

1. Bile salts combine with fatty acids to form complexes called \_\_\_\_\_ that facilitate absorption.
  1. chylomicrons
  2. micelles
  3. globules
  4. lipoproteins
2. A trained athlete can achieve a maximal cardiac output of:
  1. 5 – 10 L/min
  2. 15 – 20 L/min
  3. 25 – 30 L/min
  4. 55 – 60 L/min
3. The atria receive:
  1. Oxygenated blood
  2. Deoxygenated blood
  - 3 Mixed blood
  4. Venous blood
4. 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
5. LH surge:
  1. is a dramatic sudden increase in the levels of LH during the early part of menstrual cycle and is responsible for ovulation
  2. is a dramatic sudden decrease in the levels of LH during the early part of menstrual cycle and is responsible for ovulation
  3. is a dramatic sudden decrease in the levels of LH during the mid menstrual cycle and is responsible for ovulation
  4. is a dramatic sudden increase in the levels of LH during the mid menstrual cycle and is responsible for ovulation
6. Amensalism is an association between two species where:(NCERT Exemplar)
  1. One species is harmed and other is benefitted
  2. One species is harmed and other is unaffected
  3. One species is benefitted and other is unaffected
  4. Both the species are harmed
7. During cell growth, DNA synthesis takes place
  1. M phase
  2. S Phase
  3. G1 phase
  4. G2 phase
8. The wheat grain has an embryo with one, large, shield-shaped cotyledon known as: (Re-AIPMT- 2015)
  1. Coleorrhiza
  2. Scutellum
  3. Coleoptile
  4. Epiblast
9. Three crops that contribute maximum to global food production are (AIPMT-2005)
  1. Wheat, Rice and Maize
  2. Wheat, Rice and Barley
  3. Wheat, Maize and Sorghum
  4. Rice, Maize and Sorghum
10. What type of placentation is seen in Sweet Pea? (AIPMT-2006)
  1. Marginal
  2. Basal
  3. Axile
  4. Free central
11. Pentamerous actinomorphic flowers, bicarpellary ovary with oblique septum and a fruit of capsule or berry, belong to family (AIPMT-2006)
  1. Liliaceae
  2. Asteraceae
  3. Brassicaceae
  4. Solanaceae
12. The floral formula  $\oplus \frac{\sigma}{\text{♀}} K_{(5)} C_{(5)} A_5 \underline{G}_{(2)}$  is that of (AIPMT-2009)
  1. Tobacco
  2. Tulip
  3. Soybean
  4. Sunnhemp
13. Study the four statements (A – D) given below and select the two correct ones out of them: (NEET-II-2016)
  - A. Definition of biological species was given by Ernst Mayr.
  - B. Photoperiod does not affect reproduction in plants.

- C. Binomial nomenclature system was given by R. H. Whittaker.  
 D. In unicellular organisms, reproduction is synonymous with growth.  
 The two correct statements are
1. A and B
  2. B and C
  3. C and D
  4. A and D
14.  
 Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen? (NEET-2017)
1. Bacillus
  2. Pseudomonas
  3. Mycoplasma
  4. Nostoc
15.  
 The number of correct statements regarding hemichordates from the given is: [Page 54]
- I. A stomochord is present in the collar region
  - II. Circulation is of open type
  - III. Excretory organ is proboscis gland
  - IV. Development is indirect
1. 1
  2. 2
  3. 3
  4. 4
16.  
 Which of the following statements regarding Chondrichthyes may not be true for majority of members of the class?
1. Notochord is persistent throughout life.
  2. Skin has placoid scales.
  3. Fertilization is internal.
  4. Mouth is located ventrally.
17.  
 All the following are correct regarding mycoplasma except:
1. they lack a cell wall
  2. they are obligate aerobes
  3. they are smallest living cells known
  4. many are pathogenic in plants and animals
18.  
 Which of the following would best describe a virus?
1. Non cellular organization, crystalline inert structure in a living cell
  2. Non cellular organization, crystalline inert structure outside a living cell
  3. Cellular organization, crystalline inert structure in a living cell
  4. Cellular organization, crystalline inert structure outside a living cell
19.  
 All the following regarding Pinus are correct except:
1. Obligate association with mycorrhiza
  2. Unbranched stems
  3. Male and female strobili on the same plant
  4. Leaves in fascicles
20.  
 Identify the incorrect statement regarding gymnosperms in general:
1. They are heterosporous
  2. Megaspore mother cell is differentiated from a cell in the nucellus
  3. Multicellular female gametophyte is retained on the megasporangium
  4. The male gametophyte has a large number of cells
21.  
 Which of the following in sewage treatment removes suspended solids? (NEET 2017)
1. Secondary treatment
  2. Primary treatment
  3. Sludge treatment
  4. Tertiary treatment
22.  
 A man with blood group 'A' marries a woman with blood group 'B'. What are all the possible blood groups of their offsprings? (AIPMT-2015)
1. A., B and AB only
  2. A,B, AB and O
  3. O only
  4. A and B only
23.  
 The movement of a gene from one linkage group to another is called : (AIPMT-2015)
1. Duplication
  2. Translocation
  3. Crossing over
  4. Inversion
24.  
 The chromosomes in which centromere is situated close to one end are : (AIPMT-2015)

1. Acrocentric  
2. Telocentric  
3. Sub-metacentric  
4. Metacentric
25. Multiple alleles are present : (AIPMT- 2015)  
1. At different loci on the same chromosome  
2. At the same locus of chromosome  
3. On non-sister chromatids  
4. On different chromosomes
26. Which is the most common mechanism of genetic variation in the population of a sexually-reproducing organism? (AIPMT-2015)  
1. Chromosomal aberrations  
2. Genetic drift  
3. Recombination  
4. Transduction
27. Alleles are : (AIPMT- 2015)  
1. true breeding homozygotes  
2. different molecular forms of a gene  
3. heterozygotes  
4. different phenotype
28. MALT constitutes about \_\_\_\_\_percent of the lymphoid tissue in human body. (NEET-2017)  
1. 50%  
2. 20%  
3. 70%  
4. 10%
29. Transplantation of tissues / organs fails often due to non-acceptance by the patient's body. Which type of immune –response is responsible for such rejection (NEET-2017)  
1. Autoimmune response  
2. Cell- mediated immune response  
3. Hormonal immune response  
4. Physiological immune response
30. The coconut water from tender coconut represents: (NEET-I-2016)  
1. Free nuclear endosperm  
2. Endocarp  
3. Fleshy mesocarp  
4. Free nuclear proembryo
31. Which of the following statements is not correct? (NEET-I-2016)  
1. Some reptiles have also been reported as pollinators in some plant species. ,  
2. Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style.  
3. Insects that consume pollen or nectar without bringing about pollination are called pollen/ nectar robbers.  
4. Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil
32. Seed formation without fertilization in flowering plants involves the process of: (NEET-I-2016)  
1. Apomixis  
2. Sporulation  
3. Budding  
4. Somatic hybridization
33. Which one of the following statements is not true? (NEET-I-2016)  
1. Stored pollen in liquid nitrogen can be used in the crop breeding programmes  
2. Tapetum helps in the dehiscence of anther  
3. Exine of pollen grains is made up of sporopollenin  
4. Pollen grains of many species cause severe allergies
34. Which one of the following is the start codon? (NEET-1-2016)  
1. UAG  
2. AUG  
3. UGA  
4. UAA
35. Taylor conducted the experiments to prove semiconservative mode of chromosome replication on (NEET-2-2016)  
1. E. coli  
2. Vinca rosea  
3. Vicia faba  
4. Drosophila melanogaster
36. DNA- dependent RNA polymerase catalyzes transcription on the strand of the DNA which is called the (NEET-2-2016)  
1. Antistrand  
2. Template strand  
3. Coding strand  
4. Alpha strand

37. If there are 999 bases in RNA that codes for a protein with 333 amino acids, and the base at position 901 is deleted such that the length of the RNA becomes 998 bases, how many codons will be altered? (NEET-2017)
- 1
  - 11
  - 33
  - 333
38. The tendency of population to remain in genetic equilibrium may be disturbed by (NEET 2013)
1. Random mating
  2. Lack of migration
  3. Lack of mutations
  4. Lack of random mating
39. Forelimbs of cat, lizard used in walking; forelimbs of whale used in swimming and forelimbs of bats used in flying are an example of (AIPMT 2014)
1. Analogous organs
  2. Adaptive radiation
  3. Homologous organs
  4. Convergent evolution
40. Which one of the following are analogous structures? (AIPMT 2014)
1. Wings of Bat and Wings of Pigeon
  2. Gills of Prawn and Lungs of Man
  3. Thorns of Bougainvillea and Tendrils of Cucurbita
  4. Flippers of Dolphin and Legs of Horse
41. Which is the most common mechanism of genetic variation in the population of a sexually reproduction organism? (AIPMT 2015)
1. Transduction
  2. Chromosomal aberrations
  3. Genetic drift
  4. Recombination
42. A population will not exist in Hardy-Weinberg equilibrium if (AIPMT 2015)
1. Individuals mate selectively
  2. There are no mutations
  3. There is no migration
  4. The population is large
43. Which of the following had the smallest brain capacity? (AIPMT 2015)
1. Homo erectus
  2. Homo sapiens
  3. Homo neanderthalensis
  4. Homo habilis
44. The algae Spirulina, Chlorella and the microbe Methylophilusmethylophilus can be used as a source of:
1. Vitamin A and C
  2. Minerals like calcium
  3. Single cell protein
  4. Omega 3 fatty acids
45. Identify the incorrect statement regarding test cross?
1. It is used to determine the genotype of an individual exhibiting a dominant phenotype.
  2. The testcross parent is always homozygous recessive for all of the genes under consideration.
  3. The purpose of the testcross is to discover how many different kinds of gametes are being produced by the individual whose genotype is in question.
  4. A homozygous dominant individual will produce two types of progeny and a heterozygous individual will produce only one type of progeny.
46. Sickle cell disease is an example of:
1. Sex linked recessive disorder
  2. Pleiotropy
  3. Polygenic trait
  4. Sex influenced trait
47. What decides the frequency of an allele in a population?
1. Dominance
  2. Its location on a particular chromosome
  3. Its degree of expression
  4. Natural selection
- 48.

What is the number of linkage groups in humans?

1. 22
2. 23
3. 24
4. 46

49.

Assuming complete dominance recessiveness and independent assortment, the ratio of progeny with the genotypes AaBb, AABb, Aabb and aaBb from a cross AaBb X AABb would respectively be:

1. 4:4:2:0
2. 4:2:4:2
3. 4:4:2:2
4. 4:4:2:1

50.

A certain gene has 5 alleles. What will be the number of possible genotypic combinations?

1. 5
2. 15
3. 32
4. 2

51.

An RNA primer is essential for DNA synthesis carried out by DNA polymerase III. This is because, to synthesize DNA, DNA polymerase III requires:

1. A free 3' – PO<sub>4</sub> group
2. A free 5' – PO<sub>4</sub> group
3. A free 3' – OH group
4. A free 5' – OH group

52.

Which of the following possible modes of replication was eliminated by Meselson and Stahl based on the finding after one generation of replication of the bacterium?

1. Dispersive
2. Semi-conservative
3. Conservative
4. Both 1 and 3

53.

The mRNA codon GUG codes for:

1. Valine
2. Glutamic acid
3. Tryptophan

4. Formylated methionine

54.

What defines the template and coding strand of DNA for transcription?

1. Presence of the structural gene in a transcription unit
2. The core RNA polymerase enzyme
3. Presence of the promoter in a transcription unit
4. Presence of 3' – 5' TAC codon on the DNA template

55.

In eukaryotes RNA polymerase III transcribes:

1. hnRNA, snRNAs and 5.8S RNA
2. tRNA, 5.8S RNA and snRNAs
3. tRNA, 5SrRNA and snRNAs
4. rRNAs – 28S, 18S and 5S

56.

Identify the incorrect statement:

1. The DNA of the bacteriophage  $\phi$  X 174 has 5386 nucleotides
2. Bacteriophage lambda DNA has 48502 base pairs
3. The DNA of Escherichia coli has  $4.6 \times 10^3$  base pairs
4. Haploid content of human DNA is  $3.3 \times 10^9$  base pairs

57.

Bacillus thuringiensis forms protein crystals which contain insecticidal protein. This protein (AIPMT MAINS 2011)

1. Does not kill the carrier bacterium which is itself resistant to this toxin.
2. Binds with epithelial cells of midgut of the insect pest ultimately killing it.
3. Is coded by several genes including the gene cry.
4. Is activated by acid pH of the foregut of the insect pest.

58.

Which of the following Bt crops is being grown in India by the farmers? (NEET 2013)

1. Maize
2. Cotton
3. Brinjal
4. Soybean

59.

Which part of the tobacco plant is infected by *Meloidogyne incognita*? (NEET-I 2016)

1. Flower
2. Leaf
3. Stem
4. Root

60.

Use of bioresources by multinational companies and organisations without authorisation from the concerned country and its people is called. (NEET 2018)

1. Biodegradation
2. Biopiracy
3. Bio-infringement
4. Bio-exploitation

61.

DNA fragments are (NEET 2017)

1. Negatively charged
2. Neutral
3. Either positively or negatively charged depending on their size.
4. Positively charged.

62.

The lineage of the modern horse can be traced back in time to:

1. Hyracotherium
2. Equus
3. Mesohippus
4. Merychippus

63.

An allele that reduces the fitness of organisms is found to decrease very rapidly in a population. Most likely this allele is:

1. recently mutated
2. rare
3. dominant
4. recessive

64.

What exactly does the nature act upon when selecting an organism?

1. dominant alleles
2. recessive alleles
3. phenotype
4. combined genotype

65.

Which of the following types of natural selection reduces variation but does not change the mean value?

1. directional
2. stabilizing
3. disruptive
4. all of these

66.

Seeds that do not survive drying and freezing during ex-situ conservation and vice versa are called as:

1. Orthodox seeds
2. False seeds
3. Terminator seeds
4. Recalcitrant seeds

67.

The ability of plasmids and bacteriophage DNA to replicate within bacterial cells:

1. depends on a particular ori sequence of the main chromosomal DNA
2. is possible due to promoter sequence present in the insert
3. cannot occur without telomeric sequences
4. is independent of the control of chromosomal DNA

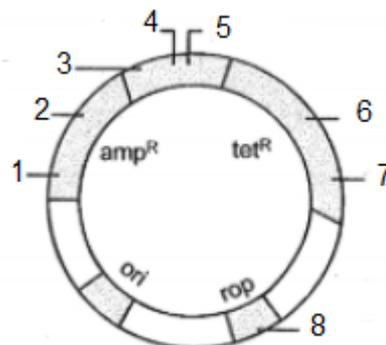
68.

What controls the copy number of linked DNA if plasmid is used as a vector in bacterial transformation?

1. Ori
2. rop
3. Selectable markers
4. Promoter in the insert

69.

In the given diagram of pBR322, the location of the recognition sequences of BamH I and Sal I are represented by the numbers:



1. 1 and 2
2. 3 and 4
3. 6 and 7
4. 5 and 8

70.

A piece of DNA is inserted within the gene of beta galactosidase in E.coli plasmid. X-gal is added to the medium during screening. The colonies of recombinant transformants:

1. will show an increase in growth
2. will not be able to survive
3. will give deep blue color
4. will not produce any color

71.

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

**Column I**

**Column II**

- (a) Proliferative Phase  
(b) Secretory Phase  
(c) Menstruation

- (i) Breakdown of endometrial lining  
(ii) Follicular Phase  
(iii) Luteal Phase

Codes:

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

72.

The property of the water molecule that is most important for the maintenance of homeostasis in living organisms is:

1. High latent heat of vaporization
2. High latent heat of fusion
3. High specific heat
4. Liquid form more dense than solid form

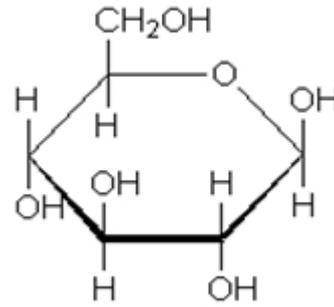
73.

Chitin, a complex polysachharide is found in:

1. Plant cell wall
2. The exoskeleton of arthropods and cell walls of most fungi
3. Bacterial cell wall
4. Cartilage and other connective tissue

74.

Given below is the structure of a monosaccharide. The homopolymer of this monosaccharide is used in:



1. Storage of carbohydrates in plants
2. Storage of carbohydrates in animals
3. Making the medium for microbial culture
4. Formation of the structure of the plant cell wall

75.

Consider the following key events:

- I. Chromosomes cluster at opposite spindle poles and their identity is lost as discrete elements.
- II. Nucleolus, golgi complex and ER reform

The stage of mitosis characterized by these key events is:

1. Prophase
2. Metaphase
3. Anaphase
4. Telophase

76.

During diakinesis of prophase I:

- III. Terminalisation of chiasmata takes place
- IV. Meiotic spindle is assembled.
- V. Nucleolus disappears and the nuclear membrane breaks down.

The correct statements are:

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

77.

Identify the correct statement regarding meiosis amongst the following:

- I. Meiosis involves two sequential cycles of nuclear and cell divisions but only a single cycle of DNA replication.
- II. Meiosis II is initiated after the parental chromosomes have replicated to produce identical sister chromatids at the S phase
- III. Meiosis involves pairing of bivalents and recombinations between them.

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

78.

Consider the following two statements:

- I. The growth of multi-cellular organisms is due to mitosis.
- II. Mitosis results in the production of diploid daughter cells with identical genetic complement usually.

Of the two statements:

- 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. I is incorrect but II is correct

79.

Scientists think that mitochondria may have once been separate living organisms for all of the following reasons except that they

- 1. have cilia and flagella
- 2. have their own DNA
- 3. can reproduce
- 4. can produce their own proteins

80.

From the undigested food reaching it, the large intestine absorbs most of:

- 1. The vitamins
- 2. Bile salts
- 3. Water
- 4. Both 2 and 3

81.

The specific role of bile pigments with respect to fat utilization is:

- 1. Emulsification
- 2. Micelle formation
- 3. Enterohepatic circulation
- 4. Nothing

82.

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

**COLUMN I**

**COLUMN II**

- |                    |   |
|--------------------|---|
| A. ADH             | a. Dehydration, increased blood osmolarity, decreased GFR |
| B. Aldosterone     | b. A rise in plasma potassium level                       |
| C. Cholecystokinin | c. Fat rich chyme in stomach                              |

- D. Erythropoietin
- d. Tissue hypoxia

Codes

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

83.

The fetus develops limbs by the end of:

- 1. One month of pregnancy
- 2. Two months of pregnancy
- 3. First trimester of pregnancy
- 4. Second trimester of pregnancy

84.

What is transferred into the fallopian tube in ZIFT?

- 1. Zygote only
- 2. Embryos with more than 8 blastomeres
- 3. Zygote or embryos with up to 8 blastomeres
- 4. All of the above can be transferred during ZIFT

85.

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

86.

The first movements of the fetus and the appearance of hair on the head are usually observed during:

- 1. 2nd month
- 2. 3rd month
- 3. 5th month
- 4. 6th month

87.

The fetal body is covered with fine hair, eyelashes separate, and eyelashes are formed by the end of:

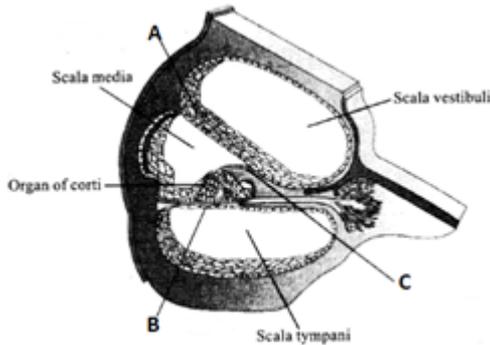
- 1. 20 weeks
- 2. 24 weeks
- 3. 28 weeks

4. 30 weeks

**Fill OMR Sheet**

88.

The given diagram shows a section of a part of cochlea. A, B and C respectively are:



1. Reissner's membrane, Basilar membrane and Tectorial membrane
2. Reissner's membrane, Tectorial membrane and Basilar membrane
3. Basilar membrane, Tectorial membrane and Reissner's membrane
4. Tectorial membrane, Reissner's membrane and Basilar membrane

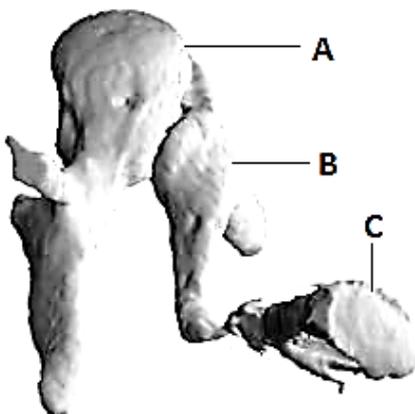
89.

The auditory receptors in the human ear will be:

1. Organ of Corti
2. Hair cells
3. Macula
4. Cupula

90.

What are bones labeled A, B and C shown in the given diagram?



1. Malleus, Incus and Stapes respectively
2. Anvil, Hammer and Stirrup respectively
3. Stapes, Incus and Malleus respectively
4. Hammer, Stirrup and Anvil respectively

