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**DEPARTMENT OF ZOOLOGY**  
**Multiple Choice Questions**

1. **Laws of inheritance were given by \_\_\_\_\_.**  
a) Miller      b) Morgan      c) Mendel      d) Griffith
2. **In heredity, the genes are obtained from \_\_\_\_\_.**  
a) Father      b) Mother      c) Both      d) None of the above
3. **\_\_\_\_\_ is the fundamental unit of heredity.**  
a) Nucleus      b) Gene      c) Cell      d) Golgi complex
4. **Phenotypic ratio of 3: 1 is obtained in \_\_\_\_\_.**  
a) Backcross      b) Incomplete dominance      c) Dihybrid cross      d) Monohybrid cross
5. **The ratio 9: 7 is due to \_\_\_\_\_.**  
a) Lethal genes      b) Supplementary genes      c) Complementary genes      d) Epistatic genes
6. **The various forms of a given gene are called as \_\_\_\_\_.**  
a) Alleles      b) Phenotype      c) Genotype      d) gamete
7. **Recessive gene can be expressed in \_\_\_\_\_ condition.**  
a) Heterozygous      b) Homozygous      c) Both the above      d) None of these
8. **Number of characters studied in garden pea by Mendel are \_\_\_\_\_**  
a) Three      b) five      c) Seven      d) six
9. **An individual with a pair of identical factor (allele) is \_\_\_\_\_.**  
a) Hybrid      b) Homozygous      c) Heterozygous      d) None of above
10. **Results of Mendel's cross are represented by a 'checker board method'. This method was given by \_\_\_\_\_**  
a) Bateson      b) Mendel      c) Punnett      d) Sutton
11. **The gene which affects the viability of an individual is known as \_\_\_\_\_.**  
a) Supplementary genes      b) Lethal genes      c) Complementary genes      d) Recessive gene
12. **Law of Independent assortment of Mendel was proved by \_\_\_\_\_**  
a) Back cross      b) Monohybrid cross      c) Incomplete dominance      d) Dihybrid cross
13. **A cross between two pairs of alleles is called \_\_\_\_\_.**  
a) Linkage      b) Dihybrid cross      c) Crossing over      d) Monohybrid cross
14. **Law of independent assortment can be proved by the cross \_\_\_\_\_**  
a) YyRr X YyRr      b) YyRr X yyrr      c) YyRr X YYRR      d) none of these
15. **9: 3: 3: 1 dihybrid ratio is modified in complementary genes as \_\_\_\_\_**  
a) 15 : 1      b) 9 : 7      c) 13 : 1      d) 12 : 3 : 1
16. **Duplicate factor modifies normal Mendelian ratio into \_\_\_\_\_**  
a) 13 : 3      b) 9 : 7      c) 9: 3: 4      d) 15: 1
17. **Recessive genes are usually expressed in humans only when \_\_\_\_\_.**  
A) They are coding for skin color      B) They are coding for genetic diseases

C) The organism is in the embryonic stage D) Both alleles are exactly the same, or homozygous

18. \_\_\_\_\_ is the most common type of fetal testing.

- A) Blood chemistry B) Amniocentesis C) A DNA probe D) CVS

19. CVS is usually performed between----- weeks.

- A) Ten to Twelve B) Twelve to Fourteen C) Thirteen to Fifteen D) Eleven to Thirteen

20. Which of the following statements is true concerning screening?

- A) Screening is illegal in over half of the world.  
B) Screening can be done only in the first trimester of pregnancy.  
C) Genetic screening is rarely done because it yields very little accurate information.  
D) Screening can be done before conception by carrier recognition or during fetal testing.

21. For which of the following are newborn infants not routinely screened at birth?

- A) PKU B) color blindness C) imperforate anus D) congenital hip dysplasia

22. Skeleton of sponges is secreted by

- A) Chromocyte B) Sclerocyte C) Myocytes D) Thesocyte

23. Calcareous spicules are formed by.

- A) Calcoblast B) Spinoblast C) Silicoblast D) Spongioblast

24. Human skin color is a ----- trait.

- A) Multigenic B) Digenic C) Monogenic D) Polygenic

25. IUD stands for -----.

- A) Inuterine device B) Intrauterine device C) Interuterine device D) Intrautedevice

26. Conjoined twins are ----- twins.

- A) Monozygotic B) Dizygotic C) Heterozygotic D) Monozygotic

27. The food capturing organelle of Amoeba is:

- a) Food vacuole b) contractile vacuole c) Pseudopodia d) nucleus

28. Malaria is caused by:

- a) Ascaris b) foul air c) Plasmodium d) Mosquito

29. The infective stage of plasmodium in Man is:

- a) Schizont b) Merozoits c) Sporozoits d) Trophozoits

30. The common name of Scypha is:

- a) Bath sponge b) Urn sponge c) Bowl sponge d) Horse sponge

31. Metridium is generally known as:

- a) Sea pen b) Sea fan c) Sea Anemone d) Sea fur

32. Polymorphisum occurs in:

- a) Termites b) Certain ants c) Snails d) Coelenterates

33. Amphiblastula is the larva of

a) Leucosolenia b) Clathrina c) Sycon d) None

**34. The term cistern, muton and recon were introduced by**

(A) Watson and Crick (B) S. Benzer (C) Meselson (D) Morgan

**35. Extranuclear genetic material is found in**

(A) Plastid and nucleus (B) Mitochondria and plastids

(C) Nucleus and cytoplasm (D) Mitochondria and nucleus

**36. The molecular formulae of deoxyribose sugar and ribose sugar respectively are**

(A)  $C_5H_{10}O_4$  and  $C_5H_{10}O_6$  (B)  $C_5H_{10}O_4$  and  $C_5H_{10}O_5$

(C)  $C_5H_{10}O_5$  and  $C_5H_{10}O_4$  (D)  $C_5H_{10}O_5$  and  $C_6H_{10}O_4$

**37. The nitrogen bases which pair with two hydrogen bonds are**

(A) Adenine and thymine (B) Adenine and Cytosine

(C) Cytosine and guanine (D) Cytosine and adenine

**38. DNA differs from RNA in**

(A) Presence of deoxyribose sugar (B) Presence of thymine base

(C) Property of replication (D) All the above

**39. DNA molecules makes a complete turn after every**

(A) 20 Å (B) 34 (C) 3.4 Å (D) 10 base pairs

**40. The distance between two successive nitrogenous base pairs is**

(A) 34 Å (B) 36 Å (C) 20 Å (D) 3.4 Å

**41. In nucleoside, nitrogen base is attached to pentose sugar at**

(A) Carbon – 1 of pentose sugar (B) Carbon – 2 of pentose sugar

(C) Carbon – 4 of pentose sugar (D) Carbon – 5 of pentose sugar

**42. If the strand of DNA has 35 nucleotide how many phosphodiester bonds would exist**

(A) 34 (B) 35 (C) 24 (D) 70

**43. In eukaryotic DNA replication, lagging strand is formed by**

(A) RNA fragments (B) Okazaki fragments

(C) DNA fragments (D) Nucleotide fragments

**44. The enzyme DNA polymerase can work only in**

(A)  $3' \rightarrow 5'$  direction (B)  $5' \rightarrow 3'$  direction

(C) Both the direction (D)  $5' \rightarrow 5'$  direction

**45. Enzyme required for removing RNA primer during DNA replication is**

(A) DNA primase (B) DNA ligase

(C) DNA polymerase I (D) DNA polymerase III

**46. During DNA replication, the reunion or recoiling of separated DNA strand is prevented by**

(A) Helix destabilizing protein (B) Single strand binding protein

(C) Rep protein (D) Both (A) and (B)

**47. The enzyme that cuts the bonds of DNA molecule at the origin of replication is**

(A) Endonuclease (B) DNA polymerase (C) DNA gyrase (D) DNA ligase

**48. Which of the following enzyme is required to release the tension imposed by uncoiling of strands?**

(A) Endonuclease (B) DNA ligase (C) DNA gyrase (D) DNA helicase

**49. The cellular composition of m-RNA is**

(A) 5-10% (B) 3-5% (C) 10-20% (D) 70-80%

**50. Formation of mRNA from DNA is called**

(A) Transformation (B) Transduction (C) Translation (D) Transcription

**51. The ratio of purines and pyrimidines in mRNA is not 1:1 because the nitrogenous bases are**

(A) Unpaired (B) Paired (C) Paired only in loops (D) Paired in stems

**52. The codons which may present at 3' end of mRNA**

(A) UAA (B) UAG (C) UGA (D) Any one of these

**53. Which of the following is not tool of genetic engineering?**

(A) Vectors (B) Enzymes (C) Foreign DNA (D) GMO

**54. In recombinant DNA technology a plasmid vector is cleaved by**

(A) Modified DNA ligase (B) A heated alkaline solution

(C) The same enzyme that cleave the donor DNA

(D) The different enzyme other than that cleave the donor DNA

**55. The most common plasmid vector used in genetic engineering is**

(A) PBR 328 (B) PBR 322 (C) PBR 325 (D) PBR 330

56. 'Nif gene' for nitrogen fixation is cereal crops like wheat, jowar etc. is introduced by cloning

(A) Rhizobium meliloti (B) Bacillus thuringiensis (C) Rhizopus (D) Rhizophora

57. Eco RI is an

(A) Ligase (B) Polymerase (C) Restriction enzyme (D) Gyrase

58. The transgenic plant flavr savr tomato carries an artificial gene for

(A) Delay ripening process (B) Longer shell life (C) Added flavours (D) All of these

59. Which of the infective stage to primary host of fasciola hepatica

a) Miracidium b) Sporocyst c) Metacercaria d) Cercaria

60. Organ system grade of body organization present in:

a) Porifera b) Platyhelminthes c) Aschelminthes d) Coelenterates

61. The mouth of *Ascaris* is gurd by:

a) Two lateral lips b) One dorsal and two ventro-lateral lips

c) One ventral and two dorso-lateral lips d) One ventral, one dorsal and two lateral lips

62. Excretory organ in *Ascaris* are:

a) Nephridia b) Kidneys c) Flame cell d) None of these

63. Testes sacs in earthworm are located in which segment:

a) 13&14 b) 9&10 c) 11&12 d) 10& 11

64. Prokaryotic cells do not have

A) Centrioles B) DNA. C) Cytoskeletons D) Cell walls.

65. All eukaryotic cells have three basic parts. Which of the following is not a basic part of a typical eukaryotic cell?

A) Nucleus B) Cytoplasm C) Plasma membrane D) Nucleoid

66. Which of the following is not a function of the cell's glycocalyx?

A) Transport B) Cell-to-cell recognition C) Behavior D) Recognition

67. The ability of the plasma membrane to let some substances in and keep others out is called

A) Homeostasis. B) Selective permeability.

C) Facilitated diffusion. D) Osmosis.

**68. Energy is required for**

A) Simple diffusion. B) Facilitated diffusion. C) Osmosis. D) Active transport.

**69. The bulk movement of material into a cell by the formation of a vesicle is called**

A) Simple diffusion. B) Facilitated diffusion. C) Endocytosis. D) Osmosis.

**70 . If hydrostatic pressure is used to move a molecule through a membrane, this is termed**

A) Filtration. B) Osmosis. C) Active transport. D) Endocytosis.

**71 . \_\_\_\_\_ are the non-membrane bound structures that are the sites for protein synthesis**

A) Centrioles B) Lysosomes C) Ribosomes D) Vacuoles

**72 . Which of the following organelles functions in the digestion of materials?**

A) lysosomes B) Ribosomes C) Vesicles D) Microfilaments

**73. Which of the following is not found within a mitochondrion?**

A) DNA B) Matrix C) Cristae D) RNA

**74. Which of the following is not part of cytoskeleton of a eukaryotic cells?**

A) Microtubules B) Microfilaments C) Intermediate filaments D) Cilia

**75 . The centrioles arise from the**

A) Microtubule-organizing center. B) Microfilament-organizing center. C) Basal body. D) Nuclear envelope.

**76. The type of connective tissue that stores lipids is called**

A) Adipose tissue. B) Blood tissue C) Epithelial tissue .D) Storage tissue.

**77. Cells involved with protection, support, and nourishment within the nervous system are called**

A) Neurons. B) Glial cells. C) Impulse conducting cells .D) Nerves.

**78. \_\_\_\_\_ are the functional units of an animal's body.**

A) Cells B) Tissues C) Organs D) Systems

**79. The highest level of organization in an animal's body is the \_\_\_\_\_ level.**

A) Cells B) Tissues C) Organ D) Organ system

**80. All of the following are types of connective tissue except**

A) Blood B) Bone C) Nervous D) Cartilage

**81. The heart is a good example of an organ system.**

A) True B) False

**82. Intercalated disks would be found in smooth muscle cells.**

A) True B) False

**83. Collagenous fibers would be found in fibrocartilage**

A) True B) False

**84. Simple squamous epithelium is found in the air sacs of the lungs.**

A) True B) False

**85. Stratified squamous epithelium is found on the surface of the skin.**

A) True B) False

**86. Both cilia and flagella function in movement.**

A) True B) false

**87. The Golgi apparatus consists of stacks of cisternae**

A) True B) False

**88. The period from the time a cell is produced until it completes mitosis is called the**

A) Mitotic phase. B) Cell cycle. C) Cytokinesis phase. D) G1 phase.

**89. Most of the cell cycle is occupied by the**

A) G1 phase. B) G2 phase. C) S phase. D) interphase.

**90. Chromosome replication occurs during the \_\_\_\_\_ of mitosis.**

A) G1 phase. B) G2 phase. C) S phase. D) interphase.

**91. A copy of a chromosome produced by replication is called a**

A) Chromatid. B) Daughter chromosome. C) Sister chromosome. D) Both b and c.

**92. The microtubules of the mitotic spindle are attached to the**

A) Kinetochore. B) Centromere. C) Centrosome. D) all of the above

**93. Chromosomes become visible with the light microscope during \_\_\_\_\_ phase.**

A) Prophase B) Metaphase C) anaphase D) telophase

**94. The mitotic spindle disassembles during what phase of mitosis?**

A) Prophase B) Metaphase C) Anaphase D) Telophase

**95. Chromosome replication occurs during the \_\_\_\_\_ of mitosis.**

A) G1 phase B) G2 phase C) S phase D) interphase

**96. During prophase I of meiosis, homologous chromosomes line up side-by-side in a process called**

A) Genetic recombination .B) Meiosis II. C) Synapsis. D) Crossing over.

**97. Crossing over results**

A) Synapsis.B) Syngamy.C) Genetic recombination.D) Dyad formation.

**98. Spermatogenesis gives rise to \_\_\_\_\_ sperm cells.**

A) 1 B) 2 C) 3 D) 4

**46. In the DNA molecule, the base adenine pairs with the base**

A) Guanine .B) Cytosine. C) Thymine. D) Uracil.

**99. A DNA nucleotide consists of all of the following EXCEPT:**

A) Base pairs.B) Ribose.C) Deoxyribose.D) Phosphate.

**100. During protein synthesis, \_\_\_\_\_ is produced in the nucleus and carries the genetic code to the cytoplasm.**

A) Transfer RNAB) Messenger RNAC) Ribosomal RNAD) Deoxynucleotide

**Answers:**1.c 2.c 3.b 4.d 5.c 6.a 7.b 8.c 9.b 10.c 11.b 12.d 13.b 14.a 15.b 16.d 17. d,

18.b, 19. a, 20.d, 21.b, 22.b, 23.a, 24. b, 25. a ,26.a,27. c,28.c,29.c, 30.b,31.c,32.d,33. c , 34. b

35. b 36. b 37. a ,38. d, 39. d , 40. d , 41. a42. a ,43. b , 44. b 45. c 46. d 47. a 48. c 49. b 50.

d 51. a 52. d 53. d 54 c. 55. b

56.a57.c58.d,59.c,60.c,61.b,62.d,63.d,64.a65.d66.a67.b68.d69.c70.a71.c72.a73.d74.75.a76.a77.

b78.c79.d80.c81.b82.b83.a84.a85.a86.a87.88.b89.d90.c91.a92.a93.a94.d95.c96.c97.c98.c99.d1

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