HIGHER SECONDARY FIRST YEAR BIO-ZOOLOGY
BOOK BACK ONE MARKS QUESTION AND ANSWERS

LESSON: 1

1. A living organism is differentiated fromnon-living structure based on
a. Reproduction b. Growth c. Metabolism **d. Movement**

2. A group of organisms having similar traits of a rank is
a. Species **b. Taxon** c. Genus d. Family

3. Every unit of classification regardless of its rank is
a. Taxon b. Variety c. Species d. Strain

4. Which of the following is not present in same rank?
a. Primata b. Orthoptera c. Diptera d. Insecta

5. What taxonomic aid gives comprehensive information about a taxon?
a. Taxonomic Key b. Herbarium c. Flora d. Monograph

6. Who coined the term biodiversity?
a. Walter Rosen b. AG Tansley c. Aristotle d. AP de Candole

7. Cladogram considers the following characters
a. Physiological and Biochemical **b. Evolutionary and Phylogenetic**
c. Taxonimic and systematic d. None of the above

8. Molecular taxonomic tool consists of
a. DNA and RNA b. Mitochondria and Endocplamicreticulum
c. Cell wall and Membrane proteins d. All the above

LESSON: 2

1. The symmetry exhibited in cnidarians is
a. Radial b. Bilateral c. Pentamerous radial d. Asymmetrical

2. Sea anemone belongs to phylum
a. Protozoa b. Porifera **c. Coelenterata** d. Echinodermata

3. The excretory cells that are found inplatyhelminthes are
a. Protonephridia **b. Flame cells** c. Solenocytes d. All of these

4. In which of the following organisms, self fertilization is seen.
a. Fish b. Round worm **c. Earthworm** d. Liver fluke

5. Nephridia of Earthworms are performing the same functions as
a. Gills of prawn **b. Flame cells of Planaria**
c. Trachea of insects d. Nematoblasts of Hydra

6. Which of the following animals has a true coelom ?
a. *Ascaris* **b. *Pheretima*** c. *Sycon* d. *Taenia solium*

7. Metameric segmentation is the main feature of
a. Annelida b. Echinodermata c. Arthropoda d. Coelenterata

8. In *Pheretima* locomotion occurs withhelp of
a. circular muscles b. longitudinal muscles and setae
c. circular, longitudinal muscles and setae d. parapodia

9. Which of the following have the highest number of species in nature?
a. Insects b. Birds c. Angiosperms d. Fungi

10. Which of the following is a crustacean?
a. Prawn b. Snail c. Sea anemone d. Hydra

11. The respiratory pigment in cockroach is
a. Haemoglobin **b. Haemocyanin** c. Oxyhaemoglobin d. Haemoerythrin

12. Exoskeleton of which phylum consists of chitinous cuticle?
a. Annelida b. porifera **c. Arthropoda** d. Echinodermata

13. Lateral line sense organs occur in
a. Salamander b. Frog c. Water snake **d. Fish**

14. The limbless amphibian is
a. Icthyophis b. Hyla **c. Rana** d. Salamander

15. Four chambered heart is present in
a. Lizard b. Snake c. Scorpion **d. Crocodile**

16. Which of the following is not correctly paired?
a. Humans – Ureotelic b. Birds – Uricotelic c. Lizards – Uricotelic **d. Whale – Ammonotelic**

17. Which of the following is an egg laying mammal?
a. *Delphinus* b. *Macropus* **c. *Ornithorhynchus*** d. *Equus*

18. Pneumatic bones are seen in
a. Mammalia **b. Aves** c. Reptilia d. Sponges

19. Match the following columns and selectthe correct option.

Column – I	Column – II
(p) Pila	(i) Devil fish
(q) Dentalium	(ii) Chiton
(r) Chaetopleura	(iii) Apple snail
(s) Octopus	(iv) Tusk shell

a. p – (ii), q – (i), r – (iii), s – (iv) **b. p – (iii), q – (iv), r – (ii), s – (i)**
c. p – (ii), q – (iv), r – (i), s – (iii) d. p – (i), q – (ii), r – (iii), s – (iv)

20. In which of the following phyla, the adult shows radial symmetry but the larva shows bilateral symmetry?
a. Mollusca **b. Echinodermata** c. Arthropoda d. Annelida

21. Which of the following is correctlymatched?
a. Physalia – Portugese man of war b. Pennatula – Sea fan
c. Adamsia – Sea pen d. Gorgonia – Sea anemone

LESSON: 3

1. The main function of the cuboidal epithelium is
a. Protection b. Secretion c. Absorption **d. Both (b) and (c)**

2. The ciliated epithelium lines the
a. Skin b. Digestive tract c. Gall bladder **d. Trachea**

3. What type of fibres are found in connective tissue matrix?
a. Collagen b. Areolar c. Cartilage d. Tubular

4. Prevention of substances from leaking across the tissue is provided by
a. Tight junction b. Adhering junction c. Gap junction d. Elastic junction

5. Non-shivering thermogenesis in neonates produces heat through
a. White fat **b. Brown fat** c. Yellow fat d. Colourless fat

LESSON: 4

1. The clitellum is a distinct part in thebody of earthworm *Lampito mauritii*,it is found in?
a. Segments 13 – 14 **b. Segments 14 – 17** c. Segments 12 – 13 d. Segments 14 - 16

2. Sexually, earthworms are
a. Sexes are separate **b. Hermaphroditic but not self -fertilizing**
c. Hermaphroditic and self – fertilizing d. Parthenogenic

3. To sustain themselves, earthworms mustguide their way through the soil using their powerful muscles. They gather nutrients by ingesting organic matter and soil,absorbing what they need into their bodies.
True or False: The two ends of the earthworm can equally ingest soil. a. True **b. False**

4. The head region of Cockroach pairs of and shaped eyes occur.
a. One pair, sessile compound and kidney shaped b. Two pairs, stalked compound andround shaped
c. Many pairs, sessile simple and kidney shaped d. Many pairs, stalked compound and kidney shaped

5. The location and numbers of malpighian tubules in *Periplaneta.*
a. At the junction of midgut and hindgut, about 150. b. At the junction of foregut and midgut, about 150.
c. Surrounding gizzard, eight. d. At the junction of colon and rectum,eight.

6. The type of vision in Cockroach is
a. Three dimensional b. Two dimensional **c. Mosaic** d. Cockroach do not have vision

7. How many abdominal segments are present in male and female Cockroaches?
a. 10, 10 b. 9, 10 c. 8, 10 d. 9, 9

8. Which of the following does not have an open circulatory system?
a. Frog **b. Earthworm** **c. Pigeon** d. Cockroach

9. Buccopharyngeal respiration in frog

a. is increased when nostrils are closed b. Stops when there is pulmonaryrespiration
c. is increased when it is catching fly d. stops when mouth is opened.

10. Kidney of frog is

a. Archinephros b.Pronephros **c. Mesonephros** d. Metanephros

11. Presence of gills in the tadpole of frog indicates that

a. fishes were amphibious in the past b. fishes involved from frog –like ancestors
c. frogs will have gills in future **d. frogs evolved from gilled ancestor**

12. Choose the wrong statement among the following:

a. In earthworm, a single male genital pore is present. b. Setae help in locomotion ofearthworms.
c. Muscular layer in the body wall of earthworm is made up of only circular muscles.
d. Typhlosole is part of the intestineof earthworm.

13. Which of the following are the senseorgans of Cockroach?

a. Antennae, compound eyes,maxillary palps, anal cerci
b. Antennae, compound eye,maxillary palps c. Antennae, ommatidia, maxillarypalps, sternum
d. Antennae, eyes, maxillary palps,and tarsus of walking legs

LESSON: 5

1. Choose the incorrect sentence from the following:

a. Bile juice emulsifies the fat. b. Chyme is a digestive acidic food in stomach.
c. Pancreatic juice converts lipid into fatty acid and glycerol.
d. Enterokinase stimulates the secretion of pancreatic juice.

2. What is chyme….?

a. The process of conversion of fat into small droplets.
b. The process of conversion of micelles substances of glycerol into fatty droplet.
c. The process of preparation of incompletely digested acidic food through gastric juice.
d. The process of preparation of completely digested liquid food in midgut.

3. Which of the following hormones stimulate the production of pancreaticjuice and bicarbonate?

a. Angiotensin and epinephrine b. Gastrin and insulin
c. Cholecysokinin and secretin d. Insulin and glucagon

4. The sphincter of Oddi guards

a. Hepatopancreatic duct b. Common bile duct c. Pancreatic duct d. Cystic duct

5. In small intestine, active absorption occurs in case of

a. Glucose b. Amino acids **c. Na+** d. All the above

6. Which one is incorrectly matched?

a. Pepsin – stomach **b. Renin – liver** c. Trypsin – intestine d. Ptyalin – mouth

7. Absorption of glycerol, fatty acids and monoglycerides takes place by

a. Lymph vessels within villi b. Walls of stomach
c. Colon d. Capillaries within villi

8. First step in digestion of fat is

a. Emulsification b. Enzyme action
c. Absorption by lacteals d. Storage in adipose tissue

9. Enterokinase takes part in the conversion of

a. Pepsinogen into pepsin **b. Trypsinogen into trypsin**
c. Protein into polypeptide d. Caseinogen into casein

10. Which of the following combinations are not matched?

Column I	Column II
a.Bilirubin and biliverdin	**(i) intestinal juice**
b.Hydrolysis of starch	(ii) Amylases
c. Digestion of fat	(iii) Lipases
d. Salivary gland	(iv) Parotid

11. Match column I with column II and choose the correct option

Column – I	Column – II
(P) Small intestine	(i) Largest factory
(Q) Pancreas	(ii) Absorpstion of glucose
(R) Liver	(iii) Carrying electrolytic solution

(S) Colon (iv) Digestion and absorption
a. (P-iv) (Q -iii) (R- i) (S – ii) b. (P-iii) (Q -ii) (R- i) (S – iv)
c. (P-iv) (Q -iii) (R- i) (S – ii) d. (P-ii) (Q -iv) (R- iii) (S – i)

12. Match column I with column II and choose the correct option

Column – I	Column – II
(P) Small intestine	(i) 23 cm
(Q) Large intestine	(ii) 4 meter
(R) Oesophagus	(iii) 12.5 cm
(S) Pharynx	(iv) 1.5 meter

a. (P-iv) (Q -ii) (R- i) (S – iii) b. (P-ii) (Q -iv) (R- i) (S – iii)
c. (P-i) (Q -iii) (R- ii) (S – iv) d. (P-iii) (Q -i) (R- ii) (S – iv)

13. Match column I with column II and choose the correct option

Column – I	Column – II
(P) Lipase	(i) Starch
(Q) Pepsin	(ii) Cassein
(R) Renin	(iii) Protein
(S) Ptyalin	(iv) Lipid

a. (P-iv) (Q -ii) (R- i) (S – iii) b. (P-iii) (Q -iv) (R- ii) (S – i)
c. (P-iv) (Q -iii) (R- ii) (S – i) d. (P-iii) (Q -ii) (R- iv) (S – i)

14. Which of the following is not the function of liver?
a. Production of insulin b. Detoxification c. Storage of glycogen d. Production of bile

15. Assertion : (A) Large intestine also shows the presence of villi like small intestine.
Reason: (B) Absorption of water takes place in large intestine.
a. Both A and B are true and B is the correct explanation of A
b. Both A and B are true but B is notthe correct explanation of A
c. A is true but B is false **d. A is false but B is true**

16. Which of the following is not true regarding intestinal villi?
a. Th ey possess microvilli. b. They increase the surface area.
c. Th ey are supplied with capillaries and the lacteal vessels.
d. They only participate in digestion of fats.

LESSON: 6

1. Breathing is controlled by
a. cerebrum **b. medulla oblongata** c. cerebellum d. pons

2. Intercostal muscles are found between the
a. vertebral column b. sternum **c. ribs** d. glottis

3. The respiratory structures of insectsare
a. tracheal tubes b. gills c. green glands d. lungs

4. Asthma is caused due to
a. bleeding in pleural cavity. b. infection of nose c. damage of diaphragm. **d. infection of lungs**

5. The Oxygen Dissociation Curve is
a. sigmoid b. straight line c. curved d. rectangular hyperbola

6. The Tidal Volume of a normal person is
a. 800 mL b. 1200 mL **c. 500 mL** d. 1100 – 1200 Ml

7. During inspiration, the diaphragm
a. expands. b. unchanged c. relaxes to become domed–shaped.
d. contracts and flattens

8. CO2 is transported through blood to lungs as
a. carbonic acid b. oxyhaemoglobin c. carbamino haemoglobin d. carboxy haemoglobin

9. When 1500 mL air is in the lungs, it is called
a. vital capacity b. tidal volume **c. residual volume** d. inspiratory reserve volume

10. Vital capacity is
a. TV + IRV b. TV + ERV c. RV + ERV **d. TV + IRV + ERV**

11. After a long deep breath, we do not respire for some seconds due to
a. more CO2 in the blood **b. more O2 in the blood**
c. less CO2 in the blood d. less O2 in the blood

12. Which of the following substances in tobacco smoke damage the gas exchange system?

a. carbon monoxide and carcinogens b. carbon monoxide and nicotine
c. carcinogens and tar d. nicotine and tar

13. Column I represents diseases andcolumn II represents their symptoms.Choose the correctly paired option

Column I	Column II
(P) Asthma	(i) Recurring ofbronchitis
(Q) Emphysema	(ii) Accumulation of W.B.CS in alveolus
(R) Pneumonia	(iii) Allergy

a. P = iii, Q = ii, R = I b. P = iii, Q = i, R = ii
c. P = ii, Q = iii, R = I d. P = ii, Q = i, R = iii

14. Which of the following best describes the process of gas exchange in the lungs?

a. Air moves in and out of the alveoliduring breathing.
b. Carbon dioxide diffuses fromdeoxygenated blood in capillariesinto the alveolar air.
c. Oxygen and carbon dioxide diffuse down their concentration gradients between blood and alveolar air.
d. Oxygen diffuses from alveolar airinto deoxygenated blood.

15. Make the correct pairs.

Column–I	Column–II
(P) IC	i. maximum volume of air breathes in after forced.
(Q) EC	ii. Volume of air present after expiration in lungs.
(R) VC	iii. Volume of air inhaled after expiration.
(S) FRC	iv. Volume of air exhaled after inspiration.

(a) P – i , Q – ii , R – iii , S – iv (b) P – ii , Q – iii , R – iv , S – i
(c) P – ii , Q – iii , R – i , S – iv **(d) P – iii , Q – iv , R – i , S – ii**

16. Make the correct pairs.

Columan–I	Column–II
(P) Tidal volume	i. 1000 to 1100 ml
(Q) Residualvolume	ii. 500 ml
(R) Expiratoryreservevolume	iii. 2500 to 3000 ml
(S) Inspiratory reserve volume	iv. 1100 to 1200 ml

(a) P – ii , Q – iv , R – i , S – iii (b) P – iii , Q – ii , R – iv , S – i
(c) P – ii , Q – iv , R – iii , S – I (d) P – iii , Q – iv , R – i , S – ii

LESSON:7

1. What is the function of lymph?

a. Transport of O2 into brain b. Transport of CO2 into lungs
c. Bring interstitial fluid in blood d. Bring RBC and WBC in lymph node

2. Which one of the following plasma proteins is involved in the coagulation of blood?

a. Globulin **b. Fibrinogen** c. Albumin d. Serum amylase

3. Which of the following WBCs are found in more numbers?

a. Eosinophil **b. Neutrophil** c. Basophil d. Monocyte

4. Which of the following is not involved in blood clotting?

a. Fibrin b. Calcium c. Platelets d**. Bilirubin**

5. Lymph is colourless because

a. WBC are absent b. WBC are present c. Heamoglobin is absent **d. RBC are absent**

6. Blood group is due to the presence orabsence of surface

a. Antigens on the surface of WBC b. Antibodies on the surface of RBC
c**. Antigens of the surface of RBC** d. Antibodies on the surface of WBC

7. A person having both antigen A and antigen B on the surface of RBCs belongs to blood group

a. A b. B **c. AB** d. O

8. Erythroblastosis foetalis is due to the destruction of

a. Foetal RBCs b. Foetus suffers from atherosclerosis
c. Foetal WBCs d. Foetus suffers from mianmata

9. Dub sound of heart is caused by

a. Closure of atrio-ventricular valves b. Opening of semi-lunar valves

c. Closure of semi-lunar values d. Opening of atrio-ventricular valves.

10. Why is the velocity of blood flow thelowest in the capillaries?

a. The systemic capillaries aresupplied by the left ventricle,which has a lower cardiac output than the right ventricle.
b. Capillaries are far from the heart, and blood flow slows as distance from the heart increases.
c. The total surface area of the capillaries is larger than the total surface area of the arterioles.
d. The capillary walls are not thin enough to allow oxygen to exchange with the cells.
e. The diastolic blood pressure istoo low to deliver blood to the capillaries at a high flow rate.

11. An unconscious patient is rushed into the emergency room and needs a fast blood transfusion. Because there is no time to check her medical history or determine her blood type,which type of blood should you as her doctor, give her?

a. A2 b. AB **c. O+** d. O-

12. Which of these functions could or could not be carried out by a red blood cell? Briefly justify your

a. Protein synthesis b. Cell division c. Lipid synthesis **d. Active transport**

13. At the venous end of the capillary bed, the osmotic pressure is

a. Greater than the hydrostatic pressure b. Result in net outflow of fluids
c. Results in net absorption of fluids d. No change occurs.

14. A patient's chart reveals that he has a cardiac output of 7500mL per minute and a stroke volume of 50 mL. Whatis his pulse rate (in beats / min)

a. 50 b. 100 **c. 150** d. 400

15. At any given time there is more blood in the venous system than that of the arterial system. Which of the following features of the veins allows this?

a. relative lack of smooth muscles b. presence of valves
c. proximity of the veins to lymphatic's d. thin endothelial lining

LESSON: 8

1. Concentration of urine depends upon which part of the nephron

a. Bowman's capsule **b. length of Henle's loop** c. P.C.T.
d. net work of capillaries arising from glomerulus

2. If Henle's loop were absent from mammalian nephron, which one of the following is to be expected?

a. There will be no urine formation
b. There will be hardly any change in the quality and quantity of urine formed
c. The urine will be more concentrated **d. The urine will be more dilute**

3. A person who is on a long hunger strike and is surviving only on water, will have

a.Less amino acids in his urine b. Macula densa cells
c. Less urea in his urine d. More sodium in his urine

4. What will happen if the stretch receptors of the urinary bladder wall are totally removed?

a. Micturition will continue b. Urine will be continue to collect normally in the bladder
c. there will be micturition d. urine will not collection the bladder

5. The end product of Ornithine cycle is

a. carbon dioxide b. uric acid **c. urea** d. ammonia

6. Identify the wrong match

a. Bowman'scapsule – Glomerular filteration **b. DCT - Absorption of glucose**
c. Henle's loop - Concentrationof urine d. PCT - Absorption of Na+ and K+ ions

7. Podocytes are the cells present on the

a. Outer wall of Bowman's capsule **b. Inner wall of Bowman's capsule**
c. neck of nephron d. Wall glomerular capillaries

8. Glomerular filtrate contains

a. Blood without blood cells and protein b. Plasma without sugar
c. Blood with proteins but without cells d. Blood without urea

9. Kidney stones are produced due to deposition of uric acid and

a. silicates b. minerals c. calcium carbonate **d. calcium Axalate**

10. Animal requiring minimum amountof water to produce urine are

a. ureotelic b. ammonotelic **c. uricotelic** d. chemotelic

11. Aldosterone acts at the distal convoluted tubule and collecting duct resulting in the absorption of water through
a. Aquaphorins b. spectrins c. GLUT d. Chloride channels
12. The hormone which helps in the reabsorption of water in kidney tubules is
a. cholecystokinin b. angiotensin II **c. antidiuretic hormone** d. pancreozymin
13. Malpighian tubules remove excretory products from
a. mouth b. oesophagus **c. haemolymph** d. alimentary canal.

LESSON: 9

1. Muscles are derived from
a. ectoderm **b. mesoderm** c. endoderm d. neuro ectoderm
2. Muscles are formed by
a. myocytes b. leucocytes c. osteocytes d. lymphocytes
3. The muscles attached to the bones are called
a. skeletal muscle b. cardiac muscle c. involuntary muscle d. smooth muscles
4. Skeletal muscles are attached to the bones by
a. tendon b. ligament c. pectin d. fibrin
5. The bundle of muscle fibres is called
a. Myofibrils **b. fascicle** c. sarcomere d. sarcoplasm
6. The pigment present in the muscle fibre to store oxygen is
a. myoglobin b. troponin c. myosin d. actin
7. The functional unit of a muscle fibre is
a. sarcomere b. sarcoplasm c. myosin d. actin
8. The protein present in the thick filament is
a. myosin b. actin c. pectin d. leucin
9. The protein present in the thin filament is
a. myosin **b. actin** c. pectin d. leucin
10. The region between two successive Z-discs is called a
a. sarcomere b. microtubule c. myoglobin d. actin
11. Each skeletal muscle is covered by
a. epimysium b. perimysium c. endomysium d. hypomysium
12. Knee joint is an example of
a. saddle joint **b. hinge joint** c. pivot joint d. gliding joint
13. Name of the joint present between the atlas and axis is
a. synovial joint **b. pivot joint** c. saddle joint d. hinge joint
14. ATPase enzyme needed for muscle contraction is located in
a. actinin b. troponin **c. myosin** d. actin
15. Synovial fluid is found in
a. Ventricles of the brain b. Spinal cord
c. immovable joint **d. freely movable joints**.
16. Inflammation of joints due to accumulation of uric acid crystals is called as
a. Gout b. myasthenia gravis c. osteoporosis d. osteomalacia
17. Acetabulum is located in
a. collar bone **b. hip bone** c. shoulder bone d. thigh bone
18. Appendicular skeleton is
a. girdles and their limbs b. vertebrae
c. skull and vertebral column d. ribs and sternum
19. The type of movement exhibits by themacrophages are
a. flagellar b. ciliary c. muscular **d. amoeboid**
20. The pointed portion of the elbow is
a. acromion process b. glenoid cavity **c. olecranon process** d. symphysis

LESSON: 10

1. Which structure in the ear converts pressure waves to action potentials?
a. Tympanic membrane **b. Organ of Corti** c. Oval window d. Semicircular canal

2. Which of the following pairings is correct?

a. Sensory nerve – afferent b. Motor nerve - afferent
c. Sensory nerve – ventral d. Motor nerve – dorsal

3. During synaptic transmission of nerve impulse, neurotransmitter (P) is released from synaptic vesicles by the action of ions (Q). Choose the correct P and Q.

a. P = Acetylcholine, Q = Ca++ b. P = Acetylcholine, Q = Na+
c. P = GABA, Q=Na+ d. P = Cholinesterase, Q = Ca++

4. Examine the diagram of the two cell types A and B given below and select the correct option.

a. Cell-A is the rod cell found evenly allover retina
b. Cell-A is the cone cell more concentrated in the fovea centralis
c. Cell-B is concerned with colour vision in bright light
d. Cell-A is sensitive to bright light intensities

5. Assertion: The imbalance inconcentration of Na+, K+ andproteins generates action potential.
Reason: To maintain the unequaldistribution of Na+ and K+, the neuronsuse electrical energy.

a. Both Assertion and Reason are trueand Reason is the correct explanationof the Assertion.
b. Both Assertion and Reason are true but the Reason is not the correctexplanations of Assertion.
c. Assertion is true, but Reason is false.
d. Both Assertion and Reason are false.

6. Which part of the human brain is concerned with the regulation of body temperature?

a. Cerebellum b. Cerebrum c. Medulla oblongata **d. Hypothalamus**

7. The respiratory centre is present in the

a. Medulla oblongata b. Hypothalamus c. Cerebellum d. Thalamus

8. Match the following human spinal nerves in column I with their respective number in column II and choose the correct option

column I	column II
P. Cervical nerves	i. 5 pairs
Q. Thoracic nerve	ii. 1 pair
R. Lumbar nerve	iii. 12 pair
S. Coccygeal nerve	iv. 8 pair

a. (P-iv),(Q-iii),(R-i),(S-ii) b. (P-iii), (Q-i), (R-ii), (S-iv)
c. (P-iv),(Q-i),(R-ii),(S-iii) d. (P-ii), (Q-iv), (R-i), (S-iii)

9. Which of the following cranial nerve controls the movement of eye ball ?

a. trochlear nerve **b. optic nerve** c. Olfactory nerve d. vagus nerve.

10. The abundant intracellular cation is

a. H+ **b. K+** c. Na+ d. Ca++

11. Which of the following statements is wrong regarding conduction of nerve impulse?

a. In a resting neuron, the axonalmembrane is more permeable to K+ions and nearly impermeable to Na+ ions.
b. Fluid outside the axon has a high concentration of Na+ ions and lowconcentration of K+, in a resting neuron.
c. Ionic gradient s are maintained by Na+ K+ pumps across the resting membrane, which transport 3Naions outwards for 2K+ into the cell.
d. A neuron is polarized only when the outer surface of the axonal membrane possess a negative acharge and its inner surface ispositively charged.

12. All of the following are associated with the myeline sheath except

a. Faster conduction of nerve impulses **b. Nodes of Ranvier forming gaps along the axon**
c. Increased energy output for nerve impulse conduction
d. Saltatory conduction of action potential

13. Several statements are given here in reference to cone cells which of the following option indicates all correctstatements for cone cells ? Statements

(i) Cone cells are less sensitive in bright light than Rod cells
(ii) They are responsible for colour vision
(iii) Erythropsin is a photo pigment which is sensitive to red colour light
(iv) They are present in fovea of retina

a. (iii), (ii) and (i) **b. (ii) , (iii) and (iv)** c. (i), (iii) and (iv) d. (i), (ii) and (iv)

14. Which of the following statement concerning the somatic division of the peripheral neural system is incorrect?

a. Its pathways innervate skeletal muscles
b. Its pathways are usually voluntary
c. Some of its pathways are referred to as reflex arcs
d. Its pathways always involve four neurons

15. When the potential across the axon membrane is more negative than the normal resting potential, the neuron is said to be in a state of

a. Depolarization b**. Hyperpolarization** c. Repolarization d. Hypopolarization

LESSON: 11

1. The maintenance of constant internal environment is referred as

a. Regulation **b. homeostasis** c. co-ordination d. hormonal control

2. Which of the following are exclusive endocrine glands?

a. Thymus and testis b. adrenal and ovary **c. parathyroid and adrenal** d. pancreas and parathyroid

3. Which of the following hormone is not secreted under the influence of pituitary gland?

a. thyroxine **b. insulin** c. oestrogen d. glucocorticoids

4. Spermatogenesis in mammalian testes is controlled by

a. Luteinising hormone **b. Follicle stimulating hormone**
c. FSH and prolactin d. GH and prolactin

5. Serum calcium level is regulated by

a. Thyroxine b. FSH c. Pancreas **d. Thyroid and parathyroid**

6. Iodised salt is essential to prevent

a. rickets b. scurvy **c. goitre** d. acromegaly

7. Which of the following gland is relatedwith immunity?

a. Pineal gland b. adrenal gland **c. thymus** d. parathyroid gland

8. Which of the following statementabout sex hormones is correct?

a. Testosterone is produced by Leydig cells under the influence of luteinizing hormone
b. Progesterone is secreted by corpus luteum and softens pelvic ligaments during child birth
c. Oestrogen is secreted by both sertoli cells and corpus luteum
d. Progesterone produced by corpus luteum is biologically different from the one produced by placenta.

9. Hypersecretion of GH in childrenleads to

a. Cretinism **b. Gigantism** c. Graves disease d. Tetany

10. A pregnant female delivers a baby who suffers from stunted growth, mental retardation, low intelligence quotient and abnormal skin. This is the result of

a. Low secretion of growth hormone b. Cancer of the thyroid gland
c. Over secretion of pars distalis **d. Deficiency of iodine in diet.**

11. The structure which connects the hypothalamus with anterior lobe of pituitary gland is the

a. Dendrites of neuro hypophysis b. Axons of neurohypophysis
c. Bands of white fibers from cerebellarregion **d. Hypophysial portal system**

13. Which one of the following statement is correct

a. Calcitonin and thymosin are thyroidhormones b. Pepsin and prolactin are secreted instomach
c. Secretin and rhodopsin arepolypeptide hormones **d. Cortisol and aldosterone are steroidhormones**

14. which of the given option shows all wrong statements for thyroid gland: Statements

(i) It inhibits process of RBC Formation (ii) It helps in maintenance of water and electrolytes
(iii) Its more secretion can reduce blood pressure (iv) It stimulates osteoblast
(a) (i) and (ii) (b) (iii) and (iv) (c) (i) and (iv) (d) (i) and (iii)

LESSON:12

1. Which one of the following is not related to vermiculture?

a. Maintains soil fertility b. Breakdown of inorganic matter
c. Gives porosity, aeration and moisterholding capacity d. Degradation of non biodegradable solid waste
a. a and b is correct b. c and d is correct **c. b and d is not correct** d. a and c is not correct

2. Which one of the following is not an endemic species of earthworm?

a. *Perionyx* **b. *Lampito*** c. *Eudrillus* d. *Octochaetona*

3. Match the following

1. *Bombyx mori* - a) Champa - I) Muga 2. *Antheraea assamensis* -b) Mulberry - II) Eri
3. *Antheraea mylitta* - c) Arjun - III)Tassar 4. *Attacus ricini* - d) Castor - IV) Mulberry

A) 1 – b – IV **B) 2 – a – I** **C) 3 - c - III** **D) 4 - d - II**

4. Silk is obtained from ....

a. *Laccifer lacca* b. *Nosema bombycis* **c. *Attacus ricini*** d. *Attacus mylitta*

5. Assertion: Nuptial flight is a unique flight taken the queen bee followedby several drones.
Reason: The queen bee produces a chemical substance called pheromone.The drones in that area are attracted to the pheromone and then matingtakes place.

a. Assertion and reason is correct but not related
b. Assertion and reason is incorrect but related
c. Assertion and reason is correct but related
d. Assertion and reason is incorrect but not relate

6. Rearing of honey bee is called

a. Sericulture b. Lac culture. c. Vermiculture **d. Apiculture**

7. Which of the statement regarding Lac insect is TRUE?

a. A microscopic, resinous crawling scale insect
b. Inserts its proboscis into plant tissue suck juices and
c. Secretes lac from the hind end of body.
d. The male lac insect is responsible for large scale production of lac.

8. Aquaponics is a technique which is

a. A combination of aquaculture and fish culture
b. A combination of aquaculture and hydroponics
c. A combination of vermiculture and hydroponics
d. A combination of aquaculture and prawn culture.

9. Prawn belongs to the class

a. crustacea b. Annelida c. Coelenterata d. Echinodermata

10. Pearl oyster belongs to the Class

a. Gastropoda b. Cephalopoda c. Scaphapoda **d. Pelecypoda**

11. Inland fisheries are

a. deep sea fishing
b. capturing fishes from sea coast
c. Raising and capturing fishes in fresh water
d. oil extraction from fish

12. Induced breeding technique is used in

a. Marine fishery b. Capture fishery c. Culture fishery **d. Inland fishery**

13. Isinglass is used in

a. Preparation **b. Clearing of wines** c. Distillation of wines d. Preservation of wines

15. Assertion: The best quality of pearl is known as lingha pearl and obtainedfrom marine oysters.
Reason: Nacre is secreted continuously by the epithelial layer of the mantle and deposited around the foreign particle

a. Assertion is true, Reason is false
b. Assertion and Reason are false
c. Assertion is false But Reason istrue
d. Assertion and Reason are true