

1. **Besides helper T cells, what are two other types of cells that HIV infects?**
 1. macrophages and brain cells
 2. B cells and liver cells
 3. plasma cells and neutrophils
 4. cytotoxic T cells and brain cells

2. An Rh + woman is pregnant with an Rh- fetus. The consequences can be:
 1. There is usually no risk during the first pregnancy, but it can harm the fetus during a subsequent pregnancy if the mother is not treated.
 2. It always poses a serious risk to the fetus, even in the first pregnancy.
 3. Only in rare cases is there a risk to the fetus during the first pregnancy.
 4. There is not a risk to the fetus when a woman who is Rh+ carries an Rh- fetus.

3. What is true for the blood Type O?
 1. It is universal donor because it has neither anti-A antibodies nor anti-B antibodies circulating in the plasma.
 2. It is universal donor because it has neither antigen A nor antigen B on its RBCs.
 3. It is universal recipient because it has neither anti-A antibodies nor anti-B antibodies circulating in the plasma.
 4. It is universal recipient because it has neither antigen A nor antigen B on its RBCs

4. The first carpometacarpal joint at the base of the thumb is a:
 1. ellipsoidal joint
 2. pivot joint
 3. saddle joint
 4. gliding joint

5. The menstrual bleed is basically due to the withdrawal of:
 1. FSH
 2. LH
 3. progesterone
 4. estrogen

6. Which one of the following events is correctly matched with the time period in a normal menstrual cycle?
 1. Release of egg : 5th day
 2. Endometrium regenerates : 5 - 10 days
 3. Endometrium secretes nutrients for implantation : 11- 18 days
 4. Rise in progesterone level : 1 - 15 days

7. Visceral mesothelium is:
 1. a membrane composed of simple cuboidal epithelium
 2. the layer that covers the body walls
 3. the epithelium component of serosa
 4. innermost lining of the blood vessels derived from embryonic mesoderm

8. The mucosa of the bladder is comprised of _____.
 1. smooth muscle
 2. squamous epithelium
 3. transitional epithelium
 4. simple columnar epithelium

9. Plants which produce characteristic Pneumatophores and show vivipary belong to
 1. Mesophytes
 2. halophytes
 3. Psammophytes
 4. Hydrophytes

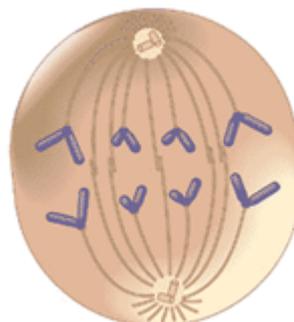
10. Which of the following forest plants controls the light conditions at the ground?(NCERT Exemplar)
 1. Lianas and climbers
 2. Shrubs
 3. Tall trees
 4. Herbs

11. Nitrogen oxides formed during emission from automobiles and power plants are a source of fine airparticles which lead to (AIIMS 2004)
 1. Dry acid deposition
 2. Photochemical smog
 3. Wet acid deposition
 4. Industrial smog

12. The structures that help some bacteria to attach to rocks and / or host tissues are: (ReAIPMT-2015)
 1. Fimbriae
 2. Mesosomes
 3. Holdfast
 4. Rhizoids

13. A marine cartilaginous fish that can produce

- electric current is: (AIPMT - 2014)
1. Pristis
 2. Torpedo
 3. Trygon
 4. Scoliodon
- 14.
- The vascular cambium normally gives rise to (NEET-2017)
1. Phelloderm
 2. Primary phloem
 3. Secondary xylem
 4. Periderm
- 15.
- Juicy hair like structures observed in lemon fruit develop from (AIPMT-2003)
1. Exocarp
 2. Mesocarp
 3. Endocarp
 4. Mesocarp and endocarp.
- 16.
- Chrysophytes, Euglenoids, Dinoflagellates and slime moulds are included in the kingdom: (NEET-I-2016)
1. Animalia
 2. Monera
 3. Protista
 4. Fungi
- 17.
- Life cycle of Ectocarpus and fucus respectively are: (NEET-2017)
1. Haplontic, Diplontic
 2. Diplontic, Haplodiplontic
 3. Haplodiplontic, Diplontic
 4. Haplodiplontic, Haplontic
- 18.
- Endosperm, a product of double fertilization in angiosperms is absent in the seeds of
1. Gram
 2. Orchids
 3. Maize
 4. Castor
- 19.
- How many shoot apical meristems are likely to be present in a twig of a plant possessing, 4 branches and 26 leaves
1. 26
 2. 1
 3. 5
 4. 30
- 20.
- The metal ion that acts as a cofactor for both alcohol dehydrogenase and carbonic anhydrase is:
1. Magnesium
 2. Iron
 3. Zinc
 4. Nickel
- 21.
- A point in the animal cell cycle at which the cell becomes "committed" to the cell cycle occurs in:
1. G₁
 2. S
 3. G₂
 4. M
- 22.
- During what phase in the cell cycle would you find the most DNA per cell?
1. G₁
 2. G₂
 3. S
 4. Prophase II
- 23.
- The stage phase of the cell cycle that is expected to be most variable in duration in different types of cells in an animal will be:
1. G₁
 2. S
 3. G₂
 4. M
- 24.
- Which stage of meiosis is shown in the diagram given below?



1. Metaphase I

2. Metaphase II
3. Anaphase I
4. Anaphase II
25.
A cell isolated from a four-cell stage larva can develop into a complete animal in:
1. Snail
2. Earthworm
3. Sea urchin
4. Drosophila
26.
The body of Euglenoids is flexible because of presence of:
1. a cell wall made up of pseudopeptidoglycan
2. absence of cell wall and presence of a protein rich pellicle
3. a phosphate ether bonding in phospholipids in cell membrane
4. presence of lipopolysaccharide layer in the outer cell wall
27.
Which of the following is not a viral disease?
1. Influenza
2. Yellow fever
3. Japanese encephalitis
4. Kala azar
28.
Consider the following statements regarding green algae:
I. Pigments are located in definite plastids
II. Most have pyrenoids in chloroplasts
III. Cell wall has an inner layer of pectose and outer layer of cellulose
1. Only I and II are correct
2. Only I and III are correct
3. Only II and III are correct
4. I, II and III are correct
29.
Besides paddy fields, cyanobacteria are also found inside vegetative part of
1. Pinus
2. Cycas
3. Equisetum
4. Psilotum (NEET 2013)
30.
Somaclones are obtained by (AIPMT 2009)
1. Genetic engineering
2. Tissue culture
3. Plant breeding
4. Irradiation
31.
A human male produce diallelic sperms in equal proportion AB, Ab, aB and ab. The genotype of the person would be (AIPMT- 2007)
1. Aa Bb
2. Aa BB
3. AA Bb
4. AA BB.
32.
The active form of Entamaeba-histolytica feeds upon: (Re-AIPMT 2015)
1. mucosa and submucosa of colon only
2. food in intestine
3. blood only
4. erythrocytes; mucosa and submucosa of colon
33.
Which body of the Government of India regulates GM research and safety of introducing GM ORGANISMSfor public services? (AIPMT-2015)
1. Indian Council of Agricultural Research
2. Genetic Engineering Approval Committee
3. Research Committee on Genetic Manipulation
4. Bio-safety committee
34.
The introduction of t-DNA into plants involves: (Re-AIPMT - 2015)
1. Altering the pH of the soil, then heat shocking the plants
2. Exposing the plants to cold for a brief period
3. Allowing the plant roots to stand in water
4. Infection of the plant by Agrobacterium tumefaciens
35.
Perisperm differs from endosperm in (NEET-2013)
1. having no reserve food
2. being a diploid tissue
3. its formation by fusion of secondary nucleus with several sperms
4. being a haploid tissue
36.
Removal of RNA polymerase III from nucleoplasm will affect the synthesis of: (AIPMT Pre. 2012)
1. t-RNA
2. hn-RNA
3. m-RNA
4. r-RNA
- 37.

What is common to whale, seal and shark? (AIPMT 2007)

1. Homoiothermy
2. Seasonal migration
3. Thick subcutaneous fat
4. Convergent evolution

38.

Identify the incorrect statement:

1. In addition to recombination, mutation is another phenomenon that leads to variation in DNA.
2. Chromosomal aberrations are commonly observed in cancer cells.
3. A classical example of a point mutation is sickle cell anemia.
4. Non ionising radiations cannot be mutagens.

39.

It is unfortunate that in our society women are blamed for producing female children and have been ostracised and ill-treated because:

1. The sex is determined by the type of sperm fertilizing the egg
2. The sex is determined by the type of egg fertilizing the sperm
3. The sex is determined by the hormones produced by the fetus
4. The sex is determined by the God's Will

40.

Pedigree analysis is resorted to for genetic analysis in humans rather than conventional genetic methods because:

- I. Choice matings are not possible
- II. Number of progeny is limited

Of the two statements:

1. Only I is correct
2. Only II is correct
3. Both I and II are correct
4. Both I and II are incorrect

41.

Mutations that arise due to change in a single base pair of DNA are called as:

1. Chromosomal aberrations
2. Point mutations
3. Nonsense mutations
4. Frame shift mutations

42.

In a transcription unit, with respect to structural gene, the promoter is located:

1. Upstream and 5'
2. Upstream and 3'
3. Downstream and 5'

4. Downstream and 3'

43.

DNA dependent RNA polymerase catalyzes polymerization in:

1. Only in 3' – 5' direction
2. Only in 5' – 3' direction
3. In both directions
4. In neither directions

44.

At any instant, RNA is transcribed on which of the following strands of DNA?

1. Coding strand
2. Template strand
3. Lagging strand
4. Leading strand

45.

Which of the following is true for both transcription and DNA replication?

1. Principle of complementarity governs the processes
2. Only of the two strands act as template
3. Only a segment of both strands is involved
4. Adenine base pairs with thymine

46.

What defines a coding and a template strand in the transcription unit?

1. Structural gene
2. Ori
3. Terminator
4. Promoter

47.

A transcription unit does not contain:

1. Promoter
2. Operator
3. Structural gene
4. Terminator

48.

Nicotine functions as a stimulant because it stimulates the release of :

1. Adrenaline
2. Thyroxine
3. Dopamine
4. Acetylcholine

49.

The part of the brain most commonly affected by consumption of alcohol is :

1. Medulla oblongata
 2. Reticular formation
 3. Cerebellum
 4. Cerebrum
- 50.
- The Indian Agricultural Research Institute, New Delhi has released several vegetable crops that are rich in vitamins and minerals. Identify the incorrectly matched:
1. vitamin A enriched: carrots, spinach, pumpkin;
 2. vitamin C enriched: bitter melon, bitter melon, mustard, tomato;
 3. iron and calcium enriched: spinach and bitter melon;
 4. Omega fatty acids enriched: beans - broad, lablab, French and garden peas.
- 51.
- Restriction endonucleases present in bacterial cells provide advantage to the cell because these enzymes:
1. can identify the mutated sequences on the chromosomal DNA and help in their repair
 2. selectively bind to particular nucleotide sequences that may appear in viral DNA preventing its replication in the cell
 3. can cut the plasmid DNA of the bacterial cell that allows them to recombine foreign DNA into their plasmid DNA
 4. help the bacterium take up foreign DNA from their environment and combine it into their genome
- 52.
- The following palindrome is recognized by the restriction enzyme:
- 
1. BamHI
 2. EcoRI
 3. HindII
 4. PstI
- 53.
- Which of the following does not have the ability to replicate within bacterial cells independent of the control of chromosomal DNA?
1. Plastid
 2. Bacteriophages
 3. BAC
 4. Plasmid
- 54.
- pBR322 does not contain the site for:
1. Pvu I
 2. BamH I
 3. Sma I
 4. EcoR I
- 55.
- DNA or RNA segments tagged with a radioactive molecule is called (AIPMT PRE 2010/PRE 2012)
1. Vector.
 2. Probe.
 3. Clone.
 4. Plasmid.
- 56.
- Stirred-tank bioreactors have been designed for (AIPMT PRE 2010)
1. Availability of oxygen throughout the process.
 2. Addition of preservatives to the product.
 3. Purification of the product
 4. Ensuring anaerobic conditions in the culture vessel.
- 57.
- The number of individuals expressing the dominant phenotype in a population of 200 is 182. What is the frequency of the dominant allele in this population?
1. 9 %
 2. 30 %
 3. 91 %
 4. 70 %
- 58.
- “Organisms that share common descent show underlying embryological patterns on which they build later their adult patterns”. This is :
1. Haeckel’s law
 2. Baer’s law
 3. Gauss law
 4. Allen’s rule
- 59.
- In Darwinian terms “fitness” can best be described as:
1. ability of organism, relative to others in the population, to pass its genes to next generation
 2. the number of mates the organism has during its life time
 3. its lifespan
 4. its physical vigor
- 60.
- A reproductive strategy that involves development of a female (rarely a male) gamete (sex cell) without fertilization is called as:

1. Parthenogenesis
2. Parthenocarp
3. Panmixis
4. Amphimixis

61.

Consider the given statements:

I. In angiosperms the endosperm development preceded embryo development.

II. The embryo is diploid while the endosperm is a triploid tissue in angiosperms.

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

62.

In the most common type of endosperm development in angiosperms:

1. The PEN undergoes free nuclear divisions only
2. The PEN first undergoes free nuclear division and then cell wall formation occurs
3. The cell wall formation occurs from the very first divisions of the PEN
4. Cell wall formation occurs in the initial divisions of PEN but later divisions are free nuclear

63.

Identify the human development stage shown below as well as the related right place of its occurrence in a normal pregnant woman, and select the right option for the two together.

Developmental stage	Site of occurrence
1. Blastocyst	Uterine wall
2. 8 cells morula	Starting point of Fallopian tube
3. Late morula	Middle part of Fallopian tube
4. Blastula	End part of Fallopian tube

64.

A pregnant female delivers a baby who suffers from stunted growth, mental retardation low intelligence quotient and abnormal skin. This is the result of

- (1) Deficiency of iodine in diet

- (2) Low secretion of growth hormone
- (3) Cancer of the thyroid gland
- (4) Over secretion of pars distalis

65.

Given below are four statements (a-d) regarding human blood circulatory system:

- (a) Arteries are thick-walled and have narrow lumen as compared to veins.
- (b) Angina is acute chest pain when the blood circulation to the brain is reduced.
- (c) Persons with blood group AB can donate blood to any person with any blood group under the ABO system.
- (d) Calcium ions play a very important role in blood clotting.

Which two of the above statements are correct?

- (1) (a) and (b)
- (2) (b) and (c)
- (3) (c) and (d)
- (4) (a) and (d)

66.

The high energy bonds in an ATP molecule are between :

1. Ribose and nitrogenous base
2. Nitrogenous base and phosphate
3. Ribose and phosphate
4. Phosphate groups

67.

In competitive inhibition, if the concentration of the substrate is increased :

1. the rate of the reaction is increased
2. the rate of the reaction is decreased
3. the rate of the reaction is not affected
4. the reaction direction is reversed

68.

A glycosidic bond connects :

1. two monosaccharides
2. two amino acids
3. two fatty acids
4. a fatty acid and a glycerol

69.

Spindle fibers are attached to the chromosome in the region of :

1. Centrosome
2. Chromomere
3. Chromonema
4. Kinetochore

70.

Identify the appendage present on the surface of some bacterial cells that help attach them to rocks in streams and also to the host tissues:

1. Flagella
2. Pili
3. Fimbriae
4. Cilia

1. Only I and II
2. Only I and III
3. Only II and III
4. I, II and III

71.

Which of the following regions of the brain is incorrectly paired with its function?

1. Medulla oblongata-homeostatic control
2. Cerebellum-language comprehension
3. Corpus callosum-communication between the left and right cerebral cortices
4. Cerebrum-calculation and contemplation

72.

Select the correct statement with respect to locomotion in humans.

1. A decreased level of progesterone causes osteoporosis in old people
2. Accumulation of uric acid crystals in joints causes their inflammation
3. The vertebral column has 10 thoracic vertebrae
4. The joint between adjacent vertebrae is a fibrous joint

73.

Match the items given in column I with those in column II and select the correct option given below:

Column I

- (a) Glycosuria
- (b) Gout
- (c) Renal calculi
- (d) Glomerulonephritis

Codes:

- (a) (b) (c) (d)
1. (ii) (iii) (i) (iv)
2. (i) (ii) (ii) (iv)
3. (iii) (ii) (iv) (i)
4. (iv) (i) (ii) (iii)

74.

Identify the correct statements from the following:

- I. ANF is secreted by the right atrium of heart and causes vasodilation
- II. Erythropoietin is secreted by kidney and stimulate bone marrow to produce RBC
- III. Insulin like growth factors 1 are secreted by liver and play an important role in childhood growth, and has anabolic effects in adults

75.

Match each item in COLUMN I [Hormone] with one in COLUMN II [Function] and select your answer from the codes given:

COLUMN I

COLUMN II

- | | | |
|-------------------------------|----|---|
| A. Gastrin | a. | Contraction of gall bladder and stimulation of enzyme secretion by pancreas |
| B. Cholecystokinin | b. | Increased HCl secretion |
| C. Secretin | c. | Inhibition of gastric secretion and motility |
| D. Gastric inhibitory peptide | d. | Stimulation of bicarbonate rich mucoid secretions from pancreas |

Column II

- Codes
 (i) Accumulation of uric acid in joints
 1. a b c d
 2. a b d c
 (ii) Mass of crystallised salts within the kidney
 3. b a d c
 4. b a c d
 (iii) Inflammation in glomeruli
 76.
 (iv) Presence of glucose in urine
 76. Which of the following is/are released into the duodenum does not contain:

1. bile pigments
2. phospholipids
3. lipase
4. cholesterol

77.

Which of the following secretions is/are released into the small intestine by a common duct?

- I. Bile
- II. Pancreatic juice
- III. Intestinal juice

1. I only
2. I and II only
3. I and III only
4. I, II, III and IV

78.

- The pH optimal for pepsins is:
1. 1.8
 2. 3.8
 3. 6.8
 4. 7.8
- 79.
- Trypsinogen is activated by
1. an enzyme enterogastrone
 2. a hormone enterogastrone
 3. an enzyme, enterokinase
 4. a hormone, enterokinase
- 80.
- The second polar body is formed as a result of:
1. Reductional division in primary oocyte
 2. Reductional division in secondary oocyte
 3. Equational division in secondary oocyte
 4. Equational division in primary oocyte
- 81.
- Which of the following will carry 46 chromosomes?
1. Sperms
 2. Spermatids
 3. Secondary spermatocytes
 4. Primary spermatocytes
- 82.
- Between childhood and puberty, the ovaries will have follicles containing:
1. Primary oocyte
 2. Secondary oocyte
 3. Ootid
 4. Ovum
- 83.
- What is released at ovulation?
1. Primary oocyte arrested at meiosis I
 2. Primary oocyte arrested at meiosis II
 3. Secondary oocyte arrested at meiosis I
 4. Secondary oocyte arrested at meiosis II
- 84.
- Government of India legalized MTP in:
1. 1951
 2. 1971
 3. 1975
 4. 1977
- 85.
- The main drawback of the surgical methods for birth control is:
1. They are poorly reversible
 2. They are very expensive
 3. Post operative rest period is very long
 4. The surgery carries great risks of morbidity and mortality
- 86.
- Intentional or voluntary termination of pregnancy before full term is called:
1. Contraception
 2. Spontaneous abortion
 3. Induced abortion
 4. Feticide
- 87.
- The primary commissural region of the brain consisting of white matter tracts that connect the left and right cerebral hemispheres is called as:
1. corpus striatum
 2. corpus luteum
 3. corpus callosum
 4. corpus spongiosum
- 88.
- The cranial meninge that is in contact with the brain tissue is the:
1. Dura mater
 2. Arachnoid mater
 3. Pia mater
 4. Grey mate
- 89.
- The part of the cerebrum that produce a meaningful perceptual experience of the world, enable us to interact effectively, and support abstract thinking and language is called:
1. Pre-frontal cortex
 2. Association area
 3. Pre-central gyrus
 4. Post-central gyrus
- 90.
- Crista ampullaris is found in:
1. Semi-circular canals
 2. Utricle
 3. Saccule
 4. Cochlea

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