushing's syndrome**
 - Acromegaly
 - Goitre
- (xiv) This is progressive deterioration of the body:
- Growth
 - **Aging**
 - Development
 - Mutation
- (xv) Struggle for existence among the members of same species is:
- Interspecific struggle
 - Specific struggle
 - **Intraspecific struggle**

- Environmental struggle
- (xvi) Deficiency of vitamin D causes:
- Night blindness
 - Scurvy
 - **Rickets**
 - Beri-Beri
- (xvii) This reproduction avoids genetic monotony:
- Binary fission
 - Budding
 - Regeneration
 - **Sexual Reproduction**
- (xviii) The non-coding sequence of DNA is:
- **Intron**
 - Exon
 - Codon
 - Neuro

ZOOLOGY

2019

Time: 1 Hours 45 Minutes.

Marks:36

SECTION B SHORT-ANSWER QUESTIONS (22)

NOTE: Answer 11 questions in all. Select six questions from Reasoning questions and five from Non-Reasoning questions.

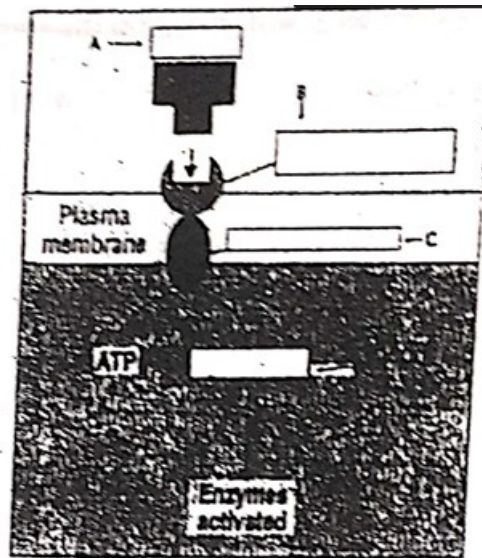
REASONING QUESTIONS:

2. (i) How does osmoregulation take place in Trout fish?
- (ii) Why do skeletal muscles show fatigue after heavy exercise?
- (iii) How does abnormal development take place in man?
- (iv) Why is Archaeopteryx considered a link between Reptiles and Birds?
- (v) How is the ozone layer being depleted?
- (vi) Why is DNA fingerprinting performed?
- (vii) Why are identical twins exactly similar while fraternal twins are dissimilar?
- (viii) Why is Nervous coordination called the quickest way of communication within the body?
- (ix) How does pancreas regulate the amount of blood sugar?

NON-REASONING QUESTIONS:

- (x) What are vestigial organs? Write their examples.
- (xi) write a note on Smooth muscles or Cardiac muscles.
- (xii) Write a note on Lithotripsy.
- (xiii) Define Receptors. Classify them with examples on the basis of stimuli.

(xiv) Label the marked parts in the given diagram:



(xv) State the significance of genetically engineered bacteria.

(xvi) What are the three main causes of skeletal deformities?

(xvii) draw labelled diagrams of different stages of spermatogenesis or Oogenesis.

SECTION C DETAILED-ANSWER QUESTIONS

NOTE: Answer 2 questions from this section (14)

3. Explain the regulatory functions of the human kidney and draw a labelled diagram of nephron.

OR Describe the structure and functions of different parts of the human brain. (Diagram is not required.)

4. Describe the mechanism of contraction in skeletal muscle fibre and draw a neat and labelled diagram of contraction and relaxation.

5. Explain the various steps involved in recombinant DNA technology and draw a neat and labelled diagram.

OR Describe with the help of a labelled diagram the human female reproductive system.

ZOOLOGY.

2018

Time: 15 Minutes.

Max.Marks:09

SECTION "A" MULTIPLE CHOICE QUESTIONS

1. Choose the correct answer for each from the given options:

- i. Stone from the kidney & urethra is removed by:
- Biopsy
 - Endoscopy
 - Hemodialysis
 - Lithotripsy
- ii. Joints move freely with reduced friction due to:
- Coelomic fluid
 - Cerebrospinal fluid
 - Synovial fluid
 - Lymph
- iii. Parthenogenesis is a type of reproduction, which requires:
- four gametes
 - One gamete
 - Two gametes
 - Three gametes
- iv. Each primary Oocyte ultimately develops into:
- One ovum
 - Two ovum
 - Three ova
 - Four ova
- v. This part of brain connects the right and left cerebral hemispheres:
- Cerebellum
 - Corpus Callousum
 - Pons
 - Thalamus
- vi. Myelin sheath is formed by:
- Neuron
 - Receptor
 - Neuroglia
 - T-cell
- vii. The egg of chick is laid at this stage:
- Cleavage
 - Blastula
 - Morula

- Gastrula
- viii. The embryological abnormality of R.B.Cs and hemoglobin causes this disease:
- Polydactyly
 - Sickle Cell anaemia
 - Turner's Syndrome
 - Dextrocardia
- ix. The non-coding part of genes is:
- Codon
 - Exon
 - Intron
 - Anticodon
- x. This is the diagram of:



- Skeletal muscle
 - Smooth muscle
 - Cardiac muscle
 - Epithelial tissue
- xi. This gas is responsible for Global warming:
- Oxygen
 - Carbon dioxide
 - Nitrogen
 - Chlorine
- xi. This enzyme acts like scissors in recombinant DNA technology
- R.N.A Polymerase
 - Ligase
 - Polymerase
 - Restriction enzyme
- xii. The most abundant component of urine is:
- Urea
 - water
 - Ammonia
 - Uric acid
- xiii. Microcephaly is caused due to:
- Malnutrition
 - Genetic disorder
 - Bacteria
 - Fungi
- xiv. Night blindness is caused due to the deficiency of:

- Vitamin K
- Vitamin C
- Vitamin A
- Minerals

xv. A clone exactly resembles its:

- Father
- Mother
- Egg donor
- Diploid nuclear donor

xvi. This vestigial organ is not found in man:

- Coccyx
- Vermiform appendix
- Eyelid
- Ear muscle

xvii. Lamarck's theory is based on the following assumptions except the:

- Effect of environment
- Use disuse of organs
- Natural Selection
- Inheritance of acquired characters

CBT

ZOOLOGY 2018

Time: 1 Hours 45 Minutes.

Marks: 36

SECTION B SHORT-ANSWER QUESTIONS (22)

NOTE: Answer 11 questions in all. Select six questions from Reasoning questions and five from Non-Reasoning questions.

2.(a) Reasoning Question:

- (i) Why do monozygotic twins have the same sex?
- (ii) Which hormone is released from Adrenal Medulla and why is it called Emergency hormone?
- (iii) Why is Archaeopteryx considered a connecting link between Reptiles and Birds?
- (iv) What is the cause of Muscle Fatigue?
- (v) Why is cleavage in birds Meroblastic and Discoidal?
- (vi) Why are plasmids used in Recombinant DNA Technology?
- (vii) Why is DNA Finger Printing performed?
- (viii) How is Parkinson's disease different from Huntington's disease? Write its treatment.
- (ix) How does Osmoregulation take place in Marine Bony Fish?
- (b) Non-Reasoning Questions:
 - (x) Write four differences between Nervous and Chemical co-ordination.
 - (xi) Write note on two different types of Nephrons related to adaptation in kidney.
 - (xii) Write four differences between Bone and Cartilage.
 - (xiii) Define Aging. Give its causes.
 - (xiv) Write note on Gonorrhoea OR Syphilis.
 - (xv) State the Objections on Lamarck's Theory.
 - (xvi) Write note on Acid Rain OR Depletion of Ozone layer.
 - (xvii) Label the diagram given below:

SECTION C DETAILED-ANSWER QUESTIONS

NOTE: Answer 2 questions from this section (14)

Define Menstruation. Describe its various phases and the changes taking place in each phase with diagrams.

OR Differentiate between Unifactorial and Multi factorial defects. Write the treatment of SCID and Cystic Fibrosis by Gene therapy.

4. What is Behavior? Explain Learning Behavior and state its various types.

5. Describe Locomotion in Jellyfish, starfish & Earthworm.

OR Describe the process of excretion in Planaria, Earthworm and Cockroach

TIME: 15 Minutes**SECTION "A" (MULTIPLE CHOICE QUESTION)****PAGE # 205****A. Choose the correct answer for each from the given options:**

- 1. In human brain plasma like fluid is called:**
 - a) Interstitial fluid
 - b) Lymph
 - c) Blood
 - d) Cerebrospinal fluid

- 2. Embryo remains attached to the wall of the uterus by this tissue:**
 - a) Amnion
 - b) Placenta
 - c) Allantois
 - d) Chorion

- 3. The spongy vascular internal lining of the uterus is called:**
 - a) Endometrium
 - b) Myometrium
 - c) Endothelium
 - d) Perimetrium
 - e)

- 4. compact mass of blastomeres, in a developing embryo, is called:**
 - a) Blastula
 - b) Morula
 - c) gastrula
 - d) area pellucid

- 5. The non region in DNA molecule is called:**
 - a) exon
 - b) intron
 - c) anticodon
 - d) triplet codon

- 6. The function less organs of today, which were functional in the past are called:**
 - a) Homologous organ
 - b) Excretory organs
 - c) Vestigial organs
 - d) Sensory organs

7. Archaeopteryx was a:
- Protocist
 - Fish
 - Fossil bird
 - Primitive amphibian
8. The cheapest source of energy in Pakistan is:
- Nuclear energy
 - Petroleum
 - Hydroelectric power
 - Geothermal energy
9. The total percentage of fresh water sources of the world is:
- 0.1
 - 4
 - 0.052
 - 3.5
10. Renal artery enters and renal veins leave the kidney at the site of:
- Adrenal gland
 - Hilus
 - Renal pyramid
 - Renal capsule
11. Carpals bones are present in:
- Coccyx
 - Ankle
 - Jaw
 - wrist
12. The fifth early stage of animals embryonic life is called:
- castrulation
 - neuralation
 - organogenesis
 - sporulation
13. This is an autosomal recessive allele disease:
- Cyctic fibrosis
 - Diabetes mellitus
 - Hungtinton disease
 - Parkinson disease

14. An emergency treat in cardiac arrest is:

- a) Thyroxin
- b) Hemoglobin
- c) Insulin
- d) Epinephrine

15. Physical trauma in the vertebrae of human result is:

- a) Osteoporoses
- b) Spondylosis
- c) arthritis
- d) dise slip

16. This is the diagram of

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“Snap of diagram must be attached here”

- a) Voluntary muscle
- b) Involuntary muscle
- c) Cardiac muscle
- d) Epithelial muscle

17. The gap between axon terminal of one neuron and dendrite of next neuron is called:

- a) Synapse
- b) Node of ranvier
- c) Synapses
- d) Synaptic vesicle

18. Protonephridia are also known as:

- a) Nephron
- b) Malphigian tubules
- c) Flame cells
- d) metanephridia

ZOOLOGY

2017

TIME: 1 hours 45 minutes

MARKS: 22

SECTION “B” (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

A. REASONING QUESTIONS:

1. Why do cnidarians have diffused nervous system?
2. How do fresh water fish regulate osmoregulation?
3. Why is parthenogenesis common in ants?
4. What is the reason of abnormal muscle contraction in sportsmen?
5. What is genetic monotony? In which type of reproduction it founds?
6. How SCID different from AIDS?
7. How does hydrostatic skeleton help earthworm in locomotion?
8. Why is synapse termed as motor end plate
9. Why hypothalamus is called thermostat of the body?

B. NON REASONING QUESTIONS:

1. Differentiate between skeletal muscles & smooth muscles.
2. In which disease of the nervous system do seizures recur? State the patient condition in it
3. Label the diagram.

(DIAGRAM MUST BE ATTACHED)

4. Write note on transgenic animals/
5. State the evidences of vestigial I organs for evolution in man.
6. Write note on endangered species.
7. How ozone layer is being destroyed?
8. Write note entrophication or algal boom.

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SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION:

1. Explain the regulatory function of human kidney and draw a labeled diagram of nephron.
2. Define skeletal muscle and describe the structure of skeletal muscle fibre. Draw a neat and labeled diagram of skeletal muscle fibre.
3. Describe the structure and functions of the human brain.
OR explain the process of gametognests in human and draw a labeled diagram of the male or female reproductive system.
4. Describe different steps in DNA recombinant technology. Draw a labeled diagram of different steps.

ZOOLOGY

2016

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answers for each from the given options:

1. Cells of cartilages are called:
 - a) Osteocytes
 - b) Procytes
 - c) Chondrocytes
 - d) Amoebocytes
2. This type of reproduction is neither strictly asexual nor sexual:
 - a) Parthenogenesis
 - b) Regeneration
 - c) Fragmentation
 - d) Fission
3. The disease scurvy is caused due to the deficiency of:
 - a) iron
 - b) vitamin C
 - c) Calcium
 - d) Vitamin A
4. The gas increases global warming:
 - a) Oxygen
 - b) Nitrogen
 - c) Ammonia
 - d) Carbon dioxide
5. Sickle cell anemia is caused by:
 - a) Abnormal hemoglobin
 - b) Air pollution
 - c) Deficiency of iron
 - d) Water pollution
6. The egg of bird is:
 - a) Alecithal
 - b) Mesolecithal
 - c) polylecithal
 - d) Mesolecithal

7. The number of actins filaments surrounding each myosin filament is:
- a) 4
 - b) 6
 - c) 8
 - d) 12
8. Hypothalamus, amygdale and hippocampus are the parts of :
- a) Limbic system
 - b) Thalamus
 - c) Corpus callosum
 - d) Pons
9. Ovulation is initiated by this hormone:
- a) FSH
 - b) LH
 - c) Oestrogen
 - d) Progesterone
10. The enzyme is used to seal the DNA:
- a) Polymerase
 - b) Ligase
 - c) Restriction enzyme
 - d) Endonuclease
11. Myelin sheath is formed by:
- a) "T" cells
 - b) Neurons
 - c) Receptors
 - d) Neuroglia
12. True coelum is formed by"
- a) Ectoderm
 - b) Mesoderm
 - c) Endoderm
 - d) Epimere
13. The concentration of Na^+ in the body fluids is controlled by this hormone:
- a) Parathormone
 - b) Aldosterone
 - c) FSH
 - d) ADH

14. The locomotory organ of snail is:

- a) Setae
- b) Para podia
- c) Foot
- d) Flagella

15. The period starting from conception upto the birth of a baby is called:

- a) Pregnancy
- b) Implantation
- c) Gestation
- d) Menopause

16. The largest part of human brain is:

- a) Cerebral cortex
- b) Telencephalon
- c) Diencephalon
- d) Medulla oblongata

17. Tooth decay is caused by the deficiency of:

- a) Iron
- b) Fluorine
- c) Vitamin C
- d) Vitamin K

18. This element is necessary for muscle contraction:

- a) Calcium
- b) Sodium
- c) Potassium
- d) Magnesium

ZOOLOGY

2016

TIME: 1 hours 45 minutes

MARKS: 22

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

1. Write a note on spermatogenesis OR oogenesis.
2. Explain osmoregulation in fresh water fish.

3. Write a note on Parkinson disease.
4. Differentiate between diffused nervous system and centralized nervous system.
5. Write a note on antagonistic muscle.
6. What are vestigial organs? Give examples with reference to the animals.
7. Write a note on reflex action.
8. Define ageing and list its causes.
9. Write a note on abnormal muscular contraction.
10. Name any four viral diseases with causes and modes of transmission.
11. Write a note on test tube babies.
12. Differentiate between parasympathetic and sympathetic nervous system.
13. Write a note on classical conditioning.
14. Define dialysis. Write any one method of it.
15. Write a note on human genome project.
16. Define receptors. Name different types of receptors.

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SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. Define evolution. Discuss lamark's theory and the objections raised against it.
OR: what are various steps involved in recombinant DNA technology with the help of diagrams.
2. Describe the structure of striated muscles and explain their working mechanism with diagrams.
3. Define development. Explain the process of gastrulation in a chick upto the formation of three germinal layers. Draw labeled diagram also.

ZOOLOGY

2015

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. **Choose the correct answers for each from the given options:**

1. The archaeopteryx tail, the number of vertebrae is:
 - a) 10
 - b) 15
 - c) 20
 - d) 25

2. The excretory organs of cockroach are called:
 - a) Malphgian tubules
 - b) nephrdia
 - c) green glands
 - d) flame cells

3. the enzyme used to seal the DNA is:
 - a) restriction enzyme
 - b) Ligase enzyme
 - c) polymerase enzyme
 - d) endonuclease enzyme

4. Number of actins filaments surrounding each myosin filament is:
 - a) 4
 - b) 6
 - c) 8
 - d) 10

5. Gleno-humeral articulation is present in the:
 - a) Elbow
 - b) Knee
 - c) Shoulder
 - d) Thigh

6. Emergency hormone is secreted by:
 - a) Adrenal cortex
 - b) Adrenal medulla
 - c) Pituitary gland
 - d) Pineal gland

7. The most advance type of learning is:
 - a) Insight learning
 - b) Imprinting
 - c) Latent learning
 - d) Habituation

8. This is an example of multifactor effect:
- a) Down's syndrome
 - b) Diabetes mellitus
 - c) Cystic fibrosis
 - d) Cholera
9. The percentage of the water in the world retained is as glaciers and polar ice: PAGE # 210
- a) 0.052
 - b) 2
 - c) 4
 - d) 93
10. The study of abnormalities during embryonic development is called:
- a) Embryology
 - b) Gerontology
 - c) Neurology
 - d) Teratology
11. Cells of bones are called:
- a) Oocytes
 - b) Osteocytes
 - c) Spermatocytes
 - d) Tendons
12. ADH, Aldosterone and Parathormone influence the working of:
- a) Kidneys
 - b) Brain
 - c) Liver
 - d) Stomach
13. The science of ageing is called:
- a) Gerontology
 - b) Icthiology
 - c) Haematolgy
 - d) Teratology
14. This has been controlled by gene therapy:
- a) Epilepsy
 - b) Diabetes
 - c) Cystic fibrosis
 - d) AIDS

15. The unit of measurement intensity of noise is level is:
- Litre
 - Decibel
 - milligram
 - meter
16. The longest and strongest bone in the human body is:
- Humerus
 - Radius
 - Femur
 - sternum
17. If carbon dioxide is withdrawn from the biosphere, the first to experience negative biological effect will be:
- Primary consumers
 - Secondary consumers
 - Producers
 - Environment
18. The interaction between a particular organism with its environment is called:
- Community
 - Fertilization
 - Ecosystem
 - Biosphere

ZOOLOGY

2015

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

- Write down the different types of neurons.
- Write a note lithotripsy and acid rain.
- Define osmoregulation in the terrestrial animals.
- Define renewable and non renewable resources. Give examples.
- Write the basic steps of recombinant DNA technology.
- Explain Hardy-Weinberg law.
- Write four functions of skeleton.

8. Define deamination. Draw the chart of ornithine cycle.
9. Write four differences between nervous coordination and chemical coordination.
10. Write a note on DNA fingerprinting.
11. Name the marked parts of following diagrams.

(DIAGRAM MUST BE ATTACHED HERE) PAGE # 211

12. Write differences between diffused and centralized nervous system.
13. Write a note on oestrous cycle.
14. Explain the role of brain in the regulation of body temperature.
15. What is the function pelvic girdle? Name its three important bones.
16. Describe the functions of encapsulated receptors of the skin.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. Define menstrual cycle. Describe its various phases and the changes occurring in each phase.
OR: Define endocrine glands. Describe pituitary gland as master gland.
2. Describe nerve impulse under the following headings:
 - a) AMP
 - b) RMP
 - c) SYNAPSE
3. Describe Darwin theory of natural selection and the objections raised against it.

ZOOLOGY

2014

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. **Choose the correct answers for each from the given options:**

1. **The excretory organs of the earthworm are called:**
 - a) **Kidneys**
 - b) **Nephridia**
 - c) **Flame cells**
 - d) **Malphgian tubular**

2. **In a star fish, these organs are associated with locomotion:**
 - a) **Cilia**
 - b) **Tube feet**
 - c) **Pseudopodia**
 - d) **Parapodia**

3. **End of fertility in the human female is called:**
 - a) **Puberty**
 - b) **Ovulation**
 - c) **Menopause**
 - d) **Menstruation**

4. **This is the rope like structure which connects the embryo to the placenta:**
 - a) **Notochord**
 - b) **Umbilical**
 - c) **neurocord**
 - d) **protocord**

5. **This is the longest period of menstrual cycle and lasts about 12 – 14 days.**
 - a) **Corpus luteum phase**
 - b) **Ovulation phase**
 - c) **Menstrual phase**
 - d) **None of these**

6. **Lamarck's theory doesn't include this point:**
 - a) **Effect of environment**
 - b) **Used and disused of organs**
 - c) **Natural selection**
 - d) **Inheritance of acquired characters.**

7. **The deficiency of insulin may lead to the disease called:**
 - a) **Diarrhea**
 - b) **Diabetes**
 - c) **Anemia**
 - d) **High blood pressure**

8. Flame cells are the excretory organs of:
- Cockroach
 - Amoeba
 - Planaria
 - Earthworm
9. To construct DNA molecule, this is used as vector:
- Virus
 - Mitochondria
 - Vacuole
 - Plasmid
10. The number of pairs in spinal nerve in human body is:
- 31
 - 33
 - 35
 - 37
11. Leishmanis is transmitted into human body by the bite of:
- Mosquito
 - Sand fly
 - Plasmodium
 - Butterfly
12. This element is necessary for muscle contraction:
- Carbon
 - Calcium
 - Potassium
 - magnesium
13. The theory of natural selection is presented by:
- Mendel
 - Weisman
 - Lamark
 - Darwin
14. The safest and cheapest energy is:
- Nuclear
 - Wind
 - Hydroelectric
 - Thermal

15. The cells of hard bone is called:

- a) Osteocytes
- b) Chondrocytes
- c) Procytes
- d) Amoebocytes

16. The unit of measurement of noise level is:

- a) Litre
- b) Decibel
- c) Milligram
- d) Gram

17. Athlete's foot disease is caused by:

- a) Virus
- b) Bacteria
- c) Fungi
- d) Worm

18. Rabies is caused by:

- a) Virus
- b) Bacteria
- c) Plasmodium
- d) Ringworm

ZOOLOGY

2014

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

1. Write a note on placenta OR write the types of receptors.
2. Write a note on energy conservation.
3. Write any four objections on Darwin's natural selection theory.
4. Write a note on disc slip. OR test tube baby.
5. Define ectothermic & endothermic animal with examples.
6. Write a note on thymus gland.
7. Write a note on haemodialysis.
8. Write four differences between bone and cartilage.
9. Write a note on hydrostatic skeleton. OR homologous organs.

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10. How does a muscle become fatigued?
11. Difference between parasympathetic and sympathetic nervous system.
12. What is abnormal development? Give three examples.
13. What is significance of sexual reproduction?
14. Differentiate between nervous coordination and chemical coordination.
15. Write a note on DNA fingerprinting.
16. Give any two evidences in favour of organic evolution.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. Describe the human female reproductive system with the help of diagram. OR what is pollution describe Air pollution.
2. Explain the structure of nephron and write the regulatory functions of kidney. OR define locomotion in jellyfish, starfish and earthworm.
3. What is gene therapy? Explain gene therapy in SCID and cystic fibrosis.

ZOOLOGY

2013

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. **Choose the correct answers for each from the given options:**
 1. Reptiles, birds and insects excrete nitrogenous waste in the form of:
 - a) Uric acid
 - b) Urea
 - c) Urine
 - d) Uracil
 2. The concentration of calcium ions in blood is controlled by:
 - a) Aldosterone
 - b) Vasopressin
 - c) Oestrogen
 - d) Parathormone

3. During embryonic stages, the two layered stage is called:

- a) Blastula
- b) Morula
- c) Embryo
- d) Gastrula

4. Inheritance of acquired character theory was presented by:

- a) Darwin
- b) Lamarck
- c) Mendel
- d) Weismann

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5. Oogenesis and spermatogenesis are collectively called:

- a) Gametogenesis
- b) Fertilization
- c) Reproduction
- d) Hermaphrodites

6. Solar energy is called:

- a) Non renewable
- b) Fossil fuels
- c) Ocean energy
- d) Renewable

7. The science of ageing is called:

- a) Embryology
- b) Histology
- c) Gerontology
- d) Teratology

8. The egg of hen is:

- a) Alecithal
- b) Polylecithal
- c) Mesolecithal
- d) Mesolecithal

9. *Trachinotus palladium* causes this disease:

- a) HIV
- b) Syphilis
- c) Gonorrhoea
- d) Cancer

10. **Kidney is:**
- a) **Aldosterone**
 - b) **Parathormone**
 - c) **ADH**
 - d) **None of these**
11. **Mammals lacking sweat glands promote heat loss through:**
- a) **Aestivation**
 - b) **Hibernation**
 - c) **Panting**
 - d) **None of these**
12. **Each myosin filament is surrounded by:**
- a) **4 action filament**
 - b) **6 action filament**
 - c) **8 action filament**
 - d) **12 action filament**
13. **Knee- jerk is an example of:**
- a) **Taxes**
 - b) **Reflex**
 - c) **Learning**
 - d) **Insight learning**
14. **Multifactorial defects refer to:**
- a) **One gene**
 - b) **Many gene**
 - c) **Two gene**
 - d) **Many gene & environment**
15. **This gas is responsible for global warming**
- a) **Oxygen**
 - b) **Nitrogen**
 - c) **Carbon dioxide**
 - d) **Methane.**
16. **Anemia is due to the deficiency of:**
- a) **Calcium**
 - b) **Iron**
 - c) **Iodine**
 - d) **Vitamins**

17. This element is necessary for muscle contraction:

- a) Calcium
- b) Potassium
- c) Magnesium
- d) Sodium

18. The end of the period of the fertility in human female is called:

- a) Puberty
- b) Ovulation
- c) Menopause
- d) Menses

ZOOLOGY

2013

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

1. Differentiate between nervous coordination and chemical coordination.
2. Write a note on latent learning and insight learning.
3. Name the various type of sexual reproduction in the animals with examples.
4. Write a note on Acid rains.
5. Give any two evidences in support of evolution.
6. Name any four viral diseases and modes of their transmission.
7. Define osmoregulation in terrestrial animal.
8. Write a note on exoskeleton.
9. Define receptors. State different types of receptors with their functions.
10. Name the parts marked in the following diagram.

PAGE # 215

(DIAGRAM MUST BE ATTACHED HERE)

11. Explain the role of hormones in working of the kidneys.
12. Differentiate between the striated and un-striated muscles.
13. Write a note on AIDS.
14. Define joint. Draw a labeled diagram of ball and socket joint.
15. Differentiate between innate and learned behavior.
16. Describe locomotion in jellyfish.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

17. Describe the structure of skeletal muscles and explain the mechanism of their contraction. Draw a labeled diagram.
18. How do homiotherms maintain their body temperature during hot and cold seasons? OR define organic evolution. Define Lamarck's theory and point out the objections raised against the theory.
19. Define gastrulation. Explain the development of chick upto the formation of three germinal layers.

ZOOLOGY

2012

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answers for each from the given options:

1. The connection between embryo and mother in relation to the exchange of food is:
 - a) Oviduct
 - b) Placenta
 - c) Fallopian tube
 - d) Umbilical cord
2. The excretory organs of earth worm are:
 - a) Kidneys
 - b) Gills
 - c) Nephridia
 - d) Flame cells
3. The change in temperature is detected by:
 - a) Thermo receptors
 - b) Chemoreceptor
 - c) Mechanoreceptor
 - d) Photo receptor

4. Leishmanis is transmitted into the man's body by the bite of:
- Mosquito
 - Sand fly
 - Trypanosome
 - Plasmodium
5. Abductor muscles are antagonistic to:
- Flexor muscles
 - Abductor muscles
 - Protector muscles
 - Rotator muscles
6. Corpus luteum secrets this hormone:
- Progesterone
 - Insulin
 - Oestrogen
 - Luteinizing hormone
7. The egg of hen is led at this stage:
- Early cleavage
 - Morula
 - Blastula
 - Gastrula
8. A fossil bird, having teeth, long tail, 20 vertebrae and wings, is called:
- Archaeopteryx
 - Kiwi
 - Crow
 - Duck
9. Urea is about 100,000 times less toxic than:
- Uric acid
 - Oxalic acid
 - Ammonia
 - Amino acid
10. The number of pairs of cranial nerves in human is:
- 10
 - 12
 - 14
 - 16

11. The approximate number of human genes on 23 pairs of chromosomes is:

- a) 10000 to 15000
- b) 20000 to 25000
- c) 30000 to 35000
- d) 45000 to 50000

12. Microcephaly is caused by:

- a) Malnutrition
- b) Genetic disorder
- c) Bacteria
- d) Fungi

13. Follicle stimulating hormone (FSH) is produced by:

- a) Thyroid gland
- b) Adrenal gland
- c) Testis
- d) Pituitary gland

14. To construct DNA, this is used as vector

- a) Plasmid
- b) Virus
- c) Mitochondria
- d) Vacuole

15. The number of bones and the endo skeleton of the adult human is:

- a) 206
- b) 306
- c) 209
- d) 208

16. The element is necessary for muscles contraction is:

- a) Calcium
- b) Potassium
- c) Magnesium
- d) Sodium

17. The deficiency in insulin may cause the disease:

- a) Diarrhea
- b) High blood pressure
- c) Diabetes
- d) Anemia

18. Gomorrhoea is sexual disease caused by:

- a) Traponema
- b) Neisseria
- c) Herpes simplex
- d) Entamoeba

PAGE # 217

ZOOLOGY

2012

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

1. Define joints and various types of joints.
2. Explain osmoregulation in fresh water fish OR marine fresh water.
3. Describe the posterior lobe of pituirity gland.
4. Write a note on DNA fingerprinting.
5. Define aging and mention its causes.
6. Define Parkinson's OR Alzheimer's disease.
7. Write a note on arthritis.
8. Define neuron and give the names of different types of neurons.
9. Name the diagram given below as well as the parts marked in it:

(DIAGRAM MUST BE ATTACHED HERE)

10. Write a note on regeneration.
11. Explain the process of oogenises.
12. Differentiate between renewable and non renewable resources in the environment.
13. Write a note on lithotripsy.
14. Mention hydrostatic skeleton with examples.
15. Write a note on placenta.
16. Explain reflex action.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. Define the structure of nephron and explain the regulatory functions of kidney.
2. What is menstrual cycle? Describe the various changes and phases occurring in each phases. OR what is behavior? Explain learning behavior and also state its various types.
3. What is evolution? Discuss Darwin's theory of natural selection. List the objection of this theory.

PAGE # 218

ZOOLOGY

2011

TIME: 15 Minutes

Max marks: 09

SECTION "A" (MULTIPLE CHOICE QUESTION)

1. Choose the correct answers for each from the given options:

1. The deficiency in insulin may cause the disease:

- a) Diarrhea
- b) High blood pressure
- c) Diabetes
- d) Anemia

2. The number of muscles in human body is:

- a) 300
- b) 400
- c) 500
- d) 600

3. The most abundant component in urine is:

- a) Urea
- b) Water
- c) Ammonia
- d) Uric acid

4. Testes produce:

- a) Oestrogen
- b) Progesterone
- c) Yolk sac
- d) Testosterone

5. Anemia is due to the deficiency of:
- a) Calcium
 - b) Iron
 - c) Iodine
 - d) Vitamins
6. Night blindness is caused due to the deficiency of:
- a) Vitamin K
 - b) Vitamin A
 - c) Vitamin C
 - d) Minerals
7. The joint elbow and knee are:
- a) Sliding joints
 - b) Gliding joints
 - c) Hinge joints
 - d) Ball & socket joints
8. Skeleton is totally absent in:
- a) Sponge
 - b) Starfish
 - c) Amoeba
 - d) Insects
9. The end of the period of the fertility in human female is called:
- a) Puberty
 - b) Ovulation
 - c) Menopause
 - d) Menses
10. The study of abnormalities during embryonic development is:
- a) Teratology
 - b) Embryology
 - c) Cytology
 - d) Gerontology
11. Ovulation is initiated by this hormone:
- a) FSH
 - b) LH
 - c) Oestrogen
 - d) Progesterone

12. This gas is responsible for global warming

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide
- d) Methane

13. Goiter is caused by the deficiency of:

- a) Calcium
- b) Iron
- c) Iodine
- d) Vitamins

14. Malpighian tubules are the excretory organs of:

- a) Earthworm
- b) Hydra
- c) Planaria
- d) Cockroach

15. Acetylcholine is released by:

- a) Axon terminal
- b) Node of Ranvier
- c) Dendrite terminal
- d) Schwann cells

16. This element is necessary for muscle contraction:

- a) Calcium
- b) Sodium
- c) Potassium
- d) Magnesium

17. Skull is a part of:

- a) Axial skeleton
- b) Exoskeleton
- c) Appendicular skeleton
- d) Hydrostatic skeleton

18. Solving problem without trial and error is:

- a) Habituation
- b) Insight
- c) Classical conditioning
- d) Latent learning

ZOOLOGY

2011

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

1. Write down the types of receptors.
2. Differentiate between nervous coordination, ion, and chemical coordination.
3. Write a note on epilepsy.
4. What are transgenic animals?
5. Name the parts marked in the following diagram.

(DIAGRAM MUST BE ATTACHED HERE)

6. Explain gene theory.
7. Write a note on abnormal muscle contraction.
8. Write a note on spermatogenesis.
9. Write a brief note on liver as a homeostatic organ.
10. What is meant by evidences from vestigial organs?
11. Write a note on thyroid gland.
12. What is nuclear energy?
13. Describe peripheral nervous system.
14. Give the names of sexually transmitted diseases and explain any one of them.
15. Write a note on reflex action.
16. Explain osmoregulation in terrestrial animal.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. With the help of labeled diagram. Explain the female human reproductive system.
2. What is excretion? Explain how it occurs in Planaria, earth worm, and cockroach.
3. What is evolution? Describe the paleontology and embryological evidences in support of organic evolution. OR explain thermoregulation in Mammals.

1. Choose the correct answers for each from the given options:**1. The study of abnormalities during embryonic development is:**

- a) Teratology
- b) Embryology
- c) Cytology
- d) Gerontology

2. It detects the change in temperature.

- a) Thermo receptor
- b) Chemo receptor
- c) Mechanoreceptor
- d) Photo receptor

3. This gas is responsible for global warming

- a) Oxygen
- b) Nitrogen
- c) Carbon dioxide
- d) Methane

4. Gonorrhoea is a sexual disease caused by:

- a) Trapanema
- b) Neisseria
- c) Herpes simplex
- d) Entamoeba

5. The normal human body temperature is:

- a) 96.8°F
- b) 98.8°F
- c) 37°C
- d) 38°C

6. The human endoskeleton consist of these bones:

- a) 208
- b) 209
- c) 306
- d) 206

7. The deficiency in insulin may cause the disease:
- Diarrhea
 - High blood pressure
 - Diabetes
 - Anemia
8. An animal which possesses both the functions of testis and ovaries is called:
- Hermaphrodite
 - Unisexual
 - Heterophrodite
 - None of them
9. The safest and cheapest energy is:
- Nuclear
 - Wind
 - Hydroelectric
 - Thermal
10. The enzymes that acts like scissors in recombinant DNA technology are:
- Ligase
 - Restriction enzymes
 - Polymerase
 - None of them
11. The disease scurvy is caused due to the deficiency of:
- iron
 - vitamin C
 - Calcium
 - Vitamin A
12. End of fertility in the human female is called:
- Puberty
 - Ovulation
 - Menopause
 - Menstruation
13. The science of ageing is called:
- Gerontology
 - Icthiology
 - Haematolgy
 - Teratology

14. The basal metabolic rate is raised for short period by the secretion of the hormone called:
- Thyroxin
 - Adrenaline
 - Epinephrine
 - Insulin
15. The locomotory organ of paramecium is:
- Pseudopodia
 - Cilia
 - Flagella
 - None of them
16. ADH and oxytocin are produced by:
- Anterior pituitary gland
 - Posterior pituitary gland
 - Hypothalamus
 - Pineal gland
17. The connection between embryo and mother in relation to the exchange of food is:
- Oviduct
 - Placenta
 - Fallopian tube
 - Umbilical cord
18. Ovulation is initiated by this hormone:
- FSH
 - LH
 - Oestrogen
 - Progesterone

ZOOLOGY

2010

TIME: 1 hours 45 minutes

MARKS: 36

SECTION "B" (SHORT ANSWER QUESTIONS)

NOTE: Answer 11 questions from this section.

- How does a muscle become fatigued?
- What is Hardy Weinberg principle? Describe briefly?
- Distinguish between innate behavior & learned behavior.
- Name the parts marked in the diagram.

(DIAGRAM MUST BE ATTACHED HERE)

1. Write down the types of receptors.
2. Draw a labeled diagram of the male reproductive organ of human being.
3. Differentiate between striated and non striated muscles.
4. What is gene therapy?
5. What is abnormal development of an organism? Give two examples.
6. Differentiate between renewable and non renewable resources.
7. Describe locomotion in amoeba.
8. Write a note on AIDS.
9. What is pollution? Define water pollution.
10. Define arthritis and Spondylosis.
11. Write a note on acid rain.

SECTION "C" (DETAILED ANSWER QUESTIONS)

NOTE: ANSWER 2 QUESTIONS FROM THIS SECTION (14):

1. What is menstrual cycle? Describe the various phases and the events taking in each phase.
2. Define gastrulation. Explain the process of gastrulation in a chick up to the formation of three germinal layers.
3. Define organic evolution. Discuss in the detail the Lamarck's theory and mention the objections to it.

ZOOLOGY

2009

TIME: 2 hours.

Max marks: 09

NOTE: Attempt any three questions in all.

1. A) Explain the structure of neuron. How does the transmission of nerve impulses take place from one neuron to other neuron? Explain your answer with the help of diagram.

B) Write a note on abnormal development.

C) Explain some genetic disorders and their treatment.

D) Fill in the blanks:

- a) The connection between the mother and the fetus is through Placenta.
- b) Germinal continuity theory was proposed by Weismann.
- c) The cells of bones are called Osteocytes.
- d) The study of abnormal development is called teratology.
- e) The deficiency of iodine is cause goiter.
- f) Hypothyroidism in adult causes my edema.

2. A) What is skeletal muscle? Explain the mechanism of the contraction of a skeletal muscle with the help of diagram. Explain the factor responsible for muscle contraction.

B) Describe osmoregulation in the aquatic animal.

C) Write a note on DNA finger printing.

D) Choose the correct answer from the given options.

1. The number of muscles in a human body:

- a) 400
- b) 500
- c) 600

2. The end of fertility in a human female is:

- a) Puberty
- b) Ovulation
- c) Menopause

3. The enzyme used to seal the DNA is:

- a) Restriction enzyme.
- b) Ligase
- c) Polymerase

4. Myelin sheath is formed by:

- a) Neurons
- b) T-cells
- c) Neuralgia

5. The largest part of brain is:

- a) Cerebral cortex
- b) Telencephalon
- c) Diencephalon

6. The connection of sodium ion in the blood is controlled by:
- Parathormone
 - Aldosterone
 - Vasopressin
3. A) Describe paleontological and embryological evidences in support of organic evolution.
 B) Write a note pituitary gland.
 C) Write the name and the causes of four diseases.
 D) Write True false for the following statement:
- Fish is the source of renewable energy (T)
 - Mechanoreceptors detect sound, motion, touch & pressure. (T)
 - The number of cranial nerves in man is ten pairs (F)
 - Ornithine requires ammonia and carbon dioxide to produce urea. (T)
 - The complete development of chicks takes ten days. (F)
 - Osteoarthritis is a protozoan disease. (F)
4. A) Describe the human male reproductive system with the help of diagram.
 B) Explain Parkinson's disease and Alzheimer's disease.
 C) Give the homeostatic function of liver.
 D) Fill in the blanks:
- Memory is stored in hippocampus.
 - The hip and leg joint is the example of ball and socket.
 - Diffused nervous system is found in hydra.
 - Vasodilatation occurs in excessive heat.
 - Earthworm moves with the help of muscles and hydrostatic skeleton.
 - Tendons connect muscle with bones.
5. A) Describe the structure of nephron and explain the regulatory function of kidney.
 B) Write down the peripheral nervous system.
 C) Write a note Green House Effect and acid rain.
 D) Match the items of column "A" with those of Column "B".

COLUMN "A"

- Darwin
- Night-blindness
- Calculi
- Clefts palate
- Sciatica
- Parthenogenesis.

COLUMN "B"

- Kidney Stones
 Hind limb
 Natural selection
 Arthropods
 Genetic Disorder
 Vitamin A

ZOOLOGY

2008

TIME: 2 hours.

Max marks: 39

NOTE: Attempt any three questions in all

PAGE # 224

1. (A) what is evolution? Discuss in detail Darwin's theory of natural selection and write the objections to this theory.

b) 1. Write a note on sexually transmitted diseases.

2. Write a note on regeneration.

c) Fill in the blanks with the correct answers:-

6. The capillary network around the loop of Henley is called Vase recta.

7. Elbow joint is an example of pivot.

8. The science of aging is called as gerontology.

9. GABA and dopamine are examples of neurotransmitters.

10. Over-production of cortical results in Cushing syndrome.

11. The egg of bird is of Telo-lecithal type.

2. (A) Define gastrulation. Explain the development of a chick up to the formation of three germinal layers. Draw the diagrams of blastula, late gastrula and formation of mesoderm.

B) 1. Write a note Adrenal Gland. 2. Explain Dialysis.

C) Choose the correct answer for each from the given options.

1) The connection between mother and fetus is through:

- a) Placenta
- b) Amnion
- c) Chorine
- d) Allantoids

2) The joint of bones in a skull is called:

- a) Hinge joint
- b) Fixed point
- c) Pivot joint
- d) Gilding point

- 3) Malpighian tubules are the excretory organs of:
 - a) Earthworm
 - b) Hydra
 - c) Cockroach
 - d) Planaria

- 4) Select the protein which lacks contractile property:
 - a) Actin
 - b) Myosin
 - c) Trypsin
 - d) Cardiac muscles

- 5) The concentration of urea in urine is:
 - a) 200/100 cm³
 - b) 5.00/100 cm³
 - c) 0.03/100 cm³
 - d) 0.47/100 cm³

3 (A) what is pollution? Name the kinds of pollution and explain air pollution in detail.

B) 1. Explain osmoregulation in fresh water animals.

2. Write a note on locomotion for an animal with hydrostatic skeleton.

C) write true false for the following statements.

- 1) Cold-blooded animals are called poikilotherms. (T)
- 2) Axial skeleton includes the bones of the limbs. (F)
- 3) Hemophilia is a genetic disorder. (T)
- 4) Mechanoreceptors detect sound, motion, touch & pressure (T) PAGE #225.
- 5) Glenoid cavity is a part of pelvis girdle. (F)

4. A) Explain in the detail the recombinant DNA technology with the help of diagrams.

B) 1. Write a short note on reflex action.

2. Difference between nervous coordination and chemical coordination.

C) Fill in the blanks with the correct answer.

- 1) Parthenogenesis is a type of reproduction which is neither strictly asexual or nor sexual.
- 2) In hydra nitrogenous waste in the form of Ammonia.
- 3) Ethnology is the study of behavior.

- 4) Prolactin hormone stimulates the mammary glands to produce milk.
 - 5) In man sperms are stored in ecdysiast.
5. (a) Define innate behavior and learning behavior. Describe the various type of learning behavior.
- (b) 1.write a note on cystic fibrosis and Huntington's diseases.
- (c) Match the items of column "A" with those of column "B".

COLUMN "A"

- 1) Down's syndrome.
- 2) Planaria
- 3) Devries
- 4) Gel electrophoresis
- 5) Gilding joint
- 6) Progesterone.

COLUMN "B"

- Flame Cells
- Mutation theory
- DNA finger printing
- Corpus Luteum
- Mental retardation.
- Vertbrae

CBF