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# BIOLOGY

# NEET & AIIMS

# TEST 4

**Example**

**1.** Which one is not related to roots in monocotyledonous plants?

A. Presence of fibrous root system which arises from the base of the stem

B. Roots never originate from radicle

C. In banyan trees, roots arise from aerial parts of the plant

D. The primary root which is short-lived is replaced by large number of roots

**Answer:**

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**2.** Which region of the root have very small cells, thin walled and with dense protoplasm?

A. Lies proximal of elongation zone

B. Has repeatedly dividing cells intermingled with differentiated cells

C. Is situated slightly above the root cap

D. Gives rise to lateral branches of endogenous origin

**Answer:**

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**3.** Which of the following is not correctly matched?

A. Radial symmetric flower - Datura

B. Bilateral symmetric flower - Delonix

C. Trimerous flower - Trifolium

D. Asymmetric flower - Canna

**Answer:**

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**4.** Plant of arid regions that modifies its stem into flattened structure that contains chlorophyll & carries out photosynthesis is

A. Euphorbia

B. Opuntia

C. Bougainvillea

D. All except (3)

**Answer:**

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**5.** Select the incorrect statement w.r.t stem.

A. Ascending part of the axis which develops from plumule of an embryo

B. Usually bears buds either at apex of the stem or in the axil of leaves

C. Always bears branches arranged in acropetal order

D. Has its role in storage of food, protection and vegetative propagation

**Answer:**

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**6.** Axillary buds in stems may get modified into

A. Tendrils

B. Thoms

C. Rachis

D. Both (1) & (2)

**Answer:**

Watch Video Solution

**7.** Underground stem modified to store food and also acting as organs of perennation to tide over conditions unfavourable for growth is found is all except

A. Colocasia and ginger

B. Potato and turmeric

C. Zaminkand and ginger

D. Onion and garlic

**Answer:**

Watch Video Solution

**8.** A lateral branch with short internodes and each node bearing a rosette of leaves and a tuft of roots is found in aquatic plants like

A. Banana and water lettuce

B. Lotus and Wolffia

C. Water hyacinth and water lettuce

D. Chrysanthemum and jasmine

**Answer:**

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**9.** Choose the incorrect statement w.r.t leaves.

A. A compound leaf has incised lamina and the incision reaches upto the midrib

B. Simple leaves always arise singly at each node and bear undivided lamina

C. In palmately compound leaf, the leaflects are attached at the tip of petiole

D. In pinnately compound leaf, the rachis represents midrib of the leaf

**Answer:**

 Watch Video Solution

**10.** Opposite phyllotaxy of leaves is found in

A. Mustard, maize

B. China rose, guava

C. Calotropis, guava

D. Nerium, Alstonia

**Answer:**

Watch Video Solution

**11.** Which of the following is not correctly matched?

A. Leaf tendril - Pea

B. Leaf spines - Cactus

C. Thom - Citrus

D. Phyllode - Euphorbia

**Answer:**

 Watch Video Solution

**12.** Cymose inflorescence differs from racemose inflorescence in

A. Possessing limited growth of axis as the shoot tip transforms into a flower

B. Acropetal succession of flowers arrangement

C. Bearing flowers laterally on the floral axis

D. Bearing only a single flower on a floral branch always

**Answer:**

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**13.** Select the incorrect statement for perianth.

A. Can be found in monocots

B. Calyx and corolla are not distinct

C. Is absent in Gloriosa & tulip but well developed in Aloe

D. In lily family, perianth often unite to form tube

**Answer:**

Watch Video Solution

**14.** Ovary prossessing highest position while the other floral parts are situated below the

ovary therefore known as superior ovary is exemplified by

A. Peach

B. Mustard

C. Guava

D. Cucumber

**Answer:**

**15.** One margin of the petal overlaps that of the next one and so on, this type of aestivation is exemplified by & .

A. China rose, cassia

B. China rose, cotton

C. Lady's finger, pea

D. Cotton, Calotropis

**Answer:**

Watch Video Solution

**16.** Diadelphous stamens, vexillary aestivation, marginal placentation and nodulated roots are diagnostic features of plants belonging to family

A. Malvaceae

B. Solanaceae

C. Brassicaceae

D. Fabaceae

**Answer:**

Watch Video Solution

**17.** Which one is not related to axile placentation?

A. Develops in multicarpellary syncarpous ovary

B. Most commonly found in angiosperms

C. Ovary is always multilocular and number of locules correspond to the number of carpels in floer

D. Most advanced type of placentation

**Answer:**

Watch Video Solution

**18.** Select the odd statement w.r.t parthenocarpic fruits.

A. Generally do not have seeds

B. Are useless in groundnut

C. Are formed without fertilisation

D. Are useless for fruit industry

**Answer:**

Watch Video Solution

**19.** A fleshy fruit differs from dry fruit in

A. Being many seeded

B. Presence of well differentiated pericarp

C. Developemental pattern i.e. formed from monocarpellary superior ovary

D. Being a post-fertilisation event

**Answer:**

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**20.** Cotyledons serve as food storage region to provide nourishment in ex-albuminous condition during seed germination in

A. Pea and gram

B. Bean and maize

C. Wheat and lily

D. Board bean and onion

**Answer:**

Watch Video Solution

**21.** Angiospermic family including colchicine producing plant

A. Bears non-endospermous seeds

B. Has tricarpellary syncarpous gynoecium with axile placentation

C. Lacks cymose inflorescence

D. Is characterised by presence of zygomorphic flowers

**Answer:**

 Watch Video Solution

**22.** Edible part in pomegranate, fig and cashewnut are respectively

A. Succulent testa, fleshy receptacle & cotyledons

B. Cotyledons, perianth & seed

C. Inner integument of seed, seeds & cotyledons

D. Entire fruit, aril & fleshy thalamus

**Answer:**

Watch Video Solution

**23.** Meristematic cells are characterised by all except

A. High nucleocytoplasmic ratio

B. Low surface area to volume ratio

C. Absence of plastids

D. Presence of thin cellulosic cell wall

**Answer:**

Watch Video Solution

**24.** Parenchyma differs from collenchyma in

A. Possessing isodiametric cells with cellulosic cell wall

B. Being living in nature

C. Being highly refractile due to secondary thickening on cell wall

D. Presence of wall developed nucleus

**Answer:**

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**25.** Read the following statements and find out the correct statements.

A. Tracheids are elongated or tube like cells with thin and lignified walls and tapering ends.

B. Vessal elements are interconnected through perforations in their common walls.

C. Xylem fibres are always septate.

A. Only B

B. A & C

C. B & C

D. Only C

**Answer:**

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**26.** Identify the statements as true(T) or false(F).

A. Xylem fibres are the components of xylem in all categories of vascular plants.

B. Advanced angiosperm families like

Winteraceae & Trochodendraceae do not have vessals.

C. Seive tubes & companion cells are ontogenetically related & are called sister cells.

D. The cytoplasm of a mature seive tube occurs in the form of a thin-living layer along the inner side of cell walls.

A. A(T), B(T), C(T), D(F)

B. A(T), B(F), C(T), D(T)

C. A(F), B(F), C(T), D(T)

D. A(T), B(F), C(T), D(F)

**Answer:**

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**27.** In a transverse section, the protoxylem of root and the metaxylem of stem, respectively appear

A. Peripheral & peripheral

B. Peripheral & central

C. Central & peripheral

D. Central & central

**Answer:**

Watch Video Solution

**28.** Fine the incorrect statement w.r.t trichomes.

A. Are generally multicellular in shoot system

B. Are always branched and stiff

C. May have secretory role

D. Help in preventing water loss due to transpiration

**Answer:**

Watch Video Solution

**29.** Biological check post that makes the vascular and cortical regions in a root impermeable for air and water is

A. Starch sheath

B. Pericycle

C. Passage cells

D. Endodermal cells with casparian strip

**Answer:**

Watch Video Solution

**30.** The feature which is not associated with internal structure of a dicotyledonous leaf is

A. Closed and conjoint vascular bundle

B. Palisade parenchyma found on the adaxial side

C. Same sized vascular bundles that does not depend upon vein size

D. Presence of more stomata on the abaxial epidermis generally

**Answer:**

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**31.** Cambium ring in dicot root

A. Is completely secondary in origin

B. Develops from whole of pericycle and conjunctive tissue

C. Has circular outline from the beginning

D. Is formed by intra & interfascicular cambia

**Answer:**

Watch Video Solution

**32.** Read the following statements.

A. All tissue on the inner side of the endodermis constitute the stele.

B. Peripheral vascular bundles are generally larger than the centrally located ones in monocot stems.

C. In late wood, cambium produces a large number of xylary elements having vessels with wider cavities.

D. The cork is impervious to water due to suberin deposition in the cell membrane.

How many of the above statements are incorrect?

A. Three

B. Four

C. One

D. Two

**Answer:**

Watch Video Solution

**33.** Mark the incorrect statement.

A. Phellogen, phellem and phelloderm are collectively known as periderm

B. Phellogen is made of narrow, thin-walled & nearly rectangular cells

C. The cells of secondary cortex are highly lignified & impervious to water

D. The cork is impervious to water due to suberin deposition in the cell wall

**Answer:**

Watch Video Solution

**34.** Monocot stem differs from dicot stem in having

A. Absence of schizogenous water cavity

B. Presence of cambium in canjoint, collateral vascular bundles

C. Presence of collenchymatous hypodermis

D. Prossessing different sizes of vascular bundles in the ground tissue

**Answer:**

Watch Video Solution

**35.** Secondary medullary rays formed during secondary growth in dicot stem

A. Pass through primary xylem & secondary phloem in the vertical directions

B. Extend through the secondary xylem and secondary phloem in the radial directions

C. Prossess lignified cell wall and meant for transport of water and minerals in vertical direction

D. Run from central pith to the youngest layer of wood only

**Answer:**

Watch Video Solution

**36.** Annual rings in perennial trees of dicots are not well distinguished in

A. Temperate forests

B. Coastal areas

C. Central North America

D. Both (1) & (2)

**Answer:**

Watch Video Solution

**37.** Which of the following is/are dedifferentiated tissue in dicot trees?

A. Cork cambium

B. Interfascicular cambium

C. Bulliform cells

D. Both (1) & (2)

**Answer:**

Watch Video Solution

**38.** Trace the incorrect features w.r.t lenticels.

A. Lens shaped opening in extrastelar region

B. Meant for exchange of gases between the plant's interior and external environment

C. Do not possess a regulated opening and closing like stomata

D. Consist of dead parenchymatous cells with large intercellular spaces

**Answer:**

Watch Video Solution

**39.** Which of the following is not observed in angiospermic trees growing in temperate regions?

A. Heartwood

B. Sap wood

C. Early wood

D. Diffused porous wood

**Answer:**

Watch Video Solution

**40.** Identify the incorrect statement regarding bark.

A. Includes periderm and secondary phloem

B. Contributed by activity of vascular cambium ring also

C. Formed early in the season is called soft bark

D. Not contributed by phellogen at all

**Answer:**

Watch Video Solution

**41.** In a trunk of dicot tree after ten years of secondary growth, which of the following will be observable?

A. Functional primary xylem in the centre

B. Heartwood is surrounded by ring of sap wood

C. Equal number of layers of secondary xylem and secondary phloem

D. A functional primary cortex

**Answer:**

Watch Video Solution

**42.** Youngest layer of secondary xylem added by cambium ring

A. Lies just towards inner side of vascular cambium ring

B. Remains more or less intact, in or around the centre

C. Also consists of balloon like structures called tyloses

D. Is resistant to termites due to deposition of extractives

**Answer:**

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**43.** The acid-soluble pool produced during acid analysis of living animal tissue would contain all of the following, except

A. Lysine

B. GTP

C. Fructose

D. DNA

**Answer:**

Watch Video Solution

**44.** All of the following are primary metabolites except

A. Glucose

B. ATP

C. Fructose

D. Carotenoids

**Answer:**

Watch Video Solution

**45.** The simplest amino acid is

A. Glutamic acid

B. Lysine

C. Valine

D. Glycine

**Answer:**

Watch Video Solution

**46.** Oils generally have melting point than saturated fats, hence remain at room temperature.

A. Higher, solid

B. Lower, liquid

C. Higher, liquid

D. Lower, solid

**Answer:**

Watch Video Solution

**47.** Which of the following are correct with reference to amino acids?

a. Amphoteric in nature.

b. Are substituted methane molecules.

c. Serine is an alcoholic amino acid.

d. Amino acids never exist in zwitterionic form at any stage in living cells.

e. A dipeptide comprises of two peptide bonds between amino acids.

A. a, b, c

B. a, d, e

C. b, c, d

D. a, c, d, e

**Answer:**

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**48.** How many water molecules are lost upon combination of trihydroxypropane with three molecules of palmitic acid?

A. Three

B. Six

C. Four

D. Zero

**Answer:**

Watch Video Solution

**49.** Number of carbon atoms in arachidonic acid excluding carboxyl group is

A. 19

B. 20

C. 24

D. 21

**Answer:**

Watch Video Solution

Watch Video Solution

**50.** Choose the odd one with reference to nucleoside.

A. Uridine

B. Adenosine

C. Cytosine

D. Guanosine

**Answer:**

Watch Video Solution

**51.** Read the statements given below.

Statement-I : Micromolecules differ from macromolecules as their molecular weight is usually less than 1000 daltons.

Statement-II : N-acetyl glucosamine is the key component of fungal cellulose.

Choose the correct option.

A. Both statement I & II are correct

B. Statement I is correct while statement II is incorrect

C. Statement II is correct while statement I is incorrect

D. Both statements I & II are incorrect

**Answer:**

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**52.** Lipids are not strictly macromolecules because

A. They are made up of fatty acid and alcohol

B. They have low molecular weight when compared to polymers like starch, glycogen etc.

C. They are found in acid-soluble pool

D. They have low melting point

**Answer:**

Watch Video Solution

**53.** Proteins such as trypsin and GLUT-4 are

A. Heteropolymer of amino acids

B. Homopolymer of amino acids

C. Heteropolymer of fatty acid and alcohol

D. Heteropolymer of monosaccharides

**Answer:**

 Watch Video Solution

**54.** All of the following are essential amino acids, except

A. Tryptophan

B. Isoleucine

C. Methionine

D. Alanine

**Answer:**

Watch Video Solution

**55.** Component not forming the backbone of 'B'-DNA is

A. Phosphate group

B. Deoxyribose sugar

C. Guanine

D. Both (2) & (3)

**Answer:**

Watch Video Solution

**56.** Which of the following has maximum number of double bonds found in its structure?

A. Oleic acid

B. Linolenic acid

C. Linoleic acid

D. Arachidonic acid

**Answer:**

Watch Video Solution

**57.** The second most abundant structural carbohydrate in nature among the following is

A. Glycogen

B. Chitin

C. Starch

D. Cellulose

**Answer:**

Watch Video Solution

**58.** Single letter code for amino acids tyrosine & tryptophan respectively are

A. S, F

B. C, V

C. Y, W

D. E, D

**Answer:**

Watch Video Solution

**59.** Choose the odd one out w.r.t repeating monomeric unit found in their structure.

A. Cellulose

B. Starch

C. Inulin

D. Glycogen

**Answer:**

 Watch Video Solution

**60.** Category of biomolecules which functions as knoledge transfer molecules and as energy currency in a cell is

A. Carbohydrates

B. Nucleic acids

C. Proteins

D. Lipids

**Answer:**

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**61.** How many of the following are correct with reference to cellulose?

i. It is a polymer of glucose

ii. It has branched chains

iii. It is a homopolymer

iv. It occurs in plant cells

v. Cotton fiber and paper contain cellulose

vi. Its monomeric unit s N-acetyl glucosamine

vii. It gives blue/black colour with iodine

A. One

B. Two

C. Three

D. Four

**Answer:**

Watch Video Solution

**62.** A new amino acid in a polypeptide chain is added at

A. Left end of chain

B. P terminal of chain

C. N terminal of chain

D. C terminal of chain

**Answer:**

 Watch Video Solution

**63.** Emil Fischer put forward .

A. RNA model

B. Lock and key hypothesis

C. Induced-fit theory

D. DNA model

**Answer:**

Watch Video Solution

**64.** The relative abundance of and is higher in living organisms as compared to Earth's crust.

A. Carbon, hydrogen

B. Carbon, calcium

C. Oxygen, sodium

D. Hydrogen, silicon

**Answer:**

Watch Video Solution

**65.** All of the following are nitrogenous bases found in nucleic acid occurring in HIV, except

A. Adenine

B. Uracil

C. Thymine

D. Guanine

**Answer:**

Watch Video Solution

**66.** Alanine is

A. Monoamino dicarboxylic amino acid

B. Monoamino monocarboxylic amino acid

C. Monocarboxylic diamino amino acid

D. Basic amino acid

**Answer:**

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**67.** Non-competitive inhibitors of the reaction.

A. Increase the $V_{\max}$

B. Increases the $K_m$

C. Decrease the $K_m$

D. Decrease the $V_{\max}$

**Answer:**

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**68.** All of the following are the derivatives of tyrosine except

A. Thyroxine

B. Adrenaline

C. Melanin

D. Melatonin

**Answer:**

Watch Video Solution

**69.** Human haemoglobin is chemically with optimal function at structure.

A. Conjugated carbohydrate, secondary

B. Conjugated lipid, tertiary

C. Conjugated protein, tertiary

D. Conjugated protein, quarternary

**Answer:**

Watch Video Solution

**70.** Read the given statements.

a. For B-DNA, the rise per base pair is 3.4 A

b. For human DNA, if [A] = 30% then purine content will be 50%

c. The first digit of enzyme commission number for enzyme 'ligase' will be 4

Select the correct statements.

A. a, b & c

B. a & c

C. a & b

D. b & c

**Answer:**

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**71.** Pentose sugar binds with nitrogenous base by bond and with phosphate by bond to form nucleotide.

A. Phospho-diester, phosphoester

B. Glycosidic, phospho-ester

C. Glycosidic, phospho-diester

D. Glycosidic, peptide

**Answer:**

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**72.** Which of the following is a prosthetic group for enzymes peroxidase and catalase that catalyze the breakdown of hydrogen peroxide to water and oxygen?

A. NAD

B. Haem

C. Zinc

D. NADP

**Answer:**


**73.** Malonate is a competitive inhibitor of

A. Malic dehydrogenase

B. Succinic dehydrogenase

C. Carbonic anhydrase

D. Cytochrome oxidase

**Answer:**

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**74.** Living systems represent

A. Equilibrium non-steady state

B. Non-equilibrium steady state

C. Non-equilibrium non-steady state

D. Equilibrium steady state

**Answer:**

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**75.** Streptokinase is used as a/an

A. Prosthetic group for many enzymes

B. Natural anticoagulant in haemodialysis

C. Clearing agent of blood clots in blood vessels

D. Artificial anticoagulant in haemodialysis

**Answer:**

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**76.** Select the correct statement.

A. In feedback inhibition, inhibitor binds with active site of an enzyme

B. Coenzyme is an inorganic compound tightly bound to apoenzyme

C. Cyanide kills an animal by inhibiting carbonic anhydrase

D. Competitive inhibitors are frequently used in the control of bacterial pathogens

**Answer:**

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**77.** Select the type of enzyme involved in the following reaction

$$S - G + S' \rightarrow S + S' - G$$

A. Ligases

B. Oxidoreductases

C. Hydrolases

D. Transferases

**Answer:**

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**78.** Increased concentration of which of the following components would decrease the rate of an allosteric enzyme action?

A. Substrate

B. Enzyme

C. Product

D. Both (1) & (3)

**Answer:**

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**79.** In exothermic reactions, the energy content of the product is that of the substrate.

A. Higher than

B. Equal to

C. Lower than

D. Independent to

**Answer:**

 Watch Video Solution

**80.** The substrate concentration at which the chemical reaction catalyzed by an enzyme attains half of its maximum velocity is termed as

A. 1/2 $K_m$

B. $K_m$

C. 1/2 $V_{\max}$

D. $V_{\max}$

**Answer:**

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**81.** The cell organelle(s) involved in utilisation of $0_2$ and transamination during photorespiration is/are

A. Peroxisome

B. Chloroplast

C. Mitochondria

D. Both chloroplast and mitochondria

**Answer:**

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**82.** When only one type of solute molecule enters the cell with the help of carrier protein, the process is

A. Uniport

B. Symport

C. Antiport

D. Co-transport

**Answer:**

Watch Video Solution

**83.** How many of the following statement(s) is/are true regarding plant water relations?

A. A mature corn plant absorbs almost three litres of water in three hours only while a mustard plant absorbs water equal to its own weight in about five hours.

B.Diffusion is a slow process and is dependent on a 'living system'.

C.When a plant cell is placed in a hypertonic solution, water moves out first from the

cytoplasm and then from the vacuole.

D. All solutions have a higher water potential than pure water due to dissolution of solutes.

A. One

B. Two

C. Three

D. Four

**Answer:**

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**84.** If a living plant cell is placed in a concentrated sugar solution, the cell will

A. Gain water and become turgid

B. Lose water and become plasmolysed

C. Absorb sugar and become turgid

D. Absorb water and become turgid

**Answer:**

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**85.** Most of the minerals are absorbed actively from soil to the root cells because

A. The concentration of ions in roots is less than that of the the soil

B. Minerals are in the form of ions in soil

C. Minerals absorption is independent of flux

D. Mineral absorption is always dependent on ion carriers and need ATP

**Answer:**

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**86.** During rainy season, doors made up of wood generally swell due to

A. Osmosis

B. Absorption of water by the imbibate

C. Imbibition

D. Hydrophobic nature of imbibant

**Answer:**

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**87.** statement - A: Xylem is associated with translocation of mineral salts, some organic nitrogen and hormones.

statement - B: Phloem translocates a variety of organic and inorg anic solutes mainly from sink to source.

A. Statement A is correct but statement B is incorrect

B. Statement A and statement B are correct

C. Statement A and statement B are incorrect

D. Only statement A is correct

**Answer:**

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**88.** Select the wrong statement w.r.t. symplastic pathway of water.

A. Involves intercellular spaces and interconnected protoplasts

B. Plasmodesmata help in intercellular movement through the cytoplasmic strands

C. Ultimately water moves to the vascular cylinder from endodermis by symplastic

pathway only

D. Water enters the cell through the cell membrane, hence the movement is relatively slower

**Answer:**

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**89.** Osmotic pressure at sink decreases in phloem transport because

A. Sugar is transported through phloem as sucrose

B. Loading of phloem at source sets up a water potential gradient

C. Sugar removed from phloem sap at sink is either utilised to release energy or converted into starch or cellulose

D. Water passes out from phloem sap to the xylem vessel at sink

**Answer:**

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**90.** Which of the following elements is non-essential for plants but have a functional role?

A. Cobalt

B. Molybdenum

C. Nickel

D. Manganese

**Answer:**

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**91.** Find out the odd one w.r.t. role of potassium in plants.

A. Synthesis of middle lamella

B. Opening of stomata

C. Maintains anion-cation balance

D. Involved in protein synthesis

**Answer:**

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**92.** Which one of the following is a micronutrient associated with electron transport in chloroplast?

A. Fe

B. Cl

C. Mg

D. Mn

**Answer:**

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**93.** Mark the correct option w.r.t. critical elements

A. Nitrogen, Phosphorus and Potassium

B. Oxygen, Nitrogen and Hydrogen

C. Zinc, Iron and Copper

D. Chlorine, Iron and Hydrogen

**Answer:**

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**94.** Statement - I: Beijernickia is free living nitrogen fixing bacterium.

Statement - II: The enzyme, nitrogenase which is capable of nitrogen reduction is present exclusively in prokaryotes.

Statement- III: The root nodules formed in soyabean never establishes a direct vascular connection with the host for exchange of nutrients.

Select the suitable option wr.t. statements I to III.

A. I, II & III are correct

B. I & Ill are correct only

C. Only III is incorrect

D. Only II is correct

**Answer:**

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**95.** Deficiency of which set of elements cause chlorosis, inhibition of cell division and delay in flowering?

A. N, S, Mo

B. N, K, S

C. Mg, Fe, Zn

D. K, Cu, Fe

**Answer:**

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**96.** Select the correct statement w.r.I toxicity of Mn

A. Appearance of brown spots are never surrounded by chlorotic veins

B. Inhibition of Cul-2 translocation in root apex

C. Mn competes with Fe for binding with enzymes

D. Excess of Mn induces deficiencies of Fe, Mg and Ca

**Answer:**

**97.** Find out the odd one w.r.t role of boron in plants.

A. Pollen germination

B. Cell differentiation

C. Activates catalase

D. Carbohydrate translocation

**Answer:**

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**98.** Chemoautotrophic bacteria that enrich soil with nitrogen is

A. Thiobacillus

B. Rhizobium

C. Bacillus

D. Nitrococcus

**Answer:**

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**99.** Read the following statements (a-e) and choose the suitable option w.r.t. respiration

a. A series of slow step-wise reactions controlled by enzymes.

b. Breaking of the C-C bonds of respiratory substrates through oxidation within the cells.

c. Liberation of energy.

d. Breakdown of complex molecules to yield energy which takes place in mitochondria only.

e. Carbon skeleton produced during respiration is not used as precursor for cellular biosynthesis of other molecules.

A. b, c & e are correct

B. d & e are incorrect

C. Only d is incorrect

D. a & e are correct

**Answer:**


**100.** How many molecules of redox equivalents are removed from PGAL and transferred to a

molecule of $NAD^+$ when two molecules of glucose are subjected to glycolysis?

A. 2

B. 1

C. 4

D. 6

**Answer:**

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**101.** RQ (Respiratory Quotient)

A. Of oxalic acid and malic acid is more than unity

B. Is the ratio of the volume of $0_2$ evolved to the volume of $CO_2$ consumed in respiration

C. Of organic acids is less than unity

D. Is infinity in CAM plants

**Answer:**

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**102.** Which of the following are involved in the first step of the Krebs' cycle?

A. OM, pyruvic acid, water

B. Acetyl CoA, water, isocitric acid

C. Malic acid, OAA, citric acid

D. Acetyl CoA, OAA, water

**Answer:**

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**103.** Redox equivalent generated during oxidation of succinate in the TCA cycle is received by

A. Complex I

B. Complex II

C. Cytochrome c

D. Complex III

**Answer:**

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**104.** The gateway reaction of aerobic respiration is

A. Link reaction

B. Transition reaction

C. Carboxylation and dehydrogenation

D. All except (3)

**Answer:**

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**105.** $0_2$ evolved in photosynthesis in green plants comes from water, not from $CO_2$ was confirmed by

A. Experiments of Engelmann using Cladophora and aerobic bacteria

B. Using heavy but non-radioactive, stable isotope of oxygen

C. Moll's half leaf experiment

D. Using a suitable H-acceptor molecule like

$H_2S$

**Answer:**

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**106.** Choose the incorrect statement

A. In PSI, the reaction centre chlorophyll a has an absorption peak at 700 nm.

B. The LHC are made up of hundreds of pigment molecules which are bound to proteins

C. Many chlorophyll 'a' molecules form the reaction centre

D. Antenna molecules help to make photosynthesis more efficient

**Answer:**

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**107.** A measurable decrease in pH in the lumen of thylakoid is because of

A. Active pumping of $H^+$ to stroma through the $F_o - F_1$ complex

B. Removal of $H^+$ from lumen for reduction of $NADP^+$

C. Pumping of $H^+$ to lumen from stroma by a proton carrier in ETS

D. Presence of enzyme NADP reductase on lumen side of thylakoid membrane

**Answer:**

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**108.** Name the scientist who first pointed out that plants purify foul air.

A. R. Hill

B. Van Niel

C. Joseph Priestley

D. Jean Senebier

**Answer:**

Watch Video Solution

**109.** The enzyme involved in primary $CO_2$ fixation in $C_4$ plants is__and located in__

A. PEPCase, agranal chloroplast

B. RuBisCO, granal chioroplast

C. PEPCase, cytosol of mesophyll cells

D. PEPCase, granal chioroplast

**Answer:**

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**110.** Relationship between incident light and $CO_2$ fixation rate is

A. Sigmoid at higher light intensity

B. Linear at low intensity of light

C. Not affected if the available intensity is below the saturation

D. Linear at high light intensity

**Answer:**

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**111.** Agranal chloroplasts are found in the

A. Mesophyll cells of all dicots

B. Bundle sheath cells of sugarcane leaves

C. Mesophyll cells of plants showing photo respiration

D. Mesophyll cells of all monocots

**Answer:**

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**112.** The first electron acceptor molecule in the $e^-$ transport chain from $P_{680}$ to $NADP^+$ is believed to be

A. Iron sulphur protein

B. Plastoquinone

C. Phaeophytin

D. Plastocyanin

**Answer:**

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**113.** In Calvin cycle, for synthesis of two molecules of sucrose, the requirement of ATP and NADPH is respectively

A. 72 and 48

B. 18 and 12

C. 30 and 12

D. 60 and 24

**Answer:**

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**114.** Cells of the phase of elongation in plants is characterised by all except

A. Lies proximal to the meristems

B. Increased vacuolation

C. Deposition of new cell wall

D. Maximum protoplasmic modifications

**Answer:**

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**115.** Formation of interfascicular cambium and cork cambium in dicot stem is

A. Differentiation

B. Dedifferentiation

C. Redifferentiation

D. Both (2) & (3)

**Answer:**

Watch Video Solution

**116.** IAA is essential in all except

A. Apical hook formation

B. Apical dominance

C. Parthenocarpy in tomatoes

D. Xylem differentiation

**Answer:**

Watch Video Solution

**117.** The rosette habit of cabbage can be changed by applicaton of

A. Ethylene

B. GA

C. CK

D. ABA

**Answer:**

Watch Video Solution

**118.** Coconut milk can be used to

A. Promote root growth and root hair formation

B. Promote senescence

C. Induce formation of male flower

D. Counteract apical dominance

**Answer:**

Watch Video Solution

**119.** Select the wrong statement w.r.t. ethylene

A. Inhibits senescence and abscission

B. Breaks seed and bud dormancy

C. Induces flowering in mango

D. Accelerates abscission in flowers and fruits like cotton, cherry & walnut

**Answer:**

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**120.** Which one is expected to induce flowering in LDP?

A. Gibberellin

B. Zeatin

C. 2, 4—D

D. ABA

**Answer:**

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**121.** Which one is not true for tobacco plant w.r.t. flowering?

A. Does not flower if photoperiod given is less than the critical

B. Needs a long uninterrupted darkness

C. $\left(\frac{P_R}{P_F}R\right)$ gt 1 is critical for flowering

D. Flowering is inhibited if photoperiod exceeds the critical

**Answer:**

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**122.** Choose the incorrect statement for vernalisation

A. Qualitatively and quantitatively dependent on exposure to low temperature

B. Stimulus is perceived by the mature stem apex but not by the leaves

C. Prevents precocious reproductive development late in the growing season

D. Increases the duration for crop maturation

**Answer:**

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**123.** Identify the true (T) or false (F) statement(s) w.r.t. EMP pathway

a. Glucose undergoes partial oxidation to form two molecules of pyruvic acid.

b. In plants, the end product of photosynthesis is converted into fructose and sucrose by the enzyme invertase.

c. ATP is utilised at two steps while NADH + $H^+$ is formed in two steps.

d. Conversion of BPGA to 3-PGA is an energy yielding process.

A. a-T, b-T, c-T, d-F

B. a-T, b-F, c-F, d-T

C. a-T, b-F, c-T, d-T

D. a-F, b-F, c-T, d-T

**Answer:**

**124.** Which of the following part of the cortical nephron is most likely located in medulla of kidney?

A. Loop of Henle

B. DCT

C. PCT

D. Renal corpuscle

**Answer:**

 Watch Video Solution

**125.** Read the statements given below

A. The renal cortex extends between the medullary pyramids as Columns of Bertini.

B. ATP molecules are used in kidneys to convert $NH_3$ to urea.

C. Reabsorption of water in PCT and loop of Henle is obligatory.

D. High medullary osmolarity is mainly developed due to NaCI and urea by counter current mechanism of vasa recta and loop of Henle.

The correct statements are

A. A, B & D

B. A, B & C

C. A, C & D

D. B, C & D

**Answer:**

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**126.** Study the following statements and select the correct option from the choices which follow

A. Solutes whose tubular load is higher than tubular maxima will not be eliminated in urine at all.

B. Zero threshold solutes are reabsorbed from PCT into peritubular capillaries completely

A. Only A is correct

B. Only B is correct

C. Both A & B are correct

D. Both A & B are incorrect

**Answer:**

Watch Video Solution

**127.** Which of the following stimulates adrenal cortex to release aldosterone?

A. Rennin

B. Angiotensin - II

C. An increase in GFR

D. ANF

**Answer:**

Watch Video Solution

**128.** Which of the following is the incorrect description of pelvic girdle?

A. It consists of two coxal bones

B. Socket acetabulam interacts with head of femur through ball and socket joint

C. Its two halves meet dorsally to form pubic symphysis

D. It is the site for articulation of thigh bone

**Answer:**

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**129.** Relaxation of skeletal muscles is due to

A. Breakdown of acetylcholine by acetylcholine esterase enzyme in synaptic cleft

B. Active transport pumps remove $Ca^{2+}$ from the sarcoplasm, pumping it into

sarcoplasmic reticulum

C. Conversion of ATP into ADP and Pi by heavy meromyosin

D. Both (1) & (2)

**Answer:**

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**130.** The thick filaments ih'the A-band of a myofibril are held together in the middle of this band by a thin fibrous membrane called

A. Z-line

B. M-line

C. H-line

D. 0-band

**Answer:**

Watch Video Solution

**131.** Mark the incorrect statement

A. If stretch receptors in wall of urinary bladder are removed, then filling of bladder does not occur

B. Dialysis involves selective diffusion of nitrogenous wastes from blood to dialysate

C. Immunosuppressants such as prednisolone and cyclosporin are administered to prevent kidney transplant rejection

D. Tubular secretion in PCT and DCT helps to maintain ionic and acid base balance of body fluids

**Answer:**


**132.** Find out the correct option w.r.t. cervical vertebrae

A. The seventh cervical vertebra is ring like, lacks centrum and neural canal.

B. In all mammals, number of cervical vertebrae are seven.

C. In case of humans, first, second and seventh cervical vertebrae are atypical.

D. In humans, the atlas rotates on the odontoid peg ' of the axis.

A. A, C & D

B. A, B & D

C. B, C & D

D. C & D only

**Answer:**

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**133.** Select the incorrect statement w.r.t. mechanism of muscle contraction

A. During shortening of a muscle, reduction in size of I-bands is seen while the A-bands retain their size

B. Binding of a new ATP with the myosin heads breaks the cross-bridges between actins and myosins

C. Pumping of $Ca^{2}+$ from sarcoplasm into sarcoplasmic cisternae exposes the actin filaments to myosins

D. Rapid and repeated activation of voluntary muscles can lead to fatigue due to lactic acid accumulation

**Answer:**

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**134.** Which parts of myosin protein are responsible for binding with actin protein and release of energy respectively?

A. Head, Head

B. Head, Tail

C. Tail, Head

D. Tail, Tail

**Answer:**

Watch Video Solution

**135.** Mark the odd one out from the following

A. Lacrimal bones

B. Ethmoid bone

C. Zygomatic bones

D. Palatine bones

**Answer:**

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**136.** Consjder the following four statements (A-D) regarding ribs and select the correct option stating true(T) and false (F) statements

A. They have two articulation surfaces on their ventral ends, hence are called bicephalic.

B. True ribs are ventrally connected to sternum with the help of elastic cartilage.

C. Normally there are two pairs of floating ribs in man.

D. False ribs don't 'articulate with the sternum directly.

A. F F T T

B. T F T F

C. T T F T

D. F F F T

**Answer:**

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**137.** Type of neurons which comprise of one axon only and are found usually in embryonic stage are termed

A. Pseudounipolar

B. Unipolar

C. Bipolar

D. Multipolar

**Answer:**

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**138.** The part of brain that controls the cardiovascular reflexes and respiratory rhythm is

A. Medulla

B. Pons

C. Optic lobe

D. Hypothalamus

**Answer:**

Watch Video Solution

**139.** Select the incorrect option w.r.t. different types of synapes present in our system

A. Synapses can be either electrical or chemical

B. Impulse transmission in a chemical synapse is always faster than that across an electrical synapse

C. Excitatory and inhibitory neurotransmitters are involved in impulse transmission at chemical synapses

D. At a chemical synapse, calcium ions are essential for exocytosis of neurotransmitter

**Answer:**

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**140.** Select the answer with correct matching of cranial nerve, its nature, origin and functions

A. cranial nerve - Trigemial, Nature - Motor, Origin - Floor of mid brain, Function - Skin sensation, Tongue movement

B. cranial nerve - Occulomotor, Nature - Motor, Origin - Floor of midbrain, Functions - Movement of eyeball and power of accommodation

C. cranial nerve - Abducens, Nature - Sensory, Origin - Pons, Functions -

Movement of eyeball and power of accommodation

D. cranial nerve - Hypoglossal, Nature - Motor, Origin - Pons, Functions - Swallowing and salivation

**Answer:**

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**141.** Select the answer with correct matching of structures and their functions

A. Structure - Otolith organ, Function - Maintains the dynamic balance of body

B. Structure - Aqueduct of sylvius, Function - Connects the lateral ventricles with third ventricle brain

C. Structure - Bowman's glands, Function - Secrete mucus which spreads over the

olfactory epithelium to keep it moist and traps dust etc

D. Structure - Merkel's discs, Function - Respond to pressure changes in dermis

**Answer:**

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**142.** $Na^+$ - $K^+$ pump is found in membranes of many cells like nerve cells. It works against electrochemical gradient and involves an

integral protein ATPase. At the cost of one ATP, ionic gradient across the resting member is maintained by $Na^+$ - $K^+$ pump by transporting

A. Two sodium ions into tissue fluid and three potassium ions into axoplasm

B. Three sodium ions into axoplasm and two potassium ions in tissue fluid

C. Three sodium ions into tissue fluid and two potassium,:ions into axoplasm

D. Two sodiuM ions into axoplasm and three potassium.ions into tissue fluid

**Answer:**

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**143.** Light rays frorn 'nearby objects (less than 6 meter) are diverging and .from distant objects (more than 6 meter)are parallel. For seeing distant objects, which of the following would occur?

A. Size of eye ball decreases

B. Radius of curvature of lens decreases

C. Curvature of lens surface decreases

D. Contraction of ciliary muscles

**Answer:**

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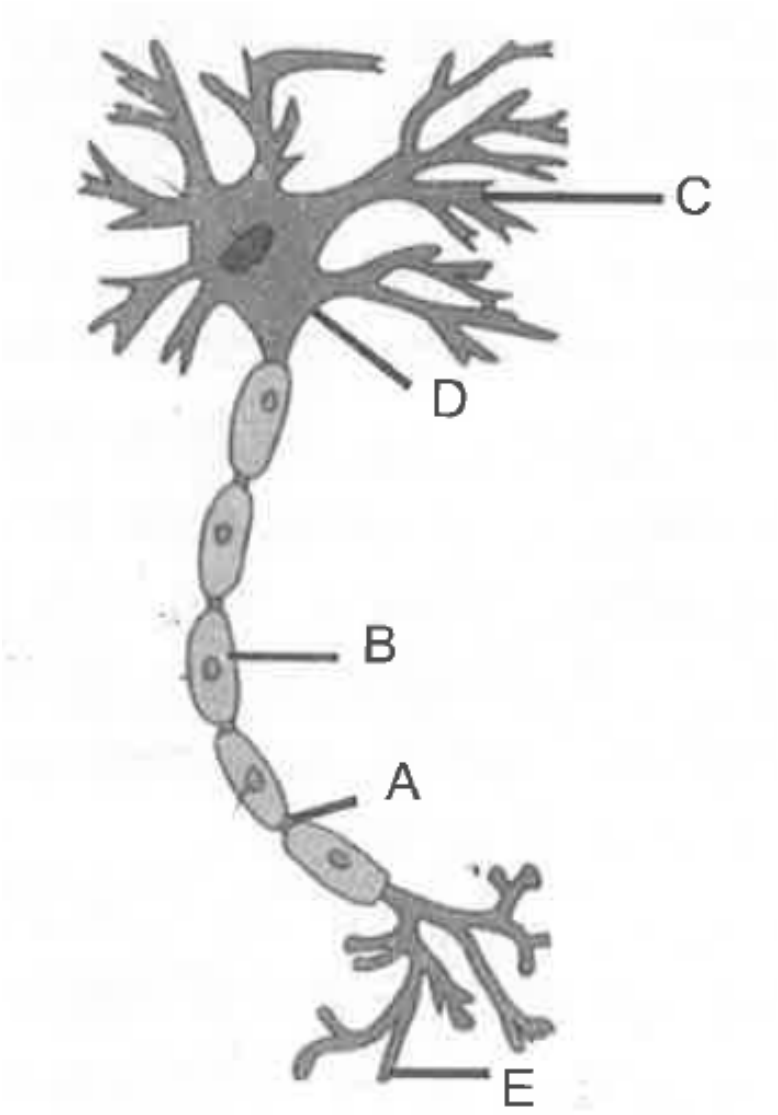
**144.** In the given figure of neuron, which of the labelled parts have Nissl's granules?`




A. A, B & C

B. A, C & E

C. C & D only

D. A, B, C & D

**Answer:**

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**145.** Hypothalamus has centres for all of the following except

A. Hunger, sexual drive

B. Thirst, satiety

C. Gastric secretions, pneumotaxic centre

D. Thermoregulation, osmoreception

**Answer:**

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**146.** Scala vestibuli and scala tympani communicate with each other through

A. Helicotrema

B. Tectorial membrane

C. Vestibular apparatus

D. Cerebral aqueduct

**Answer:**

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**147.** Study the following statements w.r.t. midbrain

(a) It is located between hypothalamus of the forebrain and pons of hindbrain.

(b) Cerebral aqueduct passes through midbrain.

(c) It is a part of brain stem along with some portions of hindbrain.

(d) The dorsal portion of midbrain comprises the limbic lobes.

The correct statements are

A. (a) & (b) only

B. (a), (b) & ©

C. (a), (b), (c) & (d)

D. (a), (b) & (d)

**Answer:**

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**148.** The point where the option nerve leaves the eye and the retinal blood vessels enter is referred to as

A. Fovea of the eye

B. Macula lutea

C. Blind spot

D. Macula densa

**Answer:**

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**149.** The organ of Corti is a structure containing sensory hair cells which act as auditory receptors. The statement which is not applicable to organ of Corti is

A. It is located on Reissner's membrane

B. The hair cells are present in rows and in close contact with afferent nerve fibres

C. Stereocilia project from the apical part of each hair cell

D. Tectorial membrane lies above the rows of hair cells

**Answer:**

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**150.** Reflex actions are very rapid, involuntary, stereotyped behaviours in which some kind of stimuli evoke a fast, short lived response.

Select the correct option w.r.t. reflex actions

Statement A : In a Knee-jerk reflex, more than one synapse is formed in the reflex path.

Statement B : The afferent neurons in a reflex action transmit the impulses received from sensory organs via dorsal nerve root into CNS

A. Statement A is correct, statement B is incorrect

B. Statement A is incorrect, statement B is correct

C. Both A & B are correct statements

D. Both A & B are incorrect statements

**Answer:**

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**151.** Oxytocin, a peptide hormone from hypothalamus, has all the following effects except

A. Stimulates vigorous contractions of the uterus at the time of child birth

B. Its hypersecretion causes Cushing's

syndrome

C. Stimulates milk ejection from mammary glands

D. Its synthetic form is often given to induce labor

A. A & C

B. B only

C. B & D

D. C & D

**Answer:**

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**152.** Source of androgenic steroids can be the same as that of

A. Cortisol and Aldosterone

B. Vasopressin and Oxytocin

C. PTH and Calcitriol

D. Somatotropin and Prolactin

**Answer:**

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**153.** Which of the following hormones plays significant role in T-lymphocyte differentiation?

A. TCT

B. PTH

C. Thymosin

D. TRH

**Answer:**

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**154.** Symptoms of stunted growth, mental retardation, low metabolic rate and deaf-mutism in a child indicate that the pregnant mother suffered from hyposecretion of

A. Parathyroid gland

B. Thyroid gland

C. Pancreas

D. Liver

**Answer:**

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**155.** Which of the following hormones may be used in organ transplantation surgery to suppress the immune response of the body of recipient?

A. Cortisol

B. Calcitonin

C. Melatonin

D. Aldosterone

**Answer:**

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**156.** Destruction of outermost layer of adrenal cortex by disease such as tuberculosis will lead to decreased concentration of which of the following in blood?

A. Ammonium ions

B. Sodium salts

C. Calcium salts

D. Potassium salts

**Answer:**

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**157.** Given below are three statements (A-C), each with two blanks. Select the option which correctly fills up the blanks in two statements

A. Diseases or infections which are transmitted through sexual intercourse are collectively called (i) diseases.

B. Genital herpes is (ii) disease.

C. Sterilization in males is (iii) while in females is (iv).

A. A.-(i) venreal ;B -(ii) incurable

B. A.-(i) venreal ;B -(ii) curable

C. A.-(i) venreal ;C-(iii) tubectomy, (iv) vasectomy

D. B-(ii) bacterial; C-(iii) tubectomy (iv) vasectomy

**Answer:**

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**158.** Which of the following is incorrectly matched?

A. Diabetogenic effect - Growth hormone

B. Gluconeogenesis - Glucagon

C. Lipogenesis - Glucocorticoids

D. Libido in humans - Testosterone

**Answer:**

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**159.** Read the following statements carefully

A. Stimulates water reabsorption by DCT.

B. Tends to decrease blood pressure.

C. Stimulates diuresis.

D. Helpful in diluting the urine.

E. Acts mainly in the kidneys.

HOW many statement(s) is/are incorrect w.r.t action of ADH?

A. One

B. Three

C. Four

D. Five

**Answer:**

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**160.** Identify the correct set of hormones which work through the following pathway

A. Insulin, Glucagon

B. Adrenaline, Noradrenaline

C. Estrogen, Progesterone

D. Oxytocin, Vasopressin

**Answer:**

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**161.** All of the following are influenced by thyroxine except

A. Maintainence of water and electrolyte balance.

B. Metamorphosis of tadpoles into adult frogs.

C. Calorigenic effect by controlling metabolism of carbohydrates, proteins and fats.

D. Direct role in providing cell-mediated and humoral immunity.

A. A, B & D

B. B & C

C. B & D

D. Only D

**Answer:**

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Type

**1.** QUESITION

A. OPTION 1

B. OPTION 2

C. OPTION 3

D. OPTION 4

**Answer: ANSWER**

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