

1. A condition of severely stunted physical and mental growth owing to untreated congenital deficiency of thyroid hormone (congenital hypothyroidism) usually owing to maternal hypothyroidism, is known as:
1. Grave's disease
  2. cretinism
  3. Hashimoto's disease
  4. myxedema
2. The body's circadian rhythm is primarily regulated by:
1. thymus
  2. pineal
  3. thyroid
  4. pituitary
3. Match the source gland with its respective hormone as well as the function.
- |    | Source gland        | Hormone     | Function  |
|----|---------------------|-------------|---|
| 1. | Posterior pituitary | Vasopressin | Stimulates resorption of water in the distal tubules in nephron |
| 2. | Corpus luteum       | Oestrogen   | Supports pregnancy  |
| 3. | Thyroid             | Thyroxine   | Regulates blood calcium level                                   |
| 4. | Anterior pituitary  | Oxytocin    | Contraction of uterus muscles during child birth                |
4. Antibodies are mostly:
1. alpha globulin
  2. beta globulin
  3. albumin
  4. gamma globulin
5. The risk of the fetus developing hemolytic disease of the new born is present in:
1. any Rh+ fetus
  2. second Rh- fetus of Rh+ mother
  3. second Rh+ fetus of Rh- mother
  4. Rh- mother
6. The volume of blood being pumped by the heart, in particular by the left or right ventricle, per unit time is called as:
1. stroke volume
  2. end-diastolic volume
  3. ejection fraction
  4. cardiac output
7. QRS complexes on the ECG tracings show that:
1. The atria are depolarizing.
  2. The ventricles are depolarizing
  3. The ventricles are repolarizing.
  4. The heart is at rest.
8. What is the correct chronological sequence of the following structures as air passes through them in inhalation?
1. alveolar duct
  2. alveolus
  3. respiratory bronchiole
  4. terminal bronchiole
1. 1,2,3,4
  2. 2,3,4,1
  3. 3,4,1,2
  4. 4,3,1,2
9. In inspiration during pulmonary ventilation the correct order of the given events is:
1. air flows into the lungs
  2. alveolar volume increases
  3. thoracic volume increases
  4. pleural pressure decreases
  5. alveolar pressure decreases
1. 1,2,3,4,5
  2. 2,5,1,3,4
  3. 3,4,2,5,1
  4. 4,5,2,1,3
10. The volume of air that is available for gas exchange each minute is the
1. minute ventilation.
  2. anatomical dead air space.
  3. physiological dead air space.
  4. alveolar ventilation
11. When compared with carbon dioxide, the partial pressure of oxygen in the air and its solubility in water is respectively:
1. lower, lower
  2. lower, higher
  3. greater, lower
  4. greater, higher
12. A diuretic:
1. causes water retention
  2. increases urine output
  3. prevents water excretion in the urine
  4. reduces insensible water loss from the body

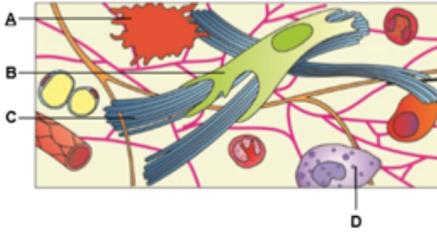
13. A decrease in secretion of ADH will lead to \_\_\_\_\_ volume and \_\_\_\_\_ concentration of urine.
1. increased, decreased
  2. increased, increased
  3. decreased, increased
  4. decreased, decreased
14. The main reason for the movement of fluid between plasma and tissue fluids are:
1. hydrostatic pressure and osmotic pressure
  2. facilitated diffusion and active transport
  3. primary and secondary active transport
  4. transmembrane channels
15. Identify the correctly matched pair:
1. thirst center: hypothalamus
  2. macula densa: afferent arteriole
  3. rennin: JG cells
  4. aldosterone: adrenal medulla
16. Which part of the nephrons is impermeable to water?
1. Proximal convoluted tubule
  2. Distal convoluted tubule
  3. Ascending limb of loop of Henle
  4. Descending limb of loop of Henle
17. Impulses are carried towards the soma of the neuron by:
1. intermediate filaments
  2. axon
  3. neurotransmitter
  4. dendrites
18. Identify the neurotransmitter that is correctly matched with the amino acid it is derived from:
1. serotonin derived from phenylalanine
  2. norepinephrine derived from glycine
  3. acetylcholine derived from cysteine
  4. epinephrine derived from tyrosine
19. The nerve centres which control the body temperature and the urge for eating are contained in
1. hypothalamus
  2. pons
  3. cerebellum
  4. thalamus
20. Intrinsic factor helps in the absorption of:
1. Amino acids
  2. Sodium
  3. Glucose
  4. Vitamin B-12
21. During deglutition, what allows the food to enter the stomach?
1. Pyloric sphincter
  2. Ileocecal sphincter
  3. Epiglottis
  4. Lower esophageal sphincter
22. HCl in stomach is the function of \_\_\_ cells that contain an enzyme called \_\_\_ that catalyzes the reaction between \_\_\_\_\_ and water.
1. Chief; carbonic esterase; carbon dioxide
  2. Parietal; carbohydrase; bicarbonate
  3. Parietal; carbonic anhydrase; carbon dioxide
  4. Goblet; carbonic anhydrase; bicarbonate
23. Identify the incorrect statement:
1. Increasing acidity in the stomach stimulates endocrine cells in the gastric epithelium to produce somatostatin that inhibits further HCl secretion
  2. HCl production increases in response to carbohydrates entering the stomach
  3. HCl secretion is inhibited when acidity increases in the small intestine
  4. Gastrin, histamine, and acetylcholine all act to increase HCl secretion
24. In humans, the majority of the placenta is formed by:
1. allantois
  2. amnion
  3. chorion
  4. yolk sac
25. The functions of placenta include:
- I. Acts as an excretory organ.
  - II. Acts as an respiratory organ.
  - III. Acts as an endocrine organ.
1. I and II only
  2. I and III only
  3. II and III only
  4. I, II and III.
26. Human bones develop from embryonic:
1. ectoderm
  2. endoderm
  3. epiderm
  4. mesoderm
27. A young infant may be feeding entirely on mother's milk, which is white in colour but the stools, which the infant passes out is quite yellowish. What is this yellow colour due to?
1. Intestinal juice
  2. Bile pigments passed through bile juice
  3. Undigested milk protein casein
  4. Pancreatic juice poured into duodenum

28. The majority of carbon dioxide produced by our body cells is transported to the lungs:
1. dissolved in the blood
  2. as bicarbonates
  3. as carbonates
  4. attached to haemoglobin
29. All the following are parts of the actin myofilament in a sarcomere except:
1. actin
  2. cisternae
  3. tropomyosin
  4. troponin
30. An ATPase activity is associated with:
1. G actin molecule
  2. head of myosin molecule
  3. troponin molecule
  4. F actin
31. Overlap between actin and myosin myofilaments in a sarcomere is seen in:?
1. A band
  2. H zone
  3. I band
  4. M line
32. The Z line is present in:
1. A band
  2. H zone
  3. I band
  4. M line
33. Select the correct option describing gonadotropin activity in a normal pregnant female
1. High level of FSH and LH stimulates the thickening of endometrium
  2. High level of FSH and LH facilitate implantation of the embryo
  3. High level of HCG stimulates the synthesis of estrogen and progesterone
  4. High level of HCG stimulates the thickening of endometrium
34. Identify the incorrect statement regarding surgical birth control methods:
1. They are also called as "sterilization" procedures
  2. In males vasectomy and in females tubectomy is advised
  3. They are terminal methods to prevent any more pregnancies
  4. These methods are hugely popular all over the world
35. A patient brought to a hospital with myocardial infarction is normally immediately given
1. penicillin
  2. streptokinase
  3. cyclosporin-A
  4. statins
36. Potometer works on the principle of
1. Potential difference between the tip of the tube and that of the plant
  2. Amount of water absorbed equals the amount transpired
  3. Osmotic pressure
  4. Root pressure
37. Medical Termination of Pregnancy (MTP) is considered safe up to how many weeks of pregnancy?
1. Twelve weeks
  2. Eighteen weeks
  3. Six weeks
  4. Eight weeks
38. During muscular contraction, which of the following events occur?
- (i) H-zone disappears
  - (ii) A band widens
  - (iii) I band reduces in width
  - (iv) Width of A band is unaffected
  - (v) M line and Z line come closer
1. (i),(iii),(iv) and (v)
  2. (i),(ii) and (v)
  3. (ii),(iv) and (v)
  4. (i),(ii) and (iii).
39. Refer section 11.3.1, NCERT where it is stated that most of the water flow in the roots occurs via the apoplast. Why is this so?
1. Endodermis has suberized casparian strips
  2. Root cortex cell lack plasmodesmata
  3. Cortical cells are loosely packed
  4. Root cortex is poorly organized
40. All of the following statements concerning the Actinomycetes filamentous soil bacterium Frankia are correct except that
1. Forms specialized vesicles in which the nitrogenase is protected from oxygen by a chemical barrier involving triterpene hopanoids
  2. Can induce root nodules on many plant species
  3. Like rhizobium, it usually infects its host plant through root hair deformation and stimulates cell proliferation in the host's cortex
  4. Cannot fix nitrogen in the free-living state
41. Which one of the following statements can best explain the term critical concentration of an essential element?
1. Essential element concentration below which plant growth is retarded.
  2. Essential element concentration below which plant growth

- becomes stunted.
- Essential element concentration below which plant remains in the vegetative phase
  - None of the above
- 42.
- The first acceptor of electrons from an excited chlorophyll molecule of photosystem II is :
- cytochrome
  - iron-sulphur protein
  - ferredoxin
  - quinone
- 43.
- Which light range is most effective in photosynthesis?
- Blue
  - Green
  - Red
  - Violet
- 44.
- Which of the following is the connecting link between glycolysis and Krebs cycle?
- Acetyl Co-A
  - Oxalosuccinic acid
  - Pyruvic acid
  - Citric acid
- 45.
- Phosphorylation of glucose during glycolysis is catalysed by
- Phosphoglucomutase
  - Phosphoglucoisomerase
  - Hexokinase
  - Phosphorylase
- 46.
- “Foolish seedling” disease of rice led to the discovery of:-
- GA
  - ABA
  - 2,4-D
  - IAA
- 47.
- Normally, when the seeds are mature, ethylene production increases and builds-up within the fruit, resulting in a climactic event that means:
- A sudden spurt of growth
  - Leaf expansion
  - Rise in respiratory rate
  - Death of radicle
- 48.
- Praying mantis is a good example of
- mullerianmimicary.
  - warning colouration.
  - social insect
  - camouflage.
- 49.
- Which of the following is are true for the given equation:  
 $N_t = N_0 e^{rt}$
- It is the integral form of exponential growth equation.
  - The rate of natural increase is represented by “r”
  - “e” is the base of natural logarithms [2.71828]
- I and II only
  - I and III only
  - II and III only
  - I, II and III
- 50.
- The Verhulst – Pearl equation represents what type of population growth?
- Exponential
  - Logistic
  - Decline
  - Stable
- 51.
- In the logistic growth equation given below, the carrying capacity is represented by:
- $$\frac{dN}{dt} = rN \left( \frac{K-N}{K} \right)$$
- N
  - r
  - K
  - $K - N / K$
- 52.
- Which one of the following statements for pyramid of energy is incorrect, whereas the remaining three are correct?  
 (AIPMT Pre.-2011)
- Its base is broad
  - It shows energy content of different trophic level organisms
  - It is inverted in shape
  - It is upright in shape
- 53.
- The amount of nutrients present in soil at any given time is referred to as:
- Standing state
  - Standing crop
  - Primary productivity
  - Secondary productivity
- 54.
- The nutrients in an ecosystem are:
- continuously lost from an ecosystem
  - needed as a continuous supply from the outside
  - recycled time and again indefinitely
  - continuously synthesized by physical forces
- 55.
- Sacred groves are specially useful in : (AIPMT Mains- 2012)
- Generating environmental awareness
  - Preventing soil erosion
  - Year-round flow of water in rivers
  - Conserving rare and threatened species
- 56.
- Identify the “vulnerable species in India”:
- Berberis nilghiriensis and Sus salvanius
  - Bentickia nicobarica and Ailurus fulgens
  - Cupressus cashmeriana and Antilope cervicapra

4. *Bentickia nicobarica* and *Antilope cervicapra*
57. According to Central Pollution Control Board (CPCB), Which particulate size in diameter (in micrometres) of the air pollutants is responsible for greatest harm to human health (AIPMT 2008)
1. 1•0 or less
  2. 5•2-2•5
  3. 2•5 or less
  4. 1•5 or less
58. A painful bone condition is produced when the drinking water is contaminated with:
1. Lead
  2. Mercury
  3. Cadmium
  4. Arsenic
59. The intensity of noise beyond which physical discomfort is:
1. 70 dB
  2. 80 dB
  3. 100 dB
  4. 120 dB
60. Telomerase is an enzyme which is a (AIPMT 2005)
- (1) repetitive DNA
  - (2) RNA
  - (3) simple protein
  - (4) ribonucleoprotein
61. The non protein constituent present in many enzymes is called:
1. Co-enzyme
  2. Co-factor
  3. Apoenzyme
  4. Holoenzyme
62. Haem in hemoglobin:
1. is loosely bound
  2. is the co-enzyme
  3. is the prosthetic group
  4. has no influence on activity of Hb
63. What is the co-factor for the proteolytic enzyme, carboxypeptidase?
1. Molybdenum
  2. Manganese
  3. Zinc
  4. Copper
64. Vacuole in a plant cell? (AIPMT-2008)
1. Lacks membrane and contains air
  2. Lacks membrane and contains water and excretory substances
  3. Is membrane bound and contains storage proteins and lipids
  4. Is membrane bound and contains water and excretory substances.
65. Identify the incorrect statement regarding chloroplasts:
1. They are double membrane bound organelles
  2. Inner chloroplast membrane is relatively more permeable
  3. Chlorophyll pigments are present in the thylakoids
  4. Stroma contains enzymes required for synthesis of carbohydrates and proteins
66. What is true regarding the structure of ribosomes?
1. They are made of rRNA and proteins and are enclosed by a single membrane
  2. They are made of rRNA and carbohydrates and are enclosed by a single membrane
  3. They are made of rRNA and carbohydrates and are not enclosed by any membrane
  4. They are made of rRNA and proteins and are not enclosed by any membrane
67. Pick up the wrong statement: (Re-AIPMT 2015)
1. Protista have photosynthetic and heterotrophic modes of nutrition
  2. Some fungi are edible
  3. Nuclear membrane is present in Monera
  4. Cell wall is absent in Animalia
68. Choanocyte is found in – (AIPMT-Mains 2010)
1. Protozoa
  2. Porifera
  3. Coelenterates
  4. Ctenophora
69. The most important reason for the fact that reptiles were the first animals to be successful on land is:
1. Internal fertilization
  2. Skin covered with scales
  3. Partially divided ventricles
  4. Presence of amnion
70. Euplectella [Venus Flower Basket] belongs to:
1. Porifera
  2. Cnidaria
  3. Ctenophora
  4. Platyhelminthes
- 71.

Given below is the diagrammatic sketch of a certain type of connective tissue. Identify the parts labelled A, B, C and D, and select the right option about them. [AIPMT Mains 2012]

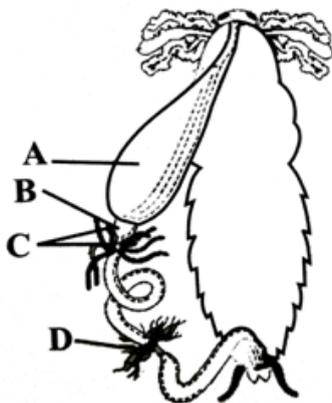


**Part A                      Part B                      Part C                      Part D**

- |    |            |                 |                 |                 |
|----|------------|-----------------|-----------------|-----------------|
| 1. | Macrophage | Fibroblast      | Collagen fibres | Mast cell       |
| 2. | Mast cell  | Macrophage      | Fibroblast      | Collagen fibres |
| 3. | Macrophage | Collagen fibres | Fibroblast      | Mast cell       |
| 4. | Mast cell  | Collagen fibres | Fibroblast      | Macrophage      |

72.

In the given diagram of alimentary canal of cockroach, A,B, C and D respectively are:



1. Gizzard, Crop, Hepatic caecae and Malpighian tubules
2. Gizzard, Crop, Malpighian tubules and Hepatic caecae
3. Crop, Gizzard, Hepatic caecae and Malpighian tubules
4. Crop, Gizzard, Malpighian tubules and Hepatic caecae

73.

Identify the incorrect statement regarding the blood vascular system of Cockroach?

1. It is of open type and blood vessels open into haemocoel
2. The blood, called hemolymph does not have RBCs
3. The 13 chambered heart is located on the dorsal side
4. The blood in cockroach transports respiratory gases

74.

Passage cells are thin walled cells found in (AIPMT-2007)

1. Phloem elements to serve as entry points
2. Testa of seeds for emergence of embryonal axis
3. Central area of style for passage of pollen tube
4. Endodermis of roots to facilitate rapid transport of water from cortex to pericycle

75.

Phyllode is present in : (AIPMT Pre. 2012)

1. Asparagus
2. Euphorbia
3. Australian Acacia
4. Opuntia

76.

In the light of recent classification of living organisms into three domains of life (bacteria, archaea and eukarya), which one of the following statements is true about archaea (AIPMT - 2008)

1. Archaea completely differ from both prokaryotes and eukaryotes
2. Archaea completely differ from prokaryotes
3. Archaea resemble eukarya in all respects
4. Archaea have some novel features that are absent in both prokaryotes and eukaryotes.

77.

Ectophloic siphonostele occurs in(AIPMT-2005)

1. Marsilea and Botrychium
2. Dicksonia and Maiden Hair Fern
3. Osmunda and Equisetum
4. Adiantum and Cucurbitaceae.

78.

The enzyme recombinase is required at which stage of meiosis ? (AIPMT 2014)

1. Pachytene
2. Zygotene
3. Diplotene
4. Diakinesis

79.

The lateral branches originate from the basal and underground portion of the main stem, grow horizontally beneath the soil and then come out obliquely upwards giving rise to leafy shoots in:

1. Opuntia and Euphorbia
2. Mint and Jasmine
3. Pistia and Eichhornia
4. Banana and Pineapple

80.

Usually the anther in an angiosperm has:

1. two lobes and each lobe has two pollen sacs
2. two lobes and each lobe has one pollen sac
3. four lobes and each lobe has one pollen sac
4. four lobes and each lobe has two pollen sacs

81.

Protophloem differs from metaphloem in having:

1. companion cells present
2. dead sieve tube elements

3. narrow sieve tubes
4. lignified phloem fibers

82.

Incorrect regarding epidermal tissue system in angiosperms would be:

1. It comprises of epidermal cells and stomata but not the appendages such as trichomes
2. It is the outermost layer of the primary plant body forming a continuous layer
3. It is usually single layered
4. Cells are parenchymatous with a large vacuole

83.

Which of the following is not a continuous process during cell cycle?

1. Synthesis of DNA
2. Cell growth
3. Metabolism
4. Both cell growth and metabolism

84.

The enzyme recombinase functions during:

1. Zygotene
2. Pachytene
3. Diplotene
4. Diakinesis

85.

Asexual reproduction in fungi takes place by:

1. Fragmentation
2. Fission
3. Budding
4. Spores

86.

The chief producers in the oceans are:

1. Floating hydrophytes
2. Blue green algae
3. Desmids
4. Diatoms

87.

Oogamous sexual reproduction is seen in:

1. Ulothrix
2. Spirogyra
3. Udorina
4. Fucus

88.

The gymnosperms, Pines, are unique because they produce:

1. leaves in fascicles
2. true leaves
3. cones
4. archegonia

89.

An unconscious patient cannot be aroused by stimuli to normal consciousness but the doctors hope that recovery is possible. This patient is said to be:

1. In deep sleep

2. Comatosed

3. Brain dead

4. Malingering

90.

Which of the following taxon will have most number of organisms?

1. Class
2. Phylum
3. Order
4. Family

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