



# BIOLOGY

**BOOKS - TRUEMAN BOOK COMPANY**

**BIOLOGY (HINGLISH)**

**Animal Physiology**

## Assertion And Reason

1. [A] : Vitamin K is water soluble and must for fibrin production.

[R]: It catalyses the conversion of fibrin into hbnogen.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

2. [A] : The synaptic knob contains mitochondria and synaptic vesicles rich in chemical transmitters.

[R]: Chemical transmitters are neurohormones. Their release is related to  $Ca^{++}$  influx.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

3. [A] : Lymphocytes arise from bone marrow and present in the blood, lymph and connective tissues.

[R]: Lymphocytes migrate to thymus. where they develop into T cells and begin to mature.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

4. [A]: Dental formula is the number of teeth in upper jaws of one side and lower jaw of same side

[B]: This can be used for non-mammalian and insectivorous mammals also.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

5. [A] : Synaptic vesicles fuse with membrane and release neurotransmitter molecules.

[R]: Neurotransmitter attaches to receptor site and open sodium channels to allow so-

dium to flow into post synaptic cell causing depolarisation.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**



6. [A] : Each myosin filament is composed of about 500 thread like myosin molecules.

[R]: Actin combines with myosin to form a contractile complex.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

7. [A] : Retinene is a constituent of vitamin A (re- tinol).

[R]: Vitamin A deficiency naturally causes deficiency of rhodopsin inducing night blindness (Nyctalopia).

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**View Text Solution**

8. [A] : Haversian canals are inter connecting canals that run usually longitudinally through dense bone of vertebrates.

[R]: They contain nerves and blood. Each canal serving a series of concentric lamellae

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

9. [A] : Cartilage (Protein matrix) and Bone (Cal- cium matrix) are rigid connective tissue.

[R]: Blood is a connective tissue in which plasma is the matrix.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**10. Assertion :** In the descending limb of loop of Henle , the urine is hypertonic , while in ascending limb of loop of Henle , the urine is Hypotonic .

Reason : Descending limb is impermeable to Na' while ascending limb is impermeable to  $H_2O$

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**11. [A] :** Nephritis is the inflammation of the lungs and muscles.

**[R]:** It is caused. by bacterial infection.



A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

12. [A] : The urinary bladder is capable of considerable expansion in volume in order to accommodate urine.

[R]: it is lined by transitional epithelium.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**13. [A] :** Deamination occurs by transaminase enzyme in kidney.

**[R]:** Removal of COOH group from an amino acid is used in the production of urea.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**View Text Solution**

**14. [A] :** Hydrostatic pressure in blood forces water and other solutes of glomerulus into

Bowman's capsule.

[R]: Kidneys regulate the blood pH.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

15. [A] : Extracellular fluid serves as the sanitary drainage line of the body

[R] : Extracellular fluid collects excess  $H_2O$ ,  $CO_2$  and metabolic wastes from all tissues of the body.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**16. [A] :** [A]: ECG is a record of electrical activity of the heart that shows certain waves called PQRS and T waves.

[R]: It gives important information concerning the spread of excitation to the different parts

of heart and helps in diagnosis of heart disorders.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**



17. [A] : Regulation of the rate of breathing is brought about by the respiratory centre of the medulla.

[R]: Because of the changes' In the  $O_2$  content of the blood.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**18. [A] :** Role of RBC' In  $CO_2$  transport Is primarily to form  $HCO_3^-$  - for carriage in plasma and re-convert them to  $CO_2$  .

**[R]:** About 42%  $CO_2$  is carried in the form of

carbamino haemoglobin which breaks down  
«in the lungs to release  $O_2$  again

A. If both A and R are true and R is the  
correct explanation of A

B. If both A and R are true but R is not the  
correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**19. [A] :** SA node is contraction centre or Pace Maker.

[R]: Nodal fibres of SA node are embedded in the wall of right atrium

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**20. [A] :** Acetylchoiine allows a nerve cell to communicate chemically with a muscle cell at neuromuscular junction.

**[R]:** Acetyicholine diffuses across the junction and binds to some receptors on membrane of muscle cell.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

21. A : Transmission of the nerve impulse across a synapse is accomplished by neurotransmitters .

R : Transmission across a synapse usually requires neuro transmitters because there is space , i.e., synaptic cleft, that separates one neuron from another .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

22. [A] :  $CO_2$  is mainly transported in plasma as  $HCO_3^-$  ions



[R]: The enzyme carbonic anhydrase in RBC speeds the formation of  $HCO_3$  ions

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**23. [A] :** Conjunctiva is composed of squamous epithelium and lines the eye lids.

Conjunctive is thick , little cornifid and richly supplied with free nerve endings

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**View Text Solution**

**24. [A] :** Tympanic membrane stretching across the aperture between skull bones or within an external meatus.

**[B]:** This vibrates periodically and transmitting external air pressure changes to ear ossicles of middle ear.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**25. Assertion :** Lateral line system is found in fishes and aquatic larval amphibians.

**Reason :** Lateral line system has receptor of sensory cells derived form ectoderm.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**26. [A] : [A]:** Parthenogenesis is a type of sexual re- production. [R]: Because young ones develop without fer- tilization of egg

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**27. [A] :** Our inner ear contains sense organs for balance movement of fluid over hair cells in the semicircular canals and gives us a sense of dynamic equilibrium.

**[R]:** Inner ear contains  $\text{CaCO}_3$  granules

(otoliths) resting on hair cells. The movement of these granules gives us a sense of static equilibrium.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**







Watch Video Solution

28. [A] : Hair cells on the basilar membrane are responsible for hearing.

[R]: Pressure waves which begin at the oval window, cause the basilar membrane to vibrate so that the cilia of the hair cells touch the tectorial membrane. This causes hair cells to initiate nerve impulses

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**29. [A]:** Thyroid stimulating hormone is smallest peptide hormone.

**[R]:** It has feed back regulation.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**30.** Assertion: Aldosterone is a steroid hormone and is important in the control of sodium and potassium ion concentration in mammals.Â

Reason: It upgrades sodium ion concentration in the ECF by promoting reabsorption of sodium ions from renal tubules and excretion of potassium ions in urine

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**31. [A] :** Cortisol is a protein hormone that regulates gluconeogenesis and lowers blood pressure.

[R]: Low level of cortisol promotes release a factor from the aderenal cortex causing release of ACTH

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**





Watch Video Solution

32. [A]: A tadpole whose thyroid gland has been removed does not metamorphose into adult

[R]: calcitonin and thyroxine are produced from thyroid gland, these hormones stimulate protein synthesis for the development and growth of tadpole larva.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**33. [A]:** The regulation of RBC production is accomplished by the hormone FSH.

**[R]:** This hormone circulates to red bone



marrow where it increases stem cell mitosis and speed up the RBC development.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**34. [A] :** Steroid hormones are similar to cholesterol in structure.

**[R]:** Steroids contain phenanthrene ring structure.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**35. [A] :** The hormone aldosterone is secreted by adrenal cortex after the low  $Na^+$  content in blood and the resultant low BP causes the kidney to release renin.

**[R]:** Renin in blood leads to the formation of angiotensin II which causes adrenal cortex to

release aldosterone that causes kidney to retain  $Na^+$  and, therefore, water is reabsorbed and BP rises.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**





Watch Video Solution

**36. [A]** : Prostaglandins are hormone like molecules produced by many body cells of mammals

**[R]**: Prostaglandins stimulates contraction of smooth muscles, secretion and platelet aggregation.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**37. [A] :** Placenta is a tissue in eutherian mammals that has both embryonic and maternal tissue.

[R]: In mammals, foetal components of the placenta derive from trophoblast.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**38. [A]** : Testes are attached to abdominal wall by a ligament and under testosterone influence, it is drawn into scrotum.

**[R]**: Leydig cells secrete androgens like testosterone.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A



C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**39. [A] :** Emboly involves the invagination and in- volution.

Enmbloy is exhibited by the formation elongation and ultimate recession of the primitive streak

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**View Text Solution**

**40. [A]** : In vertebrates, motor fibres to striped muscle. parasympathetic fibres to smooth muscle. and preganglionic sympathetic fibres are cholinergic.

**[R]**: Cholinergic designates the type of nerve fibre that releases acetylcholine from its ending when stimulated by a nerve impulse.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**41. [A] :** Keratin is one of a group of fibrous insoluble proteins (sclero proteins) found in ectodermal cells of animals, as in hair, horns

and nails. Leather is almost pure keratin.

[R]: Cornification is a process occurring in vertebrate epidermis and epidermal structures in which keratin replaces the cytoplasm of a cell.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**42. [A] :** Macrophage is a large amoeboid cell that can engulf, ingest and destroy bacteria, damaged cells and worn-out red blood cells. This process is called phagocytosis and is an important part of the body's defence against disease.

**[R]:** Macrophages are found free (wandering) in the tissues, in connective tissue) as histio-

cytes), in the lining of the blood sinusoids of the liver (as Kupffer cells), and in lymphoid tissue. They make up the reticulo-endothelial system.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**43. [A]** : Molecules of fatty acid, glycerol, sugars and amino acids are absorbed by the huge number of villi that line the intestinal wall.

**[R]:** Absorption involves active transport and requires an expenditure of cellular energy



A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**44.** [A] : Vitamins, A, D, E and K dissolve in fat and are absorbed with fat from the small intestine.

[R]: Fat soluble vitamins are stored in the body particularly in the liver.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**45. [A] :** Vitamins A, D, E and K are fat soluble while vitamin B complex and C are water soluble.

**[R]:** Fat soluble vitamins can be stored while water soluble vitamins can be excreted out through urine if they are in excess quantity.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**46.** [A] : In lower invertebrates the digestion is intracellular while in higher forms it is extracellular .

[R] : Extracellular digestion is highly evolved process , it takes place in gut .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**47. [A] :** Pancreas is the second largest of the di- gestive glands.

**[R]:** It plays a dual role in the body serving as both exocrine and an endocrine gland.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**48. [A] :** In the embryos liver is haemopoietic, it produces red blood corpuscles (RBCs). The breakdown products of haemoglobin of destroyed RBCs are converted into bile pigment to be eliminated with faeces.

**[R]:** The main function of liver is secretion of bile, which has bile pigments, cholesterol and lecithin.

A. If both A and R are true and R is the correct explanation of A



B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**49. [A] :** Blood plasma is the slightly alkaline, living intercellular matrix or ground fluid constituting about 40-45% part of the blood.

[R]: Blood plasma does not have a balanced quantity of salt ions for proper functioning of nervous system, muscles and other tissues

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**





Watch Video Solution

50. [A]: When platelets disintegrate, 5-hydroxy tryptamine and histamine are liberated.

[R]: Speed of clot reaction is directly proportional to the number of platelets present.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

51. [A] : Blood platelets play a very important role in coagulation of blood.

[R]: When blood is shed, the platelets disintegrate and liberate thromboplastin which activates prothrombin into thrombin.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**Watch Video Solution**

52. [A]: Prothrombin is necessary for blood clotting.,

[R]: This is produced in pancreas in presence of vitamin K

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**53. [A] :** In frog skull is dicondylic.

[R]: Skull articulates with the atlas vertebra by two occipital condyles one on each exoccipital.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**54.** [A]: Jaws suspensorium in Mammals is craniostylic.

[R]: Articulation of lower jaw is at the mandibular fossa of the squamous region of the temporal bone rather than at the quadrate.



- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**View Text Solution**

55. [A]: At any given  $CO_2$  tension, reduced blood takes up larger amount of  $CO_2$  than oxygenated blood.

[R]: Oxygenation of blood causes evolution of  $CO_2$  in lungs.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**56. [A] :** The gall bladder is the chief place for bile storage.

**[R]:** Bile is concentrated 50 times in the gall bladder.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: C**



**Watch Video Solution**

57. [A]: Choroid plexus is one of two thin-walled greatly folded highly vascular regions in the inner wall of the brain through which exchange of materials between blood and cerebrospinal fluid takes place.

[R]: The choroid plexuses (which form the blood-brain barrier) bar the entry of blood cells and large molecules into the cerebrospinal fluid.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**58. [A] :** Most of the solutes in ECF and cytoplasm are electrolytes, i.e., electrically charged particles or ions. Maintenance of an

equilibrium between intracellular fluid and ECF is vitally essential for all cells.

[R]: This osmotic equilibrium is maintained by sodium and potassium pump of the cells. It operates with the help of a  $Na^+$ ,  $K^+$  ATP as enzyme located in the cell membrane.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**59. [A] :** All body cells continuously obtain useful material from, and dispose of their waste products into the external fluid medium. This is mainly maintained as a constancy and is termed excretion.

**[R]:** This is achieved by constant disposal or



excretion of all waste products and refuse, as well as, useless materials from body into external environments.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**





[View Text Solution](#)

60. [A] : Insulin is not given orally.

[R]: Insulin is a macromolecule and is not absorbed by the mucosa layer.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**View Text Solution**

**61. [A] :** Thiamine deficiency results in beriberi causing paralysis.

[R]: People eating raw fish may also suffer from paralysis due to the deficiency of vitamin B1. Cooked fish has no such effect.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**62.** Assertion. Minerals do not form a component of biologically active compounds.

Reason. Some persons suffer from anaemia due to iron deficiency

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**63. [A] :** All terrestrial mammals are air breathers.

[R]: Because of terrestrial habitat. they have well developed iungs ior air breathing.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**64.** A : Sense organs, do not interpret the stimulus, it is done by brain.

R : Sense organs are transducers. They

transform the energy of a stimulus to the energy of nerve impulses.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**



**65. [A]** : The record of electric potential that is initiated in the cardiac muscle is known as Electrocardiograph .

[R]: This is valuable for preliminary studies of heart muscles.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**66.** [A] : in amphibians heart is two chambered.

[R]: The oxygenated blood is returned to the heart through sinus venosus.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**67. [A]** : Peyer s patches are derivatives of lymphoid tissue.

**[R]**: These are most numerous in the region of colon.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**68. [A] :** Elephants have lophodont type of teeth.

**[R]:** There is an intricate folding of the enamel and dentine to form transverse ridges.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**69. [A] :** A complete double circulation occurs in birds for the first time.

[R]: At no point is there any opportunity for oxygenated and unoxygenated blood to mix.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

70. [A] : The heart of birds is more advanced than the four chambered heart of crocodiles.

[R]: in the bird s heart, there is a complete elimination of left aorta.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false



D. If both A and R are false

**Answer: A**



**View Text Solution**

**71. A :** Portal system consists of veins which start from capillaries and end into capillaries.

**R :** All vertebrates have hepatic portal system.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

72. [A]: in mammalian heart there is a very swift conduction of stimulation all over the body.

[R]: Conduction of stimulation is caused by Purkinje fibres and Bundle of His

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

73. [A] : Reduced blood can carry more  $CO_2$  than oxygenated blood.

[R]: Blood containing more  $CO_2$  will take up relatively less  $C_2$

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**74. [A] :** The central nervous system regulates the release of saliva from the salivary glands.

**[R]:** Salivary glands release lipase into the mouth and begins the digestion of starch.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

75. [A] : Gall stones are pebbie sized structures that formed in the gall bladder.

[R]: Gall stones develop when excess cholesterol in the bile precipitates out of solution, trapping calcium and bile salts.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**76. [A] :** Upon stimulation of a muscle cell, calcium ions ( $Ca^{++}$ ) are released from the sarcoplasmic reticulum.

**[R]:** In reacting with a protein complex,  $Ca^{++}$  unmask myosin binding sites on the actin filaments.



A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

77. [A]: Osteoporosis is a bone disorder that results from the loss of calcium and phosphate from the bone matrix.

[R]: In osteoporosis, osteoblast activity is decreased and new bone is deposited more slowly than it is removed by osteoclasts.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**78. [A] :** In mammals, ends of presynaptic fibres are enlarged to form synaptic knobs which are separated by a synaptic cleft from postsynaptic neurons. Each synaptic knob contains many mitochondria and small gran-

ule-like synaptic vesicles filled with minute packets of the chemical that transmits impulses to postsynaptic neurons.

[R]: The chemical transmitters are called neurohumors which proportionate to  $K^+$  influx.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**View Text Solution**

**79. [A] :** Receptors located in tendons, joints and skeletal muscle give information regarding the position and movement of various parts of body.

**[R]:** These are called Algest receptors.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: C**



**View Text Solution**

**80.** [A]: Lateral-line organs are important in connection with aquatic mode of life.

[R]: They are highly supplied with branches of cranial nerves and they are entirely disappeared in terrestrial forms.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**81. [A] :** Accomodation in the bird's eye is controlled by the ciliary apparatus.

**[R]:** It involves deformation of retina.

A. If both A and R are true and R is the correct explanation of A



B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**View Text Solution**

**82. [A] :** Mammals lack mucous glands in their skin.

**[R] :** The epidermis has many layers of cells.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**83.** [A] : In old age, the skin gets wrinkled.

[R]: Epidermis has a single layer of cells.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: C**



[View Text Solution](#)

**84.** [A] : In Mammals sweat glands are primarily concerned with regulations of body heat.

[R]: Sweat glands are absent on lip margins.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**85. [A] :** [A]: Spermatogenesis occurs in the seminiferous tubules of the testes which also produce testosterone in interstitial cells.

[R]: Testosterone maintains the secondary sex

characteristics of males, such as low voice, facial hair and increased muscle strength.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**86.** Statement 1 : In a Graafian follicle, the primary cell, the and the follicle cells may be regarded sibling cells.

Statement 2 : Both arise from the same parent cell, the oogonium, by mitotic divisions.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**87. [A] :** Amniotic fluid serves as a protective cushion.

**[R]:** It breaks the mechanical shocks and lessens the effect of changes of temperature.



A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**88.** [A]: Entry of sperm brings about a rearrangement of materials of cytoplasmic egg.

[R]: Path of male nucleus is marked in ovum as copulation path.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**89. A :** in morula stage the cells divide without any increase in size

**R :** zona pellucida remains intact till cleavage is completed

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**90.** [A]: Brain does not affect in the absence of glucose.

[R]: Glucose is stored in the neuron cells.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**View Text Solution**

91. [A]: After operation, menstrual cycle in woman may be stopped.

[R]: Ovarian hormones induce menstrual cycle

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**92.** Assertion : In placental mammals the placenta is connected to the embryo by the umbilical cord and has an essential role in the immunological protection of the embryo .

Reason : In mammals foetal components of

the placenta derive initially from the chondroblast connected with embryonic derive initially from the chondroblast connected with embryonic blood stream either through its contact with the yolk sac.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false



**Answer: B**



**Watch Video Solution**

**93.** Assertion: Smaller the organism higher is the rate of metabolism per gram weight.

Reason: The heart rate of a six-month-old baby is much lower than that of an old person.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**94. [A] :** Haversian canals are inter connecting canals that run usually longitudinally through dense bone of vertebrates.

[R]: They contain nerves and blood vessels,  
each canal serving a series of concentric  
lamellae

A. If both A and R are true and R is the  
correct explanation of A

B. If both A and R are true but R is not the  
correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**





Watch Video Solution

95. [A]: Conjunctiva is composed of squamous epithelium and is continuous with the dermis that lines the eyelids.

[R]: The conjunctiva is thick highly cornified and richly supplied with free nerve endings.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**View Text Solution**

**96. [A]:** During ovarian cycle follicles are controlled by gonadotropic hormones, follicle stimulating hormone (FSH) and luteinizing

hormone (LH).

[R]: During ovarian cycle follicles undergo maturation, contain a secondary oocyte and produce female sex hormones.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**97. [A] :** Hydrostatic pressure in blood forces water and other solutes of glomerulus into Bowman's capsule.

**[R]:** Kidneys regulate the blood pH.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**98. [A]:** Emboly involves the invagination and in- volution through bottling process by the mesentoblast cells.



[R]: Embolus is exhibited by the \_formation, elongation and ultimate recession of the primitive streak.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**





[View Text Solution](#)

99. [A]: Each testis is attached to the abdominal wall by a ligament and under testosterone influence it is drawn into the scrotum during development.

[R]: Leydig or interstitial cells secrete androgens most potent being testosterone

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**100. [A]:** Taste buds are called the sense organs for olfaction

**[R]:** Taste buds bear olfactory receptor cells

which get stimulated by certain chemical substances

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**



**Watch Video Solution**

**101. (A):** Little rotation and bending of the vertebral column is possible.

**[R]:** This is due to the presence of fibrous joints between vertebrae.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**102.** Assertion Muscle as a whole does not obey All-or-none law.

Reason Each muscle fibre contracts maximally whenever it contracts.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**103.** [A]: Generally the intraspecific competition is more intense than interspecific competition.

[R]: Intraspecific competition occurs when the resources are in short supply.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false



D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**104. [A]:** The tadpoles become giant tadpoles when fed on thiourea.

**[R]:** Thiourea is an antithyroid substance

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**105. [A]:** Pinna of ear is quite elastic and pliable.

**[R]:** Pinna of ear is made up of spongy bone.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

**Answer: C**



**Watch Video Solution**

**106.** [A]: Muscle twitch is related with tetanus

[R]: Tetanus is caused by many nerve impulses at a time.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**107.** [A]: Albumin is associated with oedema.

[R]: It is produced by liver.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**View Text Solution**

**108.** (A): Somatomedin secreted by liver is also called IGF. [R]: Somatomedin and somatostatin are synonyms.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: C**



**View Text Solution**

**109.** (A): Corpus luteum is a temporary endocrine gland.

[R]: Corpus luteum does not secrete any hormone.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false



**Answer: C**



**Watch Video Solution**

**110. (A):** Kangaroo rat can live without drinking water.

**[R]:** This is an adaptation to water scarcity in arid conditions

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**111. (A):** The relationship between sucker fish and shark is considered to be an example of parasitism.

[R]: Sucker fish gets food and shelter from shark and also alters the population growth of the shark

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: D**





Watch Video Solution

**112.** A : Sense organs, do not interpret the stimulus, it is done by brain.

R : Sense organs are transducers. They transform the energy of a stimulus to the energy of nerve impulses.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**113. [A]:** Hair cells on the basilar membrane (the organ of corti) are responsible for hearing.

[R]: Pressure waves, which begin at the oval window, cause the basilar membrane, to vibrate so that the cilia of the hair cells touch the tectorial membrane. This causes the hair cells to initiate nerve impulses, which are carried by the auditory nerve to the brain.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**114. [A] :** Spermatogenesis occurs in the seminiferous tubules of the testes which also produce testosterone in interstitial cells.

**[R]:** Testosterone maintains the secondary sex characteristics of males, such as low voice, facial hair and increased muscle strength.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**



**115. [A]:** In vertebrates, motor fibres to striped muscle, parasympathetic fibres to smooth muscle, and preganglionic sympathetic fibres are cholinergic.

**[R]:** Cholinergic designates the type of nerve fibre that releases acetylcholine from its ending when stimulated by a nerve impulse

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**View Text Solution**

**116.** A : Transmission of the nerve impulse across a synapse is accomplished by neurotransmitters .

R : Transmission across a synapse usually requires neuro transmitters because there is space , i.e., synaptic cleft, that separates one neuron from another .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: A**



**Watch Video Solution**

**117. [A]:** Active transport results in solute movement against a concentration gradient.

**[R]:** Active co-transport of  $Na^+$  and  $K^+$  is energized by ATP.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

**118.** Statement 1 : In a Graafian follicle, the primary cell, the and the follicle cells may be regarded sibling cells.

Statement 2 : Both arise from the same parent cell, the oogonium, by mitotic divisions.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

**Answer: B**



**Watch Video Solution**

