



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

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 fibrinogen.

A. 1) If both A and R are true and R is the correct explanation of A

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: D



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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



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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



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

[R]: 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



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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



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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



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7. [A] : Retinene is a constituent of vitamin A (retinol).

[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



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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



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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: B



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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



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

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

A. 1) If both A and R are true and R is the correct explanation of A

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: D



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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: A



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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



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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



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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



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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



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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



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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



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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: B



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

[R]: Acetylcholine 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



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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: A



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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



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

[R] Conjunctive is thick , little 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



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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



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

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

A. 1) If both A and R are true and R is the correct explanation of A

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: B



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26. [A] : [A]: Parthenogenesis is a type of asexual reproduction. [R]: Because young ones develop without fertilization 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



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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 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





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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



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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



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

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



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

B. 2)If both A and R are true but R is not the correct explanation of A

C. 3)If A is true and R is false

D. 4)If both A and R are false

Answer: D





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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: A



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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



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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



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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





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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



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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



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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



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39. [A]: Emboly involves the invagination and involution through bottling process by the mesentoblast cells.

[R]: Emboly 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



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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



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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



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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

histiocytes), 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



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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



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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



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

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: A



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

B. 2)If both A and R are true but R is not the correct explanation of A

C. 3)If A is true and R is false

D. 4) If both A and R are false

Answer: A



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47. [A] : Pancreas is the second largest of the digestive glands.

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

A. 1) If both A and R are true and R is the correct explanation of A

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: B



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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



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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





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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



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

[R]: When blood is shed, the platelets disin-

tegrate and liberate thromboplastin which activates prothrombin into thrombin.

A. 1) If both A and R are true and R is the correct explanation of A

B. 2) If both A and R are true but R is not the correct explanation of A

C. 3) If A is true and R is false

D. 4) If both A and R are false

Answer: A



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52. [A]: Prothrombin is necessary for blood clot- ting. ,

[R]: This is produced in pancreas in pres- ence 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



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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



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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





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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



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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



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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



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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



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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 reuse, 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



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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



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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



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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



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

[R]: Because of terrestrial habitat. they have well developed lungs for 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



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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



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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



Watch Video 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



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

[R]: Crocodilian heart retains both systemic arches that join, causing mixing of blood in the dorsal aorta while avian heart has lost left systemic arch.

- 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

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 O_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



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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 pebble 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



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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



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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



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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 granule-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



Watch Video 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



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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



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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



Watch Video 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



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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



Watch Video 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



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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



Watch Video 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



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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



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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 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



Watch Video 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 involution through bottling process by the mesentoblast cells.

[R]: Emboly 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



Watch Video 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





Watch Video 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



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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



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



Watch Video 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



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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



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113. [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



Watch Video 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



Watch Video Solution

116. [A] : Transmission of nerve impulse across a synapse is accomplished by neurotransmitters.

[R]: Transmission across a synapse require neurotransmitters because there is a small space (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 transport of Na^+ , 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



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