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) Backcross  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 yyr  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 secreated by
   A) Chromocyte  B) Sclerocyte  C) Myocytes  D) Thesocyte

23. Calcarious 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) Tropozoits

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. Polymorphism 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 cistorn, 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) C₅H₁₀O₄ and C₅H₁₀O₆  (B) C₅H₁₀O₄ and C₅H₁₀O₅
(C) C₅H₁₀O₅ and C₅H₁₀O₄  (D) C₅H₁₀O₅ and C₅H₁₀O₄

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’ → 5’ direction  (B) 5’ → 3’ direction
(C) Both the direction  (D) 5’ → 5’ direction
45. Enzyme required for removing RNA primer during DNA replication is
   (A) DNA primase       (B) DNA ligase
   (C) DNA polymeraseI   (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 guarded by:
a) Two lateral lips b) One dorsal and two ventro-lateral lips
c) One ventral and two droso-lateral lips d) One ventral, one dorsal and two lateral lips

62. Excretory organ in Ascaris are:
a) Nephridia b) Kidneys c) Falme 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
68. Energy is required for

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

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

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

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

78. _________ are the functional units of an animal's body.
A) Cells B) Tissues C) Organs D) Systems

79. The highest level or 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
89. Most of the cell cycle is occupied by the
90. Chromosome replication occurs during the __________ of mitosis.
91. A copy of a chromosome produced by replication is called a
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

97. **Crossing over results**

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**

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

100. **During protein synthesis, ______ is produced in the nucleus and carries the genetic code to the cytoplasm.**
A) Transfer RNA  B) Messenger RNA  C) Ribosomal RNA  D) Deoxynucleotide