

1. What term/s would describe adrenaline and noradrenaline?
  1. neurotransmitter
  2. hormone
  3. neurotransmitter and hormone
  4. steroid hormone
2. The blood calcium level is lowered by the deficiency of
  1. parathormone
  2. thyroxine
  3. calcitonin
  4. Both 1. and 3.
3. Sympathetic stimulation would lead to:
  1. increased heart rate.
  2. increased stroke volume.
  3. vasoconstriction in visceral blood vessels.
  4. all of the above.
4. The innermost layer of blood vessel walls made up of one layer of endothelium and in direct contact with the blood is:
  1. tunica adventitia.
  2. tunica intima.
  3. tunica media.
  4. tunica muscularis.
5. Air conditioning – warming, humidifying and filtering of the air, is the function performed by:
  1. oral cavity
  2. nasal cavity
  3. pharynx
  4. larynx
6. Glycosuria is seen in diabetes mellitus mainly because:
  1. the length of PCT is shorter in diabetics.
  2. sodium plus glucose symports in the distal tubules are defective.
  3. sodium plus glucose symports in the proximal convoluted tubule are defective.
  4. transport maximum for glucose reabsorption in the proximal tubule is exceeded.
7. A polysaccharide inulin used to help measure kidney function by determining the glomerular filtration rate (GFR) because inulin is:
  1. both filtered and reabsorbed.
  2. both filtered and reabsorbed.
  3. filtered, but neither secreted nor reabsorbed.
  4. only secreted.
8. The sensory organ of hearing and the receptors are located in:
  1. scala vestibuli
  2. semicircular canal
  3. scala tympani
  4. cochlear duct
9. The black pigment in the eye which reduces the internal reflection is located in
  1. retina
  3. cornea
  2. iris
  4. sclerotic.
10. The mechanism by which the fat-soluble vitamins move across the intestinal mucosa is:
  1. facilitated diffusion
  2. active cotransport
  3. active antiport
  4. simple diffusion
11. The greatest benefit of bacterial symbiosis to humans amongst the following would be:
  1. production of vitamins A and C
  2. generation of gases needed for elimination
  3. absorption of organic materials
  4. production of biotin and vitamin K
12. Cryptorchidism may lead to sterility due to:
  1. relatively high internal body temperature.
  2. excessive production of estrogen.
  3. lack of testosterone.
  4. non function of the SRY gene.
13. In males, the secondary sexual characters develop in response to
  1. ICSH.
  2. FSH.
  3. testosterone.
  4. gonadotropin-releasing hormone.
14. In males, FSH:
  1. inhibits progesterone.

2. initiates testosterone production.  
3. increases protein synthesis.  
4. increase spermatogenesis.
15.  
Excessive stimulation of vagus nerve in humans may lead to:  
1. hoarse voice  
2. peptic ulcers  
3. efficient digestion of proteins  
4. irregular contractions of diaphragm.
16.  
Identify the one that is not associated with others when a muscle is not contracting:  
1. actin  
2. myosin  
3. troponin  
4. tropomyosin
17.  
Muscles get their energy directly from:  
1. glucose  
2. ATP  
3. creatine phosphate  
4. creatinine
18.  
Sertoli cells are found in  
1. ovaries and secrete progesterone  
2. adrenal cortex and secrete adrenalin  
3. seminiferous tubules and provide nutrition to germ cells  
4. pancreas and secrete cholecystokinin
19.  
Which of the following STIs is not caused by a virus?  
1. Genital herpes      2. Genital warts  
3. HIV                      4. Syphilis
20.  
A human RBC is placed in 1.5% salt solution. It will  
1. swell up  
2. shrink  
3. remain unaffected  
4. burst
21.  
Chemosensitive area of respiratory centre medulla is affected by  
1. less  $\text{CO}_2$  and  $\text{H}^+$  ions  
2. less  $\text{O}_2$  and  $\text{H}^+$  ions  
3. excess  $\text{CO}_2$  and  $\text{H}^+$  ions  
4. excess  $\text{O}_2$  and  $\text{H}^+$  ions.
22.  
Which of the following is correct regarding HIV, hepatitis B, gonorrhoea, trichomoniasis?  
1. Trichomoniasis is a STD whereas others or not.  
2. Gonorrhoea is a viral disease whereas others are bacterial  
3. HIV is a pathogen whereas others are diseases.  
4. Hepatitis B is eradicated completely whereas others are not
23.  
Which one of the following will not directly affect transpiration?  
1. Temperature  
2. Light  
3. Wind speed  
4. Chlorophyll content of leaves
24.  
During photorespiration the oxygen consuming reaction (s) occur in  
1. Stroma of chloroplasts and mitochondria  
2. Stroma of chloroplasts and peroxisomes  
3. Grana of chloroplasts and peroxisomes  
4. Stroms of chloroplasts
25.  
Plasticity in plant growth means that  
1. Plant roots are extensible  
2. Plant growth is dependent on the environment  
3. Stems can extend  
4. None of the above
26.  
A biologist studied the population of rats in a barn. He found that the average natality was 250, average mortality 240, immigration 20 and emigration 30. The net increase in population is  
1. 10  
2. 15  
3. 5  
4. zero
27.  
Camouflage is:  
1. Cryptic coloration  
2. Aposematic coloration  
3. Incidental coloration  
4. Dispersive coloration
28.  
The upright pyramid of number is absent in (AIPMT Pre.- 2012)  
1. Pond  
2. Forest  
3. Lake

4. Grassland

3. CFCs and SO<sub>2</sub>

29.

4. CO<sub>2</sub> and N<sub>2</sub>O

Identify the incorrectly matched pair:

33.

Compressed Natural Gas (CNG) is:(NCERT Exemplar)

Cost out of total [%]

1. Propane

2. Methane

3. Ethane

50 4. Butane

34.

1. Soil formation

10 About 98 percent of the mass of every living organism is composed of just six elements including carbon, hydrogen, nitrogen, oxygen and(AIPMT 2007)

2. Nutrient cycling

6

(1) phosphorus and sulphur

3. Climate regulation

(2) sulphur and magnesium

4. Habitat for wildlife

3

(3) magnesium and sodium

30.

(4) calcium and phosphorus

Given below is the representation of the extent of global diversity of invertebrates. What groups the four portions (A-D) represent respectively?

35.

A homopolymer has only one of building block called monomer repeated 'n' number of times. A heteropolymer has more than one type of monomer. Proteins are heteropolymer made of amino acids. While a nucleic acid like DNA or RNA is made of only 4 types of nucleotide monomers, proteins are made of

1. 20 types of monomers

2. 40 types of monomers

3. 3 types of monomers

4. Only one type of monomer



Option

- |                   |                      |              |
|-------------------|----------------------|--------------|
| A                 | B                    | C            |
| D                 |                      |              |
| 1. Insects groups | Crustaceans          | Other animal |
| 2. Crustaceans    | Insects              | Molluscs     |
| 3. Molluscs       | Other animals groups | Crustaceans  |
| 4. Insects        | Molluscs             | Crustaceans  |
|                   | Other animal groups  |              |

36.

The plasma membrane consists mainly of (AIPMT-2010)

1. Proteins embedded in a phospholipid bilayer

2. Proteins embedded in a polymer of glucose molecules

3. Proteins embedded in a carbohydrate bilayer

4. Phospholipids embedded in a protein bilayer

31.

Which of the following continents has the highest biodiversity? (NCERT Exemplar)

1. South America

2. Africa

3. Europe

4. Asia

37.

Which of the following dyes is best suited for staining chromosomes?

1. Basic Fuchsin

2. Safranin

3. Methylene blue

4. Carmine

32.

Which one of following pairs of gases are the major cause of "Greenhouse effect" (AIPMT Pre. - 2011)

1. CO<sub>2</sub> and O<sub>3</sub>

2. CO<sub>2</sub> and CO

38.

Infection of Ascaris usually occurs by (NEET 2013)

1. Eating imperfectly cooked pork.

2. Tse - tse fly.

3. Mosquito bite.

4. Drinking water containing eggs of Ascaris
39. Which one of the following sets of animals share a four chambered heart?
1. Amphibian, Reptiles, Birds
  2. Crocodiles, Birds, Mammals
  3. Crocodiles, Lizards, Turtles
  4. Lizards, Mammals, Birds
40. In male cockroaches, sperms are stored in which part of the reproductive system? [NEET-2- 2016]
1. Vas deferens
  2. Seminal vesicles
  3. Mushroom glands
  4. Testes
41. Heart wood differs from sapwood in (AIPMT-2010)
1. Absence of vessels and parenchyma
  2. Having dead and non-conducting elements
  3. Being susceptible to pests and pathogens
  4. Presence of rays and fibres
42. Bicarpellary gynoecium with oblique ovary occurs in (AIPMT-2001)
1. Banana
  2. Brinjal
  3. Pisum
  4. Mustard.
43. Single-celled eukaryotes are included in (AIPMT-2010)
1. Fungi
  2. Archaea
  3. Monera
  4. Protista
44. Consider the following four statements whether they are correct or wrong (AIPMT Mains 2011)
- (A) The sporophyte in liverworts is more elaborate than that in mosses
- (B) Salvinia is heterosporous
- (C) The life- cycle in all seed-bearing plants is diplontic
- (D) In Pinus male and female cones are borne on different trees
- The two wrong statements together are
1. Statements (A) and (C)
  2. Statements (A) and (D)
  3. Statements (B) and (C)
  4. Statements (A) and (B)
45. Axile placentation is not seen in:
1. China rose
  2. Tomato
  3. Lemon
  4. Pea
46. During the formation of leaves and the elongation of stem, some cells are left behind from the shoot apical meristem and constitute the:
1. Leaf primordium
  2. Shoot apical meristematic zone
  3. Differentiating vascular tissue
  4. Axillary bud
47. Which of the following is not a feature of diakinesis stage of prophase I of meiosis I?
1. Terminalization of chiasmata
  2. meiotic spindle assembled to prepare separation of homologues
  3. decondensation of the chromatin
  4. NEBD and disappearance of nucleolus
48. The genital pouch in female cockroach is formed by:
1. 7th, 8th and 9th tergites
  2. 7th, 8th and 9th sternites
  3. 8th, 9th and 10th tergites
  4. 8th, 9th and 10th sternites
49. A symbiotic relation between fungi and the roots of higher plants is called as:
1. Lichen
  2. Mycorrhiza
  3. Amensal
  4. Proto-cooperation
50. The red algae reproduce:
1. asexually by non motile spores and sexually by non motile gametes
  2. asexually by non motile spores and sexually by motile gametes
  3. asexually by motile spores and sexually by non motile gametes
  4. asexually by motile spores and sexually by motile gametes
- 51.

Which of the following suffix is used to denote the taxon 'family' in taxonomy of plants?

1. -ae
2. -opsida
3. -aceae
4. -ales

52.

Pathophysiology is the:

1. Study of physiology of pathogen
2. Study of normal physiology of host
3. Study of altered physiology of host
4. None of the above

53.

The trigger for activation of toxin of *Bacillus thuringiensis* is:

1. Acidic pH of stomach
2. High temperature
3. Alkaline pH of gut
4. Mechanical action in the insect gut

54.

Golden rice is:

1. A variety of rice grown along the yellow river in China
2. Long stored rice having yellow colour tint
3. A transgenic rice having gene for  $\beta$  - carotene
4. Wild variety of rice with yellow coloured grains

55.

While isolating DNA from bacteria, which of the following enzymes is not required?

1. Lysozyme
2. Ribonuclease
3. Deoxyribonuclease
4. Protease

56.

Which of the following contributed in popularising the PCR (polymerase chain reactions) technique?

1. Easy availability of DNA template
2. Availability of synthetic primers

3. Availability of cheap deoxyribonucleotides

4. Availability of 'Thermostable' DNA polymerase

57.

An antibiotic resistance gene in a vector usually helps in the selection of:

1. Competent bacterial cells
2. Transformed bacterial cells
3. Recombinant bacterial cells
4. None of the above

58.

Viviparity is considered to be more evolved because:

1. the young ones are left on their own
2. the young ones are protected by a thick shell
3. the young ones are protected inside the mother's body and are looked after they are born leading to more chances of survival
4. the embryo takes a long time to develop

59.

Fossils are generally found in:

1. Sedimentary rocks
2. Igneous rocks
3. Metamorphic rocks
4. Any type of rock

60.

For the MN-blood group system, the frequencies of M and N alleles are 0.7 and 0.3, respectively. The expected frequency of MN-blood group bearing organisms is likely to be

1. 42%
2. 49%
3. 9%
4. 58%

61.

When an apparently healthy person is diagnosed as unhealthy by a psychiatrist, the reason could be that:

1. the patient was not efficient at his work
2. the patient was not economically prosperous
3. the patient shows behavioural

- and social maladjustment
4. he does not take interest in sports
62. Which of the following are the reason(s) for Rheumatoid arthritis? Choose the correct option.
- The ability to differentiate pathogens or foreign molecules from self cells increases.
  - Body attacks self cells
  - More antibodies are produced in the body
  - The ability to differentiate pathogens or foreign molecules from self cells is lost
- i and ii
  - ii and iv
  - iii and iv
  - i and iii
63. AIDS is caused by HIV. Among the following, which one is not a mode of transmission of HIV?
- Transfusion of contaminated blood
  - Sharing the infected needles
  - Shaking hands with infected persons
  - Sexual contact with infected persons
64. The free-living fungus *Trichoderma* can be used for:
- killing insects
  - biological control of plant diseases
  - controlling butterfly caterpillars
  - producing antibiotics
65. With regard to mature mRNA in eukaryotes:
- exons and introns do not appear in the mature RNA
  - exons appear but introns do not appear in the mature RNA
  - introns appear but exons do not appear in the mature RNA
  - both exons and introns appear in the mature RNA
66. The human chromosome with the highest and least number of genes in them are respectively:
- Chromosome 21 and Y
  - Chromosome 1 and X
  - Chromosome 1 and Y
  - Chromosome X and Y
67. Who amongst the following scientists had no contribution in the development of the double helix model for the structure of DNA?
- Rosalind Franklin
  - Maurice Wilkins
  - Erwin Chargaff
  - Meselson and Stahl
68. Which of the following will not result in variations among siblings?
- Independent assortment of genes
  - Crossing over
  - Linkage
  - Mutation
69. Mendel's Law of independent assortment holds good for genes situated on the:
- non-homologous chromosomes
  - homologous chromosomes
  - extra nuclear genetic element
  - same chromosome
70. Occasionally, a single gene may express more than one effect. The phenomenon is called:
- multiple allelism
  - mosaicism
  - pleiotropy
  - polygeny
71. In a certain taxon of insects some have 17 chromosomes and the others have 18 chromosomes. The 17 and 18 chromosome-bearing organisms are:

1. males and females, respectively
  2. females and males, respectively
  3. all males
  4. all females
- 72.
- From the statements given below choose the option that are true for a typical female gametophyte of a flowering plant:
- i. It is 8-nucleate and 7-celled at maturity
  - ii. It is free-nuclear during the development
  - iii. It is situated inside the integument but outside the nucellus
  - iv. It has an egg apparatus situated at the chalazal end
1. i and iv,
  2. ii and iii
  3. i and ii
  4. ii and iv
- 73.
- Autogamy can occur in a chasmogamous flower if:
1. Pollen matures before maturity of ovule
  2. Ovules mature before maturity of pollen
  3. Both pollen and ovules mature simultaneously
  4. Both anther and stigma are of equal lengths.
- 74.
- Choose the correct statement from the following:
1. Cleistogamous flowers always exhibit autogamy
  2. Chasmogamous flowers always exhibit geitonogamy
  3. Cleistogamous flowers exhibit both autogamy and geitonogamy
  4. Chasmogamous flowers never exhibit autogamy
- 75.
- Fungicides and antibiotics are chemicals that:
1. enhance yield and disease resistance
  2. kill pathogenic fungi and bacteria, respectively
  3. kill all pathogenic microbes
  4. kill pathogenic bacteria and fungi respectively.
- 76.
- Planaria possesses high capacity of [AIPMT 2014]
1. Regeneration
  2. Alternation of generations
  3. Bioluminescence
  4. Metamorphosis
- 77.
- Common between vegetative reproduction and apomixis is [AIPMT Mains 2011]
1. Both applicable to dicots
  2. Both bypass flowering phase
  3. Both occur around the year
  4. Both produce progeny identical to parent
- 78.
- Which is wrongly matched [AIPMT Mains 2011]
1. Agave – bulbils
  2. Penicillium – conidia
  3. Water Hyacinth – runner
  4. Bryophyllum – leaf buds
- 79.
- Bacillus thuringiensis (Bt) strains have been used for designing novel (AIPMT 2005)
- (1) Bio Insecticidal plants
  - (2) Biomineralization processes
  - (3) Biofertilizers
  - (4) Bio-metallurgical techniques
- 80.
- Which one is a neem product used as insect repellent? (AIPMT- 2004)
1. Rotenone
  2. Azadirachtin
  3. Parathion
  4. Endrin
- 81.
- When a cluster of genes show linkage behaviour, they (AIPMT - 2003)
1. Do not show chromosome map
  2. Induce cell division
  3. Do not show independent assortment
  4. Show recombination during meiosis
- 82.
- Which one of the following is the correct statement regarding the particular psychotropic drug specified? (AIPMT 2008)
1. Morphine leads to delusions and disturbed emotions
  2. Barbiturates cause relaxation and temporary euphoria
  3. Hashish causes after thought perceptions and hallucinations
  4. Opium stimulates nervous system and causes hallucinations
- 83.
- Cry 1 endotoxins obtained from Bacillus thuringiensis are effective against (AIPMT-2008)
1. Nematodes
  2. Mosquitoes
  3. Bollworms
  4. Flies
- 84.

In a type of apomixis known as adventitive embryony, embryos develop directly from (AIPMT - 2005)

1. Nucellus or integument
2. Zygote
3. Synergids of antipodals of embryo sac
4. Accessory embryo sac in the ovule

85.

What does lac refer to in lac operon (AIPMT- 2003)

1. Lactase
2. 1,00,000
3. Lac insect
4. Lactose

86.

The linking of antibiotic resistance gene with the plasmid vector became possible due to (AIPMT-2008)

1. DNA polymerase
2. Exonucleases
3. DNA ligase
4. Endonucleases

87.

Which one of the following correctly describes the homologous structures? (AIPMT 2003)

1. Organs with anatomical similarities, but performing different functions.
2. Organs with anatomical dissimilarities, but performing same functions.
3. Organs that have no functions now, but had an important function in ancestors.
4. Organs appearing only in embryonic stage and disappearing later in the adult.

88.

Several South Indian states raise 2-3 crops of rice annually. The agronomic feature that makes this possible is because of

1. shorter rice plant
2. better irrigation facilities
3. early yielding rice variety
4. disease resistant rice variety.

89.

Which one of the following combination would a sugarcane farmer look for in the sugarcane crop?

1. Thick stem, long internodes, high sugar content and disease resistant
2. Thick stem, high sugar content and profuse flowering
3. Thick stem, short internodes,

high sugar content, disease resistant

4. Thick stem, low sugar, low sugar, disease resistant

90.

What would happen if oxygen availability to activated sludge flocs is reduced?

1. It will slow down the rate of degradation of organic matter
2. The center of flocs will become anoxic, which would cause death of bacteria and eventually breakage of flocs.
3. Flocs would increase in size as anaerobic bacteria would grow around flocs.
4. Protozoa would grow in large numbers.

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