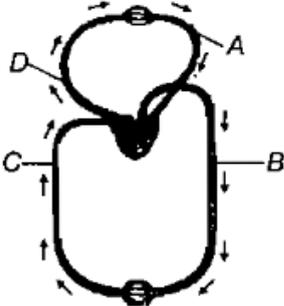


1. Identify the statement that correctly describes the catecholamine, Dopamine:
1. It cannot act as a hormone
 2. It is a neuropeptide
 3. Its structure has a sterol nucleus
 4. It may act as a neurotransmitter or a hormone
2. Identify the incorrect statement regarding the main glucocorticoid cortisol in the human body:
1. Cortisol is important during fetal development for the proper differentiation of many tissues
 2. Cortisol levels increase during stress and act to increase the plasma concentrations of glucose, amino acids, and fatty acids
 3. Cortisol is a potent anti-inflammatory agent and is useful for treating diseases such as arthritis
 4. Cortisol promotes the action of the immune system
3. The correct statement regarding the human Growth hormone would be that it:
1. Promotes postnatal elongation of bones, primarily during adolescence
 2. Is released from posterior pituitary gland
 3. Cannot act directly on target tissues, but only by first stimulating IGF-1 Release from the liver
 4. Is the only hormone that affects growth
4. Which one of the following hormones is not involved in sugar metabolism?
1. Cortisone
 2. Aldosterone
 3. Insulin
 4. Glucagon
5. Which of the following causes the second heart sound [dub]?
1. opening of the AV valves at the start of diastole
 2. closing of the AV valves at the start of systole
 3. opening of the semilunar valves at the start of systole
 4. closing of the semilunar valves at the start of diastole
6. The sinoatrial node is the normal pacemaker of the human heart because it:
1. can form action potentials that can spread throughout the rest of the heart
 2. depolarizes to its threshold potential before other pacemakers in the heart
 3. is located in the top of right atrial wall
 4. is most likely to form an ectopic focus
7. Veins are said to have a higher _____ than arteries because they expand more easily and a higher _____ because they contain more blood.
1. compliance; capacitance
 2. elasticity; compliance
 3. elasticity; capacitance
 4. None of the above
8. Figure shows schematic plan of blood circulation in human with labels A to D. Identify the label and give its function/s
- 
1. A-pulmonary vein -takes blood from body parts, $pO_2 = 60$ mmHg
 2. B-pulmonary artery -takes blood from heart to lungs, $pO_2 = 90$ mmHg
 3. C - vena cava - takes blood from body parts to right auricle, $pCO_2 = 45$ mmHg
 4. D-dorsal aorta - takes blood from heart to body parts, $pO_2 = 95$ mmHg
9. 2,3-diphosphoglycerate in red blood cells:
1. enhances oxygen unloading at the systemic capillaries
 2. makes deoxyhemoglobin less stable
 3. shifts the oxyhemoglobin dissociation curve to the left
 4. stimulates the production of more red blood cells
10. Four globin chains [2 alpha and 2 gamma] constitute the structure of:
1. hemoglobin A
 2. hemoglobin F
 3. hemoglobin S
 4. methemoglobin
11. The abnormal hemoglobin seen in patients of sickle cell anemia is HbS. It is different in structure from the normal HbA because:
1. glutamic acid is replaced by valine in the beta chain
 2. the two beta chains are replaced by gamma chains
 3. it has two heme groups instead of four
 4. it consists of only a single globin chain and heme
12. RAAS is opposed by:
1. ADH
 2. renin
 3. atrial natriuretic peptide
 4. angiotensin II
13. Mammals are:
1. osmoconformers.

2. hypotonic to their environment.
3. hypertonic to their environment.
4. osmoregulators.
14.
The most toxic nitrogenous metabolic waste product is:
1. ammonia
2. urea
3. uric acid
4. methane
15.
The principal nitrogenous excretory compound in humans is synthesized.
1. in kidneys but eliminated mostly through liver
2. in kidneys as well as eliminated by kidneys
3. in liver and also eliminated by the same through bile
4. in the liver, but eliminated mostly through kidneys
16.
In the peripheral nervous system, the cells that are capable of forming a regeneration tube through which a severed peripheral axon can regrow are the:
1. Schwann cells
2. astrocytes
3. oligodendrocytes
4. microglia
17.
All the following statements regarding the action potential are true except:
1. Only a relatively small number of Na^+ and K^+ ions actually diffuse across the membrane.
2. This event includes both positive and negative feedback loops.
3. The Na^+/K^+ pumps are directly involved in creating the action potential.
4. During an action potential, the Na^+ and K^+ total concentration are not significantly changed.
18.
Cataract:
1. is abnormal curvature of cornea
2. is loss of elasticity of the lens
3. occurs often in children
4. involves increased opacity of the lens
19.
Injury localised to the hypothalamus would most likely disrupt
1. short term memory
2. coordination during locomotion
3. executive function, such as decision making
4. regulation of body temperature
20.
All the following are functions of the human liver except:
1. It converts hemoglobin to bile pigments
2. It detoxifies blood by removing toxins
3. It produces urea from the breakdown of amino acids
4. It produces enzymes for digestion of food in the duodenum
21.
The disease resulting from an accelerated breakdown of red blood cells, leading to an increase in production of bilirubin, is known as:
1. hemolytic jaundice
2. obstructive jaundice
3. viral hepatitis
4. cirrhosis
22.
All the following statements regarding the digestive enzymes are true except:
1. They are hydrolases.
2. They are carbohydrates.
3. They have an optimum pH.
4. They speed up a chemical reaction.
23.
Around 60 – 70 % of starch is broken down to maltose in the duodenum by:
1. pancreatic amylase
2. trypsin
3. maltase
4. salivary amylase
24.
Largest amongst the following would be:
1. spermatid
2. mature egg cell
3. polar body
4. secondary spermatocyte
25.
A male who has undergone vasectomy would be:
1. sterile
2. unable to produce sex hormones
3. impotent
4. castrated
26.
Identify the source of testosterone in males:
1. seminiferous tubules
2. epididymis
3. Sertoli cells
4. Leydig cells
27.
Fructose is absorbed into the blood through mucosa cells of intestine by the process called
1. active transport
2. facilitated transport
3. simple diffusion
4. co-transport mechanism
28.
A large proportion of oxygen is left unused in the human blood even after its uptake by the body tissues. This O_2
1. raises the P_{CO_2} of blood to 75 mm of Hg
2. is enough to keep oxyhaemoglobin

3. helps in releasing more O_2 to the epithelial tissues
4. acts as a reserve during muscular exercise
29.
The number of phalanges in thumb is/are:
1. 1
2. 2
3. 3
4. 4
30.
The carpal bones are the eight small bones that make up the wrist (or carpus) and are arranged in:
1. two rows of 4
2. four rows of 2
3. two rows of 5 and 3
4. four rows of 1,1,3,3
31.
To form the largest ball and socket joint in the human body, the head of the femur articulates with:
1. acetabulum
2. obturator foramen
3. glenoid cavity
4. olecranon fossa
32.
If a stimulus, several times greater than the threshold stimulus is provided to a muscle fibre, it will
1. Contract with a larger force
2. Contract with a smaller force
3. Contract with a same force
4. undergo tetany
33.
Which of the following events is not associated with ovulation in human female?
1. Decrease in oestradiol
2. Full development of Graafian follicle
3. Release of secondary oocyte
4. LH surge
34.
Multi load – 375 is a:
1. Barrier contraceptive 2. Cu releasing IUD
3. Hormonal IUD 4. Hormonal sub-dermal implant
35.
The translocation of organic solutes in sieve tube members is supported by:
(a) root pressure and transpiration pull
(b) P-proteins
(c) mass flow involving a carrier and ATP
(d) cytoplasmic streaming
36.
Which of the following is a hormone releasing Intra Uterine Device (IUD)?
1. Multiload 375
2. LNG-20
3. Cervical cap
4. Vault
37.
Cohesion, adhesion and surface tension provide water with a high tensile strength that means that it:
1. is capable of rising in a thin tube
2. has a low specific heat
3. resists a pulling force
4. is a universal polar solvent
38.
Consider the following:
I. creation of pull for absorption and transport in plants
II. Supply of water for photosynthesis
III. transport of minerals from leaves to all parts of a plant
IV. Cooling of leaf surface
V. maintenance of shape and structure of plants by keeping the cells turgid.
Functions of transpiration include:
1. All
2. All but III
3. All but V
4. All but III and IV
39.
Which one of the following is not a micronutrient?
1. Molybdenum
2. Magnesium
3. Zinc
4. Boron
40.
Conversion of ammonium to nitrate during nitrogen cycle is called as:
1. Nitrogen assimilation
2. Denitrification
3. Nitrification
4. Nitratification
41.
A microbially facilitated process of dissimilatory nitrate reduction that may ultimately produce molecular nitrogen (N_2) through a series of intermediate gaseous nitrogen oxide products is called as:
1. Nitrogen assimilation
2. Denitrification
3. Nitrification
4. Nitratification
42.
Anoxygenic photosynthesis is characteristic of
1. Rhodospirillum
2. Spirogyra
3. Chlamydomonas
4. Ulva
43.
The most common enzyme in the world is:
1. PEP carboxylase
2. Pyruvate dehydrogenase
3. RuBisCO
4. Collagenase
- 44.

- Which one of the following mammalian cells is not capable of metabolising glucose to carbon-dioxide aerobically?
- White blood cells
 - Unstriated muscle cells
 - Liver cells
 - Red blood cells
45. For each ATP produced, what is the number of H^+ that passes through F_0 from the intermembrane space to the matrix down the electrochemical proton gradient?
- 1
 - 2
 - 3
 - 4
46. Phototropic curvature is the result of uneven distribution of.
- gibberellin
 - phytochrome
 - cytokinins
 - auxin
47. Auxin does not:
- Help to initiate rooting in stem cuttings
 - Promote female flowers in cucumbers
 - Prevent fruit and leaf drop in early stages
 - Promote abscission of older mature leaves and fruits
48. In which one of the following habitats does the diurnal temperature of soil surface vary most?
- Forest
 - Desert
 - Grassland
 - Shrub land
49. In animals, the organism, if unable to migrate, might avoid the stress by escaping in time. All the following would exemplify this except:
- Hibernation
 - Aestivation
 - Diapause
 - Migration
50. Under unfavorable conditions, many zooplankton species in lakes and ponds are known to enter a stage of suspended development called as:
- Dormancy
 - Hibernation
 - Aestivation
 - Diapause
51. Which one of the following types of organisms occupy more than one trophic level in a pond ecosystem. (AIPMT 2009)
- Frog
 - Phytoplankton
 - Fish
 - Zooplankton
52. Each trophic level has a certain mass of living material at a particular time best called as:
- Biomass
 - Standing state
 - Standing crop
 - Gross productivity
53. Approximately what percent of energy is transferred to each trophic level from the lower trophic level in an ecosystem?
- 1
 - 10
 - 50
 - 90
54. A renewable exhaustible natural resource is (AIPMT 2010)
- Petroleum
 - Minerals
 - Forest
 - Coal
55. The greatest biodiversity on the earth is found in:
- African grasslands
 - Amazonian rain forest in South America
 - Western Ghats in India
 - Nile delta in Egypt
56. The relation between species richness and area for a wide variety of taxa on a logarithmic scale is a:
- rectangular hyperbola
 - straight line
 - sigmoid curve
 - circular circle
57. Montreal protocol which calls for appropriate action to protect the ozone layer from human activities was passed in year (AIPMT 2006)
- 1985
 - 1986
 - 1987
 - 1988
58. The world's most problematic aquatic weed, "The terror of Bengal", is the name given to:
- Zostera
 - Ceratophyllum
 - Eichhornia
 - Parthenium
59. An increase in concentration of the intoxicant at successive

trophic levels is known as:

1. Eutrophication
2. Biomagnification
3. Bioremediation
4. Biofortification

60.

Most abundant organic compound on earth is

- (1) Protein
- (2) Cellulose
- (3) Lipids
- (4) Steroids

61.

The correct adjective for "living state" would be:

1. An equilibrium steady state
2. An equilibrium non steady state
3. A non equilibrium steady state
4. A non equilibrium non steady state

62.

Almost all enzymes are:

1. Polysaccharides
2. Proteins
3. Nucleic acids
4. Lipids

63.

Which of the following statements about cilia is not correct ? (AIPMT-2006)

1. Organised beating of cilia is controlled by fluxes of Ca^{2+} across the membrane
2. Cilia are hair like cellular appendages
3. Cilia contain an outer ring of nine doublet microtubules surrounding two singlet microtubules
4. Microtubules of cilia are composed of tubulin.

64.

The measure of fluidity of a cell membrane is:

1. the ability of proteins to flip-flop between the two layers of phospholipids
2. the ability of proteins to move laterally within the membrane
3. the ability of lipids to flip-flop between the two layers of phospholipids
4. the ability of lipids to move laterally within the membrane

65.

Algal cell walls are composed of all the following except:

1. Cellulose
2. Galactans and mannans
3. Minerals like calcium carbonate
4. Chitin

66.

Two plants can be conclusively said to belong to the same species if they (AIPMT 2007)

1. can reproduce freely with each other and from seeds
2. have more than 90 percent similar genes
3. look similar and possess identical secondary metabolites
4. have same number of chromosomes

67.

Which one of the following phyla is correctly matched with its two general characteristics? (AIPMT 2008)

1. Echinodermata - pentamerous radial symmetry and mostly internal fertilization
2. Mollusca - normally oviparous and development through a trochophore or veliger larva
3. Arthropoda - body divided into head, thorax and abdomen and respiration by trachea
4. Chordata - notochord at some stage and separate anal and urinary openings to the outside

68.

Which of the following is not a feature of Porifera?

1. Exclusively marine animals
2. Presence of a water transport or a canal system
3. Sexes are not separate
4. Internal fertilization and indirect development

69.

Which of the following is not a feature of Cnidaria?

1. Radially symmetrical animals
2. Gastro-vascular cavity with a single opening
3. Presence of cells that contain stinging capsules
4. Some have asexually reproducing medusa

70.

Which of the following is not a feature of Ctenophora?

1. Diploblastic organisms with tissue level of organization
2. Absence of Cnidocytes
3. Presence of internal ciliated comb plates
4. Bio-luminescence well marked in some members

71.

Areolar connective tissue joins [AIPMT 2006]

1. integument to the muscles
2. bones to the muscles
3. bones to the bones
4. fat body to the muscles

72.

Vessels are found in (AIPMT-2002)

1. All angiosperms
2. Most angiosperms few gymnosperms and few pteridophytes
3. All angiosperms and few gymnosperms
4. Most angiosperms and few gymnosperms

73.

An example of edible underground stem is [AIPMT- 2014]

1. Carrot
2. Groundnut
3. Sweet potato
4. Potato

74.

Crown gall disease of plants is caused by (AIPMT-2005)

1. Ti-plasmid

2. Pi-plasmid
3. Virus
4. Protozoan

75.

Which amongst the following are not seed producers (AIPMT-2003)

1. Fern and Funaria
2. Funaria and Ficus
3. Ficus and Chlamydomonas
4. Punica and Pinus.

76.

Synapsis occurs between (AIPMT 2009)

1. mRNA and ribosomes
2. Spindle fibers and centromere
3. Two homologous chromosomes
4. A male and a female gamete

77.

Root hairs at the root tip are formed by:

1. Epidermal cells in the region of maturation
2. Cortical cells in the region of elongation
3. Epidermal cells in the region of elongation
4. Cortical cells in the region of maturation

78.

Leaves are converted into tendrils in:

1. Peas
2. Cacti
3. Australian acacia
4. Venus fly trap

79.

Match the plants with the parts where sclereids are commonly found in them:

	Plants		Parts
A	Nuts	a	Fruit walls
B	Sapota	b	Pulp of fruit
C	Legumes	c	Seed coat
D	Tea	d	Leaves

- Codes
A B C D
1. a b c d
 2. b a d c
 3. b d c a
 4. d c b a

80.

Complex tissues in a plant:

1. are composed of one type of cell performing same function
2. are composed of one type of cell performing different functions
3. are composed of more than one type of cells working together as a unit
4. are composed of more than one type of cells working independently of each other

81.

Consider the given two statements:

I. Morphology of chromosomes is best studied at metaphase
II. At this stage chromosome is made up of two sister chromatids, held together at the centromere

1. Both I and II are true and II explains I
2. Both I and II are true but II does not explain I
3. I is true but II is false
4. I is false but II is true

82.

If a cell had 4[2 pairs] chromosomes at G1 phase, what would be the number of chromosomes in this cell at the end of anaphase?

1. 2
2. 4
3. 6
4. 8

83.

The inner lining of the trachea and large bronchi is covered by:

1. Pseudostartified epithelium
2. Ciliated cuboidal epithelium
3. Transitional epithelium
4. Squamous epithelium

84.

Match each item in Column I with one in Column II and select the correct answer from the codes given:

	COLUMN I		COLUMN II
A	Holocrine gland	a	Pancreas
B	Merocrine gland	b	Mammary gland
C	Apocrine gland	c	Sebaceous gland

- Codes
A B C
1. a b c
 2. c b a
 3. c a b
 4. a c b

85.

The members of deuteromycetes reproduce only by asexual spores called as:

1. Zoospores
2. Sporangiospores

- 3. Aplanospores
- 4. Conidia

86.

Match the bacteria in Column I with its shape in Column II and select the correct option from the codes given below:

	COLUMN I		COLUMN II
A	Bacillus	a	Rod
B	Coccus	b	Spherical
C	Spirilla	c	Spiral
D	Vibrio	d	Comma

Codes

- A B C D
- 1. a b c d
- 2. b a c d
- 3. a d c b
- 4. b a d c

87.

Which of the following is not an example of red algae?

- 1. Polysiphonia
- 2. Porphyra
- 3. Gracilaria
- 4. Laminaria

88.

What is the function of the gemmae produced by some liverworts?

- 1. a water gathering structure
- 2. a light gathering structure
- 3. a sexual structure
- 4. an asexual structure

89.

Taxonomy does not include:

- 1. Describing a new species
- 2. Naming a new species
- 3. Classifying organisms
- 4. Discovering a new species

90.

Consider the following statements:

- I. Unicellular organisms grow by cell division.
- II. Growth in all multicellular organisms by cell division occur only upto a certain age.
- III. Non living objects do not exhibit growth

The incorrect statement/s is/are:

- 1. I only
- 2. III only
- 3. II only
- 4. II and III only

[Fill OMR Sheet](#)