

1.

**Identify the correct statement regarding typhoid fever in human beings:**

1. It is caused by a pathogenic protozoan *Salmonella typhi*
2. The pathogen remains confined to the small intestine
3. Widal test can confirm the infection very early in the disease
4. Intestinal perforation and death may occur in severe cases

2.

***Aedes aegypti* is not a vector for:**

1. Dengue
2. Chickengunya
3. Japanese encephalitis
4. Yellow fever

3.

A major advantage of using YAC as a cloning vector over the plasmids is that :

1. it can replicate independently
2. it can be selected easily
3. it can accommodate larger inserts
4. it has multiple cloning sites

4.

First discovered, Type II restriction endonuclease was

1. Hind I
2. Eco K
3. Hind II
4. EcoRI

5.

Using recombinant DNA technology, gene from a donor cell can be implanted into a bacterium for DNA replication and protein synthesis. The kind of cell that can be used as gene donors in this technology are

1. Bacteria only
2. Either yeast or bacteria only
3. Eukaryotic cells, only
4. Any kind of cell

6.

A gene carried by recombinant DNA is cloned when

1. Its host bacterium divides by binary fission
2. It is transcribed
3. It is fragmented by restriction enzymes
4. It is hybridized

7.

The "Southern" technique involves:

1. the detection of DNA fragments on membranes by specific radioactive antibodies.
2. the detection of proteins on membranes using a radioactive DNA probe.
3. the detection of DNA fragments on membranes by a radioactive DNA probe.
4. the detection of proteins on membranes using specific radioactive antibodies.

8.

Which of the following tools of recombinant DNA technology is INCORRECTLY paired with one of its uses?

1. restriction endonuclease - production of DNA fragments for gene cloning.
2. DNA polymerase - copies DNA sequences to create primers in the polymerase chain reaction.
3. reverse transcriptase - production of cDNA from mRNA.
4. electrophoresis - RLFP analysis.

9.

Which of the following explains why production of transgenic plants is easier than production of transgenic animals?

1. Plant cells can grow in cell culture.
2. Plant cells have a lower number of potentially lethal genes.
3. Plant cells are totipotent.
4. Production of mutant plants poses less ethical dilemmas than production of mutant animals.

10.

Which of these uses of transgenic technology is not directly relevant to agricultural applications?

1. Production of a pharmaceutical protein in goat's milk.
2. Production of salmon that grow all year round instead of just in warm weather.
3. Production of soybean plants that are resistant to herbicides.
4. Production of "super mice" that carry the human growth hormone gene.

11.

Which of these is an accurate description of gene therapy?

2. A form of site directed mutagenesis.  
 3. Introduction of cloned genes into living cells to cure disease.  
 4. Cloning of a disease gene in order to understand the disease.  
 5. All of these.
12.  
 Identify the hormone:  
 I. It favours glycogenesis  
 II. It favours fat synthesis and deposition  
 III. It favours protein anabolism  
 1. Cortisol  
 2. Insulin  
 3. Growth hormone  
 4. Adrenaline
13.  
 Sertoli cells are regulated by the pituitary hormone known as:  
 1. FSH  
 2. GH  
 3. Prolactin  
 4. LH
14.  
 The period of the cardiac cycle where the greatest amount of ventricular filling occurs is:  
 1. the first one-third of diastole.  
 2. the middle one-third of diastole.  
 3. the last one-third of diastole.  
 4. ventricular systole.
15.  
 The semilunar valves will open during a normal cardiac cycle when the pressure in the left ventricle is  
 1. greater than the pressure in the aorta.  
 2. less than the pressure in the aorta.  
 3. the same as the pressure in the aorta.  
 4. less than the pressure in the left atrium.
16.  
 Alveoli in the lungs are lined by:  
 1. a simple squamous epithelium.  
 2. a pseudostratified ciliated columnar epithelium.  
 3. a simple cuboidal epithelium.  
 4. a transitional epithelium.
17.  
 A triangular portion of the bladder floor bordered (ventrally) by the internal urethral opening or bladder neck and (dorsolaterally) by the orifices of the right ureter and left ureter, is called as:  
 1. detrusor.  
 2. dartos.  
 3. transitional epithelium.  
 4. trigone.
18.  
 The glomerular ultrafiltrate will normally not contain:  
 1. hemoglobin  
 2. sodium ions  
 3. bicarbonate ions  
 4. glucose
19.  
 Parkinson disease, caused by lack of dopamine in substantia nigra, is not characterized by:  
 1. Tremor  
 2. Rigidity  
 3. Hypokinesia  
 4. Flaccid paralysis
20.  
 Succus entericus is a term used for  
 1. The junction of ileum and colon  
 2. Inflammation of intestine  
 3. Vermiform appendix  
 4. Digestive juice of intestine
21.  
 Where do certain symbiotic microorganisms normally occur in human body ?  
 1. Caecum  
 2. Oral lining and tongue surface  
 3. Vermiform appendix and rectum  
 4. Duodenum
22.  
 What is release at the time of ovulation?  
 1. primary oocyte  
 2. secondary oocyte  
 3. polar body  
 4. ootid
23.  
 The first menstrual cycle, or first menstrual bleeding is known as:  
 1. menorrhagia.  
 2. menarche.  
 3. menopause.  
 4. amenorrhoea.

24.

Identify the incorrect statement regarding a skeletal muscle fiber:

1. They continue to divide throughout childhood as skeletal muscles grow
2. They are formed by fusion of myoblasts during fetal development
3. They are true syncytium.
4. They are striated.

25.

The part of fallopian tube closest to the ovary is

1. isthmus
2. infundibulum
3. cervix
4. ampulla

26.

In 'test – tube baby' procedure:

1. Fertilization is in-vitro but embryo development is in-vivo
2. Fertilization is in-vivo but embryo development is in-vitro
3. Both fertilization and embryo development are in-vitro
4. Both fertilization and embryo development are in-vivo

27.

The component of blood which prevents its coagulation in the blood vessels is

1. haemoglobin
2. plasma
3. thrombin
4. heparin.

28.

Match the followings and choose the correct option

- |                     |      |                            |
|---------------------|------|----------------------------|
| A. Leaves           | i.   | Anti-transpirant           |
| B. Seed             | ii.  | Transpiration              |
| C. Roots            | iii. | Negative osmotic potential |
| D. Aspirin          | iv.  | Imbibition                 |
| E. Plasmolyzed cell | v.   | Absorption                 |

Options:

1. A-iii, B-iv, C-i, D-v, E-ii
2. A-ii, B-iv, C-v, D-i, E-iii

3. A-iii, B-ii, C-iv, D-v, E-i

4. A-iii, B-ii, C-i, D-iv, E-v

29.

When does the growth rate of a population following the logistic model equal zero? The logistic model is given

As  $dN/dt = rN(1 - N/K)$

1. when  $N/K$  is exactly one.
2. when  $N$  nears the carrying capacity of the habitat.
3. when  $N/K$  equals zero.
4. when death rate is greater than birth rate.

30.

Which of the following is correct for r-selected species?

1. Large number of progeny with large size.
2. Small number of progeny with small size.
3. Small number of progeny with large size.
4. Large number of progeny with small size.

31.

Abingdon tortoise in Galapagos islands became extinct within a decade after goats were introduced on the island due to:

1. Habitat fragmentation
2. Better browsing efficiency of goats
3. Predator of goat attacking tortoise
4. Virus of goats parasitizing tortoise

32.

Secondary productivity is rate of formation of new organic matter by: (NEET- 2013)

1. Parasite
2. Consumer
3. Decomposer
4. Producer

33.

Which of the following is not a producer?(NCERT Exemplar)

1. Spirogyra
2. Agaricus
3. Volvox
4. Nostoc

34.

How many hot spots of biodiversity in the world have been identified till date by Norman Myers?(NEET-2 - 2016)

1. 43
2. 17
3. 25
4. 34

35.

What is common to the following

- plants :Nepenthes, Psilotum, Rauwolfiaand Aconitum ? (NCERT Exemplar)
- All are ornamental plants
  - All are phylogenic link species
  - All are prone to over exploitation
  - All are exclusively present in the Eastern Himalayas
36. Kyoto Protocol was endorsed at : (NEET- 2013)
- CoP– 5
  - CoP - 6
  - CoP - 4
  - CoP– 3
37. Choose the incorrect statement (NCERT Exemplar)
- The montreal protocol is associated with the control of emission of ozone depleting substances
  - Methane and carbon dioxide are green house gases
  - Dobson units are used to measure oxygen content of air
  - Use of incinerators is crucial to disposal of hospital wastes
38. Natural selection operates on the \_\_\_\_\_ of an individual organism.
- survival
  - environment
  - genotype
  - phenotype
39. Stabilizing selection acts to \_\_\_\_\_ in a species' population.
- elaborate new traits
  - alter traits
  - push for directional change
  - maintain a certain phenotype
40. Gene flow is
- the migration of species populations to new areas
  - the exchange of genes during fertilization
  - mating between close relatives
  - the movement of genes between species populations
41. Genetic drift is
- random changes in gene frequency in a population
  - generational fluctuations in gene frequencies that produce no effect
  - changes due to interbreeding with other species populations
  - the effect of mutations as they spread through neighbouring populations
42. A person gets infected by a pathogen and is now recovering from the disease. The type of immunity developed would be:
- naturally acquired active immunity
  - artificially acquired active immunity
  - artificially acquired passive immunity
  - naturally acquired passive immunity
43. Which one of the following enzymes carries out the initial step in the digestion of milk in humans? (AIPMT Pre 2011)
- (1) Pepsin
  - (2) Rennin
  - (3) Lipase
  - (4) Trypsin
44. In eubacteria, a cellular component that resembles eukaryotic cells is (AIPMT2011)
1. Plasma membrane
  2. Nucleus
  3. Ribosomes
  4. Cell wall
45. What is a tonoplast?
1. Outer membrane of mitochondria
  2. Inner membrane of chloroplast
  3. Membrane boundary of the vacuole of plant cells
  4. Cell membrane of plant cell
46. Which of the following endoparasites of humans does show viviparity? (AIPMT - 2015)
1. Enterobiusvermicularis
  2. Trichinellasprialis
  3. Ascarislumbricoides
  4. Ancylostomaduodenale
47. Which one of the following is oviparous?
1. Platypus
  2. Flying fox (Bat)
  3. Elephant
  4. Whale
48. Companion cells are closely associated with (AIPMT

Pre.-2012)

1. Sieve elements
2. Vessel elements
3. Trichomes
4. Guard cells

49.

Replum is present in the ovary of flower of (AIPMT-2008)

1. Sunflower
2. Mustard
3. Pea
4. Lemon.

50.

In unilocular ovary with a single ovule the placentation is (AIPMT-2010)

1. Basal
2. Free Central
3. Axile
4. Marginal

51.

Which one single organism or the pair of organisms is correctly assigned to its or their named taxonomic group (AIPMT-2012)

1. Paramecium and Plasmodium belong to the same kingdom as that of Penicillium
2. Lichen is a composite organism formed from the symbiotic association of an algae and a protozoan
3. Yeast used in making bread and beer is a fungus
4. Nostoc and Anabaena are examples of protista

52.

Gymnosperms are also called soft wood spermatophytes because they lack :[AIPMT - 2012]

1. Cambium
2. Phloem fibres
3. Thick-walled tracheids
4. Xylem fibres

53.

Which of the following is an endospermic seed?

1. Bean
2. Gram
3. Pea
4. Castor

54.

The hypodermis of a dicotyledonous stem:

1. is parenchymatous and synthesizes and stores food
2. is collenchymatous and provides mechanical strength to the young stem

3. is sclerenchymatous and provides mechanical strength to the young stem

4. is parenchymatous and provides mechanical strength to the young stem

55.

In their phloem tissue, gymnosperms have:

1. Sieve cells and Companion cells
2. Albuminous cells and Sieve cells
3. Sieve tubes and Companion cells
4. Sieve tubes and Albuminous cells

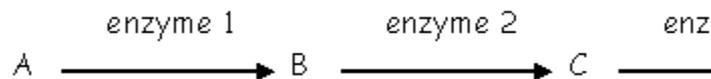
56.

What level of protein organization structure explains the 3-D shape of an enzyme?

1. primary structure
2. tertiary structure
3. secondary structure
4. quaternary structure

57.

Given below is a schematic metabolic pathway. In an experiment, the concentration of enzyme 1 was increased but the concentration of enzymes 2 and 3 were kept constant. What would happen to the rate of production of D?



1. it would go down
2. it would go up
3. it would stay the same
4. it would stop

58.

Meiosis results in

1. Production of gametes
2. Reduction in the number of chromosomes
3. Introduction of variation
4. All of the above

59.

Which of the following mouth parts of cockroach is paired?

1. Labrum
2. Labium
3. Hypopharynx
4. Maxilla

60.

What is not true regarding the sexual reproduction in basidiomycetes?

1. Sex organs are well developed
  2. Plasmogamy brought about by fusion of two vegetative or somatic cells of different strains or genotypes
  3. Karyogamy and meiosis takes place in basidium producing four basidiospores
  4. Basidiospores are produced endogenously on the basidium
61. Viruses are:
1. Obligate intracellular parasites
  2. Obligate extracellular parasites
  3. Facultative parasites
  4. Free living outside a living cell
62. In angiosperms, one of the male gametes fuses with the secondary nucleus to produce:
1. Endosperm
  2. Zygote
  3. Embryo
  4. Primary endosperm nucleus
63. Panthera tigris belongs to the Canidae family. What taxonomic category does Panthera represent?
1. Species
  2. Family
  3. Genus
  4. Order
64. A few statements describing certain features of reproduction are given below:
- i. Gametic fusion takes place
  - ii. Transfer of genetic material takes place
  - iii. Reduction division takes place
  - iv. Progeny have some resemblance with parents
- Select the options that are true for both asexual and sexual reproduction from the options given below:
1. i and ii;
  2. ii and iii;
  3. ii and iv;
  4. i and iii.
65. The term 'clone' cannot be applied to offspring formed by sexual reproduction because:
1. Offspring do not possess exact copies of parental DNA
  2. DNA of only one parent is copied and passed on to the offspring
  3. Offspring are formed at different times
  4. DNA of parent and offspring are completely different.
66. Asexual method of reproduction by binary fission is common to which of the following?
- i. Some eukaryotes
  - ii. All eukaryotes
  - iii. Some prokaryotes
  - iv. All prokaryotes
- Choose the correct option from the following:
1. i and ii
  2. ii and iii
  3. i and iii
  4. iii and iv
67. To isolate protoplast, one needs:
1. pectinase
  2. cellulase
  3. both pectinase and cellulase
  4. chitinase.
68. Which one of the following is a marine fish:
1. Rohu
  2. Hilsa
  3. Catla
  4. Common Carp.
69. Which one of the following products of apiculture is used in cosmetics and polishes:
1. honey
  2. propolis
  3. wax
  4. Royal jelly
70. Which is wrongly matched [AIPMT Mains 2011]

1. Agave – bulbils  
 2. Penicillium – conidia  
 3. Water Hyacinth – runner  
 4. Bryophyllum – leaf buds
71.  
 Trichoderma harzianum has proved a useful microorganism for  
 (1) Biological control of soil-borne plant pathogens  
 (2) Bioremediation of contaminated soils  
 (3) Reclamation of wastelands  
 (4) Gene transfer in higher plants (AIPMT 2008)
72.  
 Monascuspurpureus is a yeast used commercially in the production of: (AIPMT Pre. 2012)  
 1. ethanol  
 2. streptokinase for removing clots from the blood vessels.  
 3. Citric acid  
 4. blood cholesterol lowering statins
73.  
 Self fertilising trihybrid plants form (AIPMT- 2004)  
 1. Eight different gametes and 64 different zygotes  
 2. Four different gametes and sixteen different zygotes  
 3. Eight different gametes and sixteen different zygotes  
 4. Eight different gametes and thirty two different zygotes
74.  
 Consider the following four statements (a-d) regarding kidney transplant and select the two correct ones out of these. (AIPMT 2010)  
 (a) Even if a kidney transplant is proper the recipient may need to take immuno suppressants for a long time  
 (b) The cell-mediated immune response is responsible for the graft rejection  
 (c) The B- lymphocytes are responsible for rejection of the graft  
 (d) The acceptance or rejection of a kidney transplant depends on specific interferons  
 The two correct statements are  
 1. (c) and (d)  
 2. (a) and (c)  
 3. (a) and (b)  
 4. (b) and (c)
75.  
 Which one of the following is commonly used in transfer of foreign DNA into crop plants? (AIPMT-2009)  
 1. Penicillium expansum  
 2. Trichoderma polysporum  
 3. Meloidogyne incognita  
 4. Agrobacterium tumefaciens
76.  
 Endosperm is consumed by developing embryo in the seed of (AIPMT - 2008)  
 1. Coconut  
 2. Pea  
 3. Maize  
 4. Castor
77.  
 A nutritionally wild type organism which does not require additional biochemicals is (AIPMT - 2004)  
 1. Prototroph  
 2. Auxotroph  
 3. Phenotype  
 4. Autotroph.
78.  
 For transformation, micro-particles coated with DNA to be bombarded with gene gun are made up of:(AIPMT Pre. 2012)  
 1. Silver or Platinum  
 2. Platinum or Zinc  
 3. Silicon or Platinum  
 4. Gold or Tungsten
79.  
 According to Oparin, which one of the following was not present in the primitive atmosphere of the earth? (AIPMT 2004)  
 1. Oxygen  
 2. Hydrogen  
 3. Water vapour  
 4. Methane
80.  
 .Match each item in COLUMN I with one in COLUMN II and select your answer from the codes given:  

COLUMN I	COLUMN II
SCIENTIST	CONTRIBUTION
A. Francis Crick	a. Breaking the genetic code
B. Nirenberg	b. Established a model genetics study organism
C. Benzer	c. Central dogma of molecular biology
D. Brenner	d. Bacteriophage genetics

 Codes:  
 A. B. C. D.

1. c a d b
2. c a b d
3. a b c d
4. a c d b

81.

Which of the following father and son duos received Nobel Prize?

1. Nirenbergs
2. Kornbergs
3. Darwins
4. Lederbergs

82.

The famous double helix model of DNA was proposed by Watson and Crick in \_\_\_\_ and they shared Nobel Prize for Physiology or Medicine in \_\_\_\_\_ for their effort.

1. 1951, 1971
2. 1943, 1963
3. 1953, 1962
4. 1969, 1972

83.

The branch of biology that deals with the inheritance, as well as the variation of characters from parents to offspring, is called as:

1. Evolution
2. Genetics
3. Developmental biology
4. Forensics

84.

How many cells of the female gametophyte are surrounded by cell wall and are organized into cells?

1. 6
2. 7
3. 8
4. 2

85.

Cleistogamous flowers are:

1. Mostly autogamous
2. Invariably autogamous
3. Mostly xenogamous
4. Invariably xenogamous

86.

Which of the following is not a character of anemophilous flowers?

1. Pollens are light and non sticky
2. Stamens are well exposed
3. Have large, often feathery stigma
4. Have multiple ovules in each ovary

87.

In E.coli, the lac operon gets switched on when:

1. lactose is present and it binds to the repressor
2. repressor binds to operator
3. RNA polymerase binds to the operator
4. lactose is present and it binds to RNA polymerase

88.

Which fungus is an important source for production of citric acid?

1. Aspergillus niger
2. Aspergillus flavus
3. Trichodermapolysporum
4. Trichodermaharzianum

89.

A source of a 'clot buster' enzyme used in patients of CAD is the bacterium:

1. Staphylococcus aureus
2. Streptomyces griseus
3. Pseudomonas putida
4. Streptococcus pyogenes

90.

Statins produced by the yeast *Monascuspurpureus* have been commercialized as:

1. hormone replacement therapy for menopausal women
2. increasing receptor sensitivity in type II diabetes mellitus
3. a clotting factor for the treatment of Hemophilia A
4. blood-cholesterol lowering agent

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