شابتر ١٠

1. ***Control body temperature and water balance as apart of _____***

   A) Cellular respiration *B) Photosynthesis*

   C) homeostasis *D) None of the above*

2. ***_____ increase metabolic rate in birds and mammals***

   A) Shivering *B) Increase physical activity*

   C) Hormonal changes *D) all of the above*

3. ***_____ have the same internal solute concentration as seawater***

   A) osmoregulators. *B) osmoconformers.*

   C) osmoinformers. *D) hypertonic.*

4. ***Birds dispose the nitrogenous waste in the form of _____***

   A) Uric acid *B) Urea*

   C) Carbonate *D) there is no answer*

شابتر ١٢ جزء ١

5. ***_____ preserves chromosome number in eukaryotic cell***

   A) Meiosis *B) Mitosis*

   C) Oxidation *D) None of the above*

6. ***_____ stage of cell division in which the cytoplasm divides into two cells***

   A) Cytokinesis *B) Meiosis*

   C) Crossing over *D) Interkinesis*

7. ***When cells are not dividing,the genetic material is decondensed and is called _____***

   A)Chromatin *B)Chromosome*

   C) Lysosome *D) None of the above*

8. ***When cells are dividing,the genetic material is condensed and is called __***

   A) Chromatin *B) Chromosome*

   C) Lysosome *D) None of the above*

Biology 110 – Final

Test Bank

1. The tracheal systems are the major site of gas exchange in _____

- [x] arthropods
- [ ] flatworms
- [ ] reptiles
- [ ] jellies

2. The major site of gas exchange in _____is skin

- [ ] mammals
- [ ] tetrapods that live on land
- [ ] birds
- [x] flatworms

3. Gills _____

- [ ] release oxygen
- [ ] absorb carbon dioxide
- [ ] decrease the surface to volume ratio
- [x] increase the surface to volume ratio

4. Birds and mammals use _____ as the respiratory surface

- [ ] their body surfaces
- [x] more complex lungs
- [ ] simple lungs
- [ ] small lungs

5. In the human respiratory system, air passes from larynx to the _____

- [ ] nasal cavity
- [ ] alveoli
- [ ] bronchi
- [x] trachea

6. The actual site of gas exchange in human is _____

- alveolai
- vocal cord
- nasal cavity
- pharynx

7. Alveoli are _____

- the site where CO2 diffuses into the blood
- having small surface area
- the site where O2 diffuses out of the blood
- having huge surface area (100m2 in humans)

8. Inhalation occurs when _____

- the diaphragm moves upward
- the diaphragm moves downward
- the rib cage contracts
- the pressure around the lungs increases

9. Smoking _____

- decreases the risk of heart attacks and strokes
- decreases the harmful types of cholesterol
- can cause lung cancer
- reduces blood pressure

10. In the body tissues, blood _____

- drops off CO_2
- drops off waste products
- picks up CO_2
- picks up O_2

11. During the transport of gases between alveoli and blood _____

- O_2 moves from the alveoli of the lungs into the blood
- CO_2 moves from the tissues into the blood
- O_2 moves from the blood into the tissues
- the tissues have more CO_2 and less O_2 than in the blood

12. The iron-containing pigment (hemoglobin) _____

- is found only in birds
- is found in Arthropods
- is found in almost all vertebrates
- is found in Mollusca

13. The heart _____

- carries food through body
- transports blood throughout the entire body
- pumps blood through body
- is network of hollow tubes

14. In the four-chambered hearts _____

- oxygen rich blood is completely separated from oxygen poor blood
- blood stays confined to vessels
- cells directly bathed in blood AND blood stays confined to vessels
- cells directly bathed in blood

15. Arteries _____

- have thicker walls
- composed of a single layer of epithelial cells
- are narrow, blood cells flows in a single file
- have one-way valves that restrict backward flow

16. The heart rate _____

- prevent the backflow of blood
- is the amount of blood/minute pumped into systemic circuit
- defined as the number of beats/minute
- is a defect in one or more heart valves

17. The AV node _____

- generates electrical signals in atria
- sets the rate of heart contractions
- is the amount of blood/minute pumped into systemic circuit
- relays electrical signals to the ventricles

18. A heart attack is defined as _____

- the death of brain tissue from blocked arteries in the head
- the force blood exerts on vessel walls
- the development of plaques inside walls of blood vessels
- the damage to cardiac muscle typically from a blocked coronary artery

19. Plasma contains fibrinogen, which is converted into fibrin that help _____

- as pH buffering
- as solvent for carrying other substance
- in blood clotting
- in defense

20. The white blood cells (leukocytes) _____

- fight cancer
- transport O_2 bound to hemoglobin
- transport CO_2
- promote clotting

21. Some athletes artificially increase their red blood cell production by injecting _____

- fibrinogen
- erythropoietin
- immunoglobulins
- sodium ions

22. the major site of gas exchange in _____ are tracheal systems

- flatworms
- arthropods
- mammals
- fish

23. Gills _____

- absorb carbon dioxide
- decrease the surface to volume ratio
- absorb oxygen
- release oxygen

24. Birds and mammals use _____ as the respiratory surface

- their body surfaces
- more complex lungs
- simple lungs
- small lungs

25. In the human respiratory system, air passes from nasal cavity to the _____

- alveoli
- pharynx
- larynx
- bronchioles

26. The actual site of gas exchange in human is _____

- larynx
- alveolai
- vocal cord
- nasal cavity

27. Alveoli are _____

- having small surface area
- the site where O2 diffuses out of the blood
- the site where CO2 diffuses out of the blood
- the site where CO2 diffuses into the blood

28. Inhalation occurs when _____

- the volume of the chest cavity increases, lowering the air pressure around lungs.
- the diaphragm moves upward
- the rib cage contracts
- air is forced out of the respiratory tract

29. Smoking _____

- reduces blood pressure
- increases the harmful types of cholesterol
- decreases the harmful types of cholesterol
- decreases the risk of heart attacks and strokes

30. In the lungs, blood _____

- picks up CO_2
- picks up O_2
- drops off O_2
- drops off urine

31. During the transport of gases between blood and tissues _____

- O_2 moves from the alveoli of the lungs into the blood
- CO_2 moves from the blood into the alveoli of the lungs
- the tissues have more CO_2 and less O_2 than in the blood
- gases in the alveoli have more O_2 and less CO_2 than gases the blood

32. The copper-containing pigment (hemocyanin) _____

- is found in Mollusca
- is found in many mammals
- is found in almost all vertebrates
- is found only in birds

33. The heart _____

- carries oxygen through body
- carries food through body
- transports blood throughout the entire body
- pumps blood through body

34. In the four-chambered hearts _____

- there are two atria and two ventricles
- blood stays confined to vessels
- heart pumps blood through open-ended vessels
- there are two atria and one ventricle

35. Veins _____

- have thicker walls
- are under more pressure
- force blood back to right heart atrium
- increases surface area for gas and fluid exchange

36. The heart valves _____

- is a defect in one or more heart valves
- define as the number of beats/minute
- is the amount of blood/minute pumped into systemic circuit
- prevent the backflow of blood

37. The AV node _____

- generates electrical signals in atria
- sets the rate of heart contractions
- is the amount of blood/minute pumped into systemic circuit
- relays electrical signals to the ventricles

38. The stroke _____

- is the death of brain tissue from blocked arteries in the head
- is the damage to cardiac muscle
- narrows the heart blood vessels
- reduces the diastolic pressure

39. Plasma contains fibrinogen, which is converted into fibrin that help _____

- in osmotic balance
- as pH buffering
- in blood clotting
- as solvent for carrying other substance

40. The white blood cells (leukocytes) _____

- function inside and outside the circulatory system
- are small fragments of cells
- promote clotting
- transport O_2 bound to hemoglobin

41. Gills _____

- release oxygen
- increase the surface area for gas exchange
- absorb carbon dioxide
- decrease the surface to volume ratio

42. Exhalation occurs when _____

- the diaphragm moves downward
- the volume of the chest cavity increases, lowering the air pressure around lungs.
- the pressure around the lungs increases
- air rushes into lungs to equalize the pressure difference

43. In the body tissues, blood _____

- picks up O_2
- drops off O_2
- drops off CO_2
- drops off waste products

44. The iron-containing pigment (hemoglobin) _____

- is found only in birds
- is found in Arthropods
- is found in many invertebrates
- is found in Mollusca

45. The blood vessels _____

- transport blood throughout the entire body
- carry O_2 to the lungs
- carry CO_2 to the body
- carry waste to body cells

46. In the four-chambered hearts _____

- blood stays confined to vessels
- the left side of the heart pumps blood from lungs to body
- heart pumps blood through open-ended vessels
- there is no answer

47. Capillaries _____

- force blood back to right heart atrium
- exchange gas and other transfers in the capillary beds
- are under more pressure
- have one-way valves that restrict backward flow

48. Atherosclerosis _____

- is the force blood exerts on vessel walls
- reduces the blood flow
- is measured as systolic pressure
- is measured as diastolic pressure

49. The platelets _____

- fight infections
- promote clotting
- fight cancer
- transport CO_2

50. The pacemaker (SA node) _____

- is the amount of blood/minute pumped into systemic circuit
- relays electrical signals to the ventricles
- sets the rate of heart contractions
- is the development of plaques inside walls of blood vessels

51. Osmoregulation means the _____

- the active regulation of the osmotic pressure of an organism fluids
- control of the gain and loss of water and solutes
- First AND Second
- the disposal of nitrogen-containing wastes

52. Animals that absorb heat from their surroundings are called _____

- Ectothermic
- Endothermic
- Endothermic AND Herbivorous
- Herbivorous

53. Endothermic animals _____

- derive body heat mainly from their metabolism
- are represented by worms and molluscs
- absorb heat from their surroundings
- absorb heat from their surroundings AND are represented by worms and molluscs

54. Animals exchange heat with the environment by _____

- Fertilization
- Pollination
- Photosynthesis
- None of the above

55. The adaptations that promote the process of thermoregulation include _____

- Behavioral responses
- Circulatory adaptations
- First AND Second
- Conduction

56. The freshwater fish _____

- [x] Excrete excess water
- [ ] Pump out excess salt
- [ ] there is no answer
- [ ] Lose water by osmosis

57. The land animals conserve water using _____

- [x] Behavior adaptations
- [ ] Lungs
- [ ] Gills
- [ ] Stomach

58. In vertebrates the excretion is primarily carried out by _____

- [ ] Gills
- [ ] Lungs
- [ ] Stomach
- [x] Skin

59. In mammals, the ureters drain urine into _____

- [ ] Inferior vena cava
- [x] urinary bladder
- [ ] All other answers are correct
- [ ] Renal artery and vein

60. The key excretory processes of the urinary system include _____

- [ ] Excretion
- [ ] Filtration
- [x] First AND Second
- [ ] Conduction

61. The nitrogenous wastes are toxic breakdown products of _____

- all not above
- Fats
- Inorganic compounds
- Nucleic acids

62. The animals dispose off nitrogenous wastes in the form of _____

- Hydrochloric acid
- uric acid
- Nitrate
- First AND Second

63. Urea Is _____

- Easier to store
- Soluble in water AND Easily disposed of by aquatic animals
- Soluble in water
- Easily disposed of by aquatic animals

64. _____ is the nitrogen-containing metabolic waste products in mammals, amphibians, sharks, and some bony fishes

- Ammonia AND Carbonate
- Carbonate
- Urea
- Ammonia

65. The kidney dialysis can be a lifesaver by _____

- Maintaining the solute concentration in the blood
- All other answers are correct
- Maintaining the toxic compounds in the blood
- Extracting a filtrate from the urine

66. Excess of CO_2 or O_2 in the plant leaves exit through _____

- Stomata
- Phloem
- Xylem
- all of the above

67. Secretion of water and its solutes by hydathodes found in the leafs epidermis of some plants is called _____

- Transpiration
- All other answers are correct
- Photosynthesis
- Guttation

68. The evaporation of water from the surface of leaves through stomata is called _____

- Guttation
- Transpiration
- All other answers are correct
- Photosynthesis

69. _____ is secretion of water and its solutes by hydathodes found in the leafs epidermis of some plants

- Transpiration
- Guttation
- Respiration
- all of the above

70. _____ is the evaporation of water from the surface of leaves through stomata

- Respiration
- Guttation
- Photosynthesis
- None of the above

71. Osmoregulation means the _____

- there is no answer
- the disposal of nitrogen-containing wastes
- maintenance of internal temperature within narrow limits
- the active regulation of the osmotic pressure of an organism fluids

72. Animals that absorb heat from their surroundings are called _____

- Photosynthetic AND Herbivorous
- Herbivorous
- Ectothermic
- Photosynthetic

73. Endothermic animals _____

- absorb heat from their surroundings
- All other answers are correct
- derive body heat mainly from their metabolism
- use water and atmospheric CO_2 to produce sugar

74. Animals exchange heat with the environment by _____

- there is no answer
- Fertilization
- Evaporation
- Pollination

75. The adaptations that promote the process of thermoregulation include _____

- Behavioral responses
- Increased metabolic heat production
- Evaporative cooling
- All of the above

76. The saltwater fish _____

- Gain water by osmosis
- Pump out excess salt
- Excrete excess water
- All other answers are correct

77. The land animals conserve water using _____

- Kidneys
- Behavior adaptations
- First AND Second
- Stomach

78. In vertebrates the excretion is primarily carried out by _____

- Gills
- Lungs
- First AND Second
- Kidneys

79. The key excretory processes of the urinary system include _____

- Conduction
- Convection
- Excretion
- None of the above

80. The nitrogenous wastes are toxic breakdown products of _____

- Fats
- there is no answer
- Inorganic compounds
- Protein

81. The animals dispose off nitrogenous wastes in the form of _____

- Hydrochloric acid AND Nitrate
- Nitrate
- Hydrochloric acid
- Urea

82. Urea Is _____

- Poisonous
- Soluble in water
- First AND Second
- Less toxic

83. _____ is the nitrogen-containing metabolic waste products in most aquatic animals (including most fishes)

- Ammonia
- Uric acid
- All other answers are correct
- Urea

84. The kidney dialysis can be a lifesaver by _____

- Removing wastes from the blood AND Maintaining the solute concentration in the blood
- Maintaining the solute concentration in the blood
- Maintaining the toxic compounds in the blood
- Removing wastes from the blood

85. Excess of CO_2 or O_2 in the plant leaves exit through _____

- Stomata
- penetrating the external cell on surfaces directly to the air
- First AND Second
- Xylem

86. The halophytes excrete the excess salts outside their body by _____

- vascular bundles
- Cortex
- Frist AND Second
- special glands

87. _____ convert excess amino acids into uric acid and Keto acids

- aquatic plants
- terrestrial plants
- All other answers are correct
- halophytes

88. Asexual reproduction _____

- unique offspring
- Can proceed via Budding, Fission, and Fragmentation
- All other answers are correct
- Two parents produce genetically identical offspring

89. Hermaphroditism _____

- there is no answer
- One individual with male and female reproductive systems
- One parent produces genetically identical offspring
- One individual with male reproductive system and the other with female reproductive systems

90. In Sexual reproduction, sperm may be transferred to the female by _____

- Wind
- Insects
- Internal fertilization
- fragmentation

91. Both sexes in humans have _____

- Carpels
- Sepals
- A set of gonads where gametes (sperms & ovum) are produced
- there is no answer

92. Human Male Reproductive anatomy has _____

- Prostate
- several glands contribute to semen AND Prostate
- The uterus opens into the vagina through the cervix
- several glands contribute to semen

93. Which of the following statement is true _____

- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in Ovaries
- Oogenesis (the egg formation) Occurs in Ovaries
- All other answers are correct

94. Menstrual Cycles Occur about every _____ days

- 28
- 29
- 14
- None of the above

95. Fertilization is the union of _____

- sperm and egg to form a sex organ
- there is no answer
- sperm and egg to form a haploid zygote
- sperm and egg to form a diploid zygote

96. Sperm are adapted to reach and fertilize an egg via _____

- Many mitochondria provide ATP for tail movements
- Head contains an acrosome containing penetrating enzymes
- Streamlined shape moves more easily through fluids
- all of the above

97. Cleavage _____

- Embryo is getting larger
- produces a ball of cells from the zygote called Gastrula
- is a rapid series of cell divisions
- None of the above

98. Gastrula produces _____

- a four-layered embryo
- a three-layered embryo
- a two-layered embryo
- None of the above

99. Asexual reproduction _____

- there is no answer
- One parent produces genetically identical offspring
- One parent produces genetically different offspring
- Very slow reproduction

100. Hermaphroditism _____

- One parent produces genetically identical offspring
- One individual with male reproductive system and the other with female reproductive systems

- First AND Second
- One individual with male and female reproductive systems

101. In Sexual reproduction, sperm may be transferred to the female by _____

- Wind
- Internal fertilization
- fragmentation
- there is no answer

102.Both sexes in humans have _____

- Ducts for gamete transport
- All other answers are correct
- Carpels
- Sepals

103.Human Male Reproductive anatomy has _____

- Ovaries contain follicles that Nurture eggs and Produce sex hormones
- Oviducts convey eggs to the uterus where embryos develop
- several glands contribute to semen
- The uterus opens into the vagina through the cervix

104.Which of the following statement is true _____

- All other answers are correct
- Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in Ovaries

105.Sperm are adapted to reach and fertilize an egg via _____

- Cubical shape moves more easily through fluids
- Head contains a diploid nucleus
- First AND Second
- Streamlined shape moves more easily through fluids

106.Cleavage _____

- produces a ball of cells from the zygote called Gastrula
- produces a ball of cells from the zygote
- is a slow series of cell divisions
- is a slow series of cell divisions AND produces a ball of cells from the zygote called Gastrula

107.Asexual reproduction _____

- Very slow reproduction
- Two parents produce genetically identical offspring
- All other answers are correct
- Very rapid reproduction

108.Which of the following statement is true _____

- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
- Spermatogenesis (the sperm formation) Occurs in Ovaries
- there is no answer

109.Human Male Reproductive anatomy has _____

- Seminal vesicles
- All other answers are correct
- Ovaries contain follicles that Nurture eggs and Produce sex hormones
- The vagina Receives the penis during sexual intercourse

110.Binary fission _____.

- resulted in plasma membrane growth inward at the midpoint to divide the cells
- resulted in duplication of a single circular chromosome
- First AND Second
- resulted in plasma membrane growth outward at the midpoint to divide the

111.Eukaryotic Cell Division includes _____

- mitosis
- meiosis
- mitosis AND meiosis

112.The sequence of Eukaryotic Cell Cycle is _____

- S, G1,G2, and M
- All other answers are correct
- G1, S, G2, and M
- G1, S, M, and G2

113._____ is a part of Eukaryotic Cell Cycle

- G2
- S
- G1
- All of the above

114._____ is a part of Mitosis of the Eukaryotic Cell Cycle

- Metaphase
- Prophase
- Telophase
- All of the above

115.Duplicated chromosome is made of_____

- two Sister chromosome
- two Sister chromatin
- two identical DNA molecules
- there is no answer

116.Cytoplasmic division _____

- there is no answer
- is called Cytogenesis
- is called Cytogenetic
- overlaps with telophase

117.Pairs of autosomes _____

- have the same genetic information
- have the same size AND have the same genetic information
- have different genetic information
- have the same size

118.During meiosis II _____

- The chromosome number is reduced by half
- All other answers are correct
- haploid cell is produced
- diploid cell is produced

119.In Mendel experiment, the heritable factors is now known as _____

- chromosmes
- chromatids
- genes
- First AND Second

120.Filled circle in human pedigree is symbol for _____

- affected female
- affected male
- normal female
- there is no answer

121.Which of the following is an exception to Mendels Laws?

- Pleiotropy
- Segregation
- recessiveness AND Segregation
- recessiveness

122.Which of the following is ture in bees sex determination system?

- haploid = female
- haploid = male
- triploid = male
- haploid = female AND triploid = male

123.Binary fission _____.

- Occurs in eukaryotic cells
- produces two different cells from one cell
- First AND Second
- resulted in duplication of a single circular chromosome

124.Sexual reproduction Involves _____

- inheritance of unique sets of genes from two parents
- inheritance of unique sets of genes from one parent
- All other answers are correct
- Offspring are similar to one parent

125.The Interphase of Eukaryotic Cell Cycle includes _____ phases

- G1, M, and S
- G1, and S
- G2, S, and M
- None of the above

126.G1 _____

- All other answers are correct
- first gap phase, growth and prepares for S-phase
- second gap phase,growth and preparation for division
- DNA synthesis phase, duplication of chromosomes,each becomes two sister chromatids

127._____ is (are) Chromosomes align on cells midplane on top of each other.

- Telophase
- Anaphase
- Metaphase
- First AND Second

128.Sister chromatids are joined at a narrow region called the _____

- chromatin
- there is no answer
- chromosome
- chromomer

129.Cytoplasmic division _____

- is called Cytogenesis
- overlaps with telophase
- is called Cytosol
- First AND Second

130.Pairs of autosomes _____

- different in Centromere position
- have different size
- matched in Gene locations
- have different genetic information

131.Crossing over occurs during_____

- mitosis
- meiosis II
- meiosis I
- None of the above

132.Which of the following is Heterozygous?

- ab
- aa
- Aa
- First AND Second

133._____ is referred to as Heterozygote expresses phenotypes of both homozygotes

- All other answers are correct
- Incomplete dominance
- Codominance
- Pleiotropy

134.Which of the following is ture in bees sex determination system?

- Diploid = female
- haploid = female
- Diploid = female AND haploid = male
- haploid = male

135.The sequence of Eukaryotic Cell Cycle is _____

- G1, M, G2, and S
- G1, S, G2, and M
- All other answers are correct
- G1, S, M, and G2

136._____ is a part of Eukaryotic Cell Cycle

- M
- G1 AND G2
- G1
- G2

137.The sequence of Mitotic phase of Eukaryotic Cell Cycle is _____

- Prophase, Prometaphase, Anaphase, Metaphase, and Telophase
- Prophase, Telophase, Metaphase, Anaphase, and Prometaphase
- Metaphase, Prophase, Prometaphase, Anaphase, and Telophase
- None of the above

138.Meiosis _____

- has two S phases
- has one devision AND has two S phases
- has one devision
- has one interphase

139.Which of the following statements are true

- The allele that disappear in the F_1 generation is called dominant allele
- there is no answer
- dominant allele appears in the F_1 generation
- Recessive and dominant allele disppear in the F_2 generation

140.Multiple alleles is referred to _____

- Heterozygote expresses phenotypes of both homozygotes
- there is no answer
- Heterozygote has intermediate phenotype
- The phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic.

141.Which of the following is ture in birds sex determination system?

- ZW = female AND ZZ = male
- ZW = male
- ZW = female
- ZZ = male

142._____ is a part of Mitosis of the Eukaryotic Cell Cycle

- Anaphase
- All other answers are correct
- G2
- G1

143.Duplicated chromosome is made of_____

- two Sister chromomer
- two Sister chromatids
- two Sister chromatin
- there is no answer

Biology 110 – Final

Test Bank

1. The tracheal systems are the major site of gas exchange in _____

- [x] arthropods
- [ ] flatworms
- [ ] reptiles
- [ ] jellies

2. The major site of gas exchange in _____is skin

- [ ] mammals
- [ ] tetrapods that live on land
- [ ] birds
- [x] flatworms

3. Gills _____

- [ ] release oxygen
- [ ] absorb carbon dioxide
- [ ] decrease the surface to volume ratio
- [x] increase the surface to volume ratio

4. Birds and mammals use _____ as the respiratory surface

- [ ] their body surfaces
- [x] more complex lungs
- [ ] simple lungs
- [ ] small lungs

5. In the human respiratory system, air passes from larynx to the _____

- [ ] nasal cavity
- [ ] alveoli
- [ ] bronchi
- [x] trachea

6. The actual site of gas exchange in human is _____

- alveolai
- vocal cord
- nasal cavity
- pharynx

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- the site where CO2 diffuses into the blood
- having small surface area
- the site where O2 diffuses out of the blood
- having huge surface area (100m2 in humans)

8. Inhalation occurs when _____

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- the diaphragm moves downward
- the rib cage contracts
- the pressure around the lungs increases

9. Smoking _____

- decreases the risk of heart attacks and strokes
- decreases the harmful types of cholesterol
- can cause lung cancer
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10. In the body tissues, blood _____

- drops off CO_2
- drops off waste products
- picks up CO_2
- picks up O_2

11. During the transport of gases between alveoli and blood _____

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- CO_2 moves from the tissues into the blood
- O_2 moves from the blood into the tissues
- the tissues have more CO_2 and less O_2 than in the blood

12. The iron-containing pigment (hemoglobin) _____

- is found only in birds
- is found in Arthropods
- is found in almost all vertebrates
- is found in Mollusca

13. The heart _____

- carries food through body
- transports blood throughout the entire body
- pumps blood through body
- is network of hollow tubes

14. In the four-chambered hearts _____

- oxygen rich blood is completely separated from oxygen poor blood
- blood stays confined to vessels
- cells directly bathed in blood AND blood stays confined to vessels
- cells directly bathed in blood

15. Arteries _____

- have thicker walls
- composed of a single layer of epithelial cells
- are narrow, blood cells flows in a single file
- have one-way valves that restrict backward flow

16. The heart rate _____

- prevent the backflow of blood
- is the amount of blood/minute pumped into systemic circuit
- defined as the number of beats/minute
- is a defect in one or more heart valves

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- as pH buffering
- as solvent for carrying other substance
- in blood clotting
- in defense

20. The white blood cells (leukocytes) _____

- fight cancer
- transport O_2 bound to hemoglobin
- transport CO_2
- promote clotting

21. Some athletes artificially increase their red blood cell production by injecting _____

- fibrinogen
- erythropoietin
- immunoglobulins
- sodium ions

22. the major site of gas exchange in _____ are tracheal systems

- flatworms
- arthropods
- mammals
- fish

23. Gills _____

- absorb carbon dioxide
- decrease the surface to volume ratio
- absorb oxygen
- release oxygen

24. Birds and mammals use _____ as the respiratory surface

- their body surfaces
- more complex lungs
- simple lungs
- small lungs

25. In the human respiratory system, air passes from nasal cavity to the _____

- alveoli
- pharynx
- larynx
- bronchioles

26. The actual site of gas exchange in human is _____

- larynx
- alveolai
- vocal cord
- nasal cavity

27. Alveoli are _____

- having small surface area
- the site where O2 diffuses out of the blood
- the site where CO2 diffuses out of the blood
- the site where CO2 diffuses into the blood

28. Inhalation occurs when _____

- the volume of the chest cavity increases, lowering the air pressure around lungs.
- the diaphragm moves upward
- the rib cage contracts
- air is forced out of the respiratory tract

29. Smoking _____

- reduces blood pressure
- increases the harmful types of cholesterol
- decreases the harmful types of cholesterol
- decreases the risk of heart attacks and strokes

30. In the lungs, blood _____

- picks up CO_2
- picks up O_2
- drops off O_2
- drops off urine

31. During the transport of gases between blood and tissues _____

- O_2 moves from the alveoli of the lungs into the blood
- CO_2 moves from the blood into the alveoli of the lungs
- the tissues have more CO_2 and less O_2 than in the blood
- gases in the alveoli have more O_2 and less CO_2 than gases the blood

32. The copper-containing pigment (hemocyanin) _____

- is found in Mollusca
- is found in many mammals
- is found in almost all vertebrates
- is found only in birds

33. The heart _____

- carries oxygen through body
- carries food through body
- transports blood throughout the entire body
- pumps blood through body

34. In the four-chambered hearts _____

- there are two atria and two ventricles
- blood stays confined to vessels
- heart pumps blood through open-ended vessels
- there are two atria and one ventricle

35. Veins _____

- have thicker walls
- are under more pressure
- force blood back to right heart atrium
- increases surface area for gas and fluid exchange

36. The heart valves _____

- is a defect in one or more heart valves
- define as the number of beats/minute
- is the amount of blood/minute pumped into systemic circuit
- prevent the backflow of blood

37. The AV node _____

- generates electrical signals in atria
- sets the rate of heart contractions
- is the amount of blood/minute pumped into systemic circuit
- relays electrical signals to the ventricles

38. The stroke _____

- is the death of brain tissue from blocked arteries in the head
- is the damage to cardiac muscle
- narrows the heart blood vessels
- reduces the diastolic pressure

39. Plasma contains fibrinogen, which is converted into fibrin that help _____

- in osmotic balance
- as pH buffering
- in blood clotting
- as solvent for carrying other substance

40. The white blood cells (leukocytes) _____

- function inside and outside the circulatory system
- are small fragments of cells
- promote clotting
- transport O_2 bound to hemoglobin

41. Gills _____

- release oxygen
- increase the surface area for gas exchange
- absorb carbon dioxide
- decrease the surface to volume ratio

42. Exhalation occurs when _____

- the diaphragm moves downward
- the volume of the chest cavity increases, lowering the air pressure around lungs.
- the pressure around the lungs increases
- air rushes into lungs to equalize the pressure difference

43. In the body tissues, blood _____

- picks up O_2
- drops off O_2
- drops off CO_2
- drops off waste products

44. The iron-containing pigment (hemoglobin) _____

- is found only in birds
- is found in Arthropods
- is found in many invertebrates
- is found in Mollusca

45. The blood vessels _____

- transport blood throughout the entire body
- carry O_2 to the lungs
- carry CO_2 to the body
- carry waste to body cells

46. In the four-chambered hearts _____

- blood stays confined to vessels
- the left side of the heart pumps blood from lungs to body
- heart pumps blood through open-ended vessels
- there is no answer

47. Capillaries _____

- force blood back to right heart atrium
- exchange gas and other transfers in the capillary beds
- are under more pressure
- have one-way valves that restrict backward flow

48. Atherosclerosis _____

- is the force blood exerts on vessel walls
- reduces the blood flow
- is measured as systolic pressure
- is measured as diastolic pressure

49. The platelets _____

- fight infections
- promote clotting
- fight cancer
- transport CO_2

50. The pacemaker (SA node) _____

- is the amount of blood/minute pumped into systemic circuit
- relays electrical signals to the ventricles
- sets the rate of heart contractions
- is the development of plaques inside walls of blood vessels

51. Osmoregulation means the _____

- the active regulation of the osmotic pressure of an organism fluids
- control of the gain and loss of water and solutes
- First AND Second
- the disposal of nitrogen-containing wastes

52. Animals that absorb heat from their surroundings are called _____

- Ectothermic
- Endothermic
- Endothermic AND Herbivorous
- Herbivorous

53. Endothermic animals _____

- derive body heat mainly from their metabolism
- are represented by worms and molluscs
- absorb heat from their surroundings
- absorb heat from their surroundings AND are represented by worms and molluscs

54. Animals exchange heat with the environment by _____

- Fertilization
- Pollination
- Photosynthesis
- None of the above

55. The adaptations that promote the process of thermoregulation include _____

- Behavioral responses
- Circulatory adaptations
- First AND Second
- Conduction

56. The freshwater fish _____

- [x] Excrete excess water
- [ ] Pump out excess salt
- [ ] there is no answer
- [ ] Lose water by osmosis

57. The land animals conserve water using _____

- [x] Behavior adaptations
- [ ] Lungs
- [ ] Gills
- [ ] Stomach

58. In vertebrates the excretion is primarily carried out by _____

- [ ] Gills
- [ ] Lungs
- [ ] Stomach
- [x] Skin

59. In mammals, the ureters drain urine into _____

- [ ] Inferior vena cava
- [x] urinary bladder
- [ ] All other answers are correct
- [ ] Renal artery and vein

60. The key excretory processes of the urinary system include _____

- [ ] Excretion
- [ ] Filtration
- [x] First AND Second
- [ ] Conduction

61. The nitrogenous wastes are toxic breakdown products of _____

- all not above
- Fats
- Inorganic compounds
- Nucleic acids

62. The animals dispose off nitrogenous wastes in the form of _____

- Hydrochloric acid
- uric acid
- Nitrate
- First AND Second

63. Urea Is _____

- Easier to store
- Soluble in water AND Easily disposed of by aquatic animals
- Soluble in water
- Easily disposed of by aquatic animals

64. _____ is the nitrogen-containing metabolic waste products in mammals, amphibians, sharks, and some bony fishes

- Ammonia AND Carbonate
- Carbonate
- Urea
- Ammonia

65. The kidney dialysis can be a lifesaver by _____

- Maintaining the solute concentration in the blood
- All other answers are correct
- Maintaining the toxic compounds in the blood
- Extracting a filtrate from the urine

66. Excess of CO_2 or O_2 in the plant leaves exit through _____

- Stomata
- Phloem
- Xylem
- all of the above

67. Secretion of water and its solutes by hydathodes found in the leafs epidermis of some plants is called _____

- Transpiration
- All other answers are correct
- Photosynthesis
- Guttation

68. The evaporation of water from the surface of leaves through stomata is called _____

- Guttation
- Transpiration
- All other answers are correct
- Photosynthesis

69. _____ is secretion of water and its solutes by hydathodes found in the leafs epidermis of some plants

- Transpiration
- Guttation
- Respiration
- all of the above

70. _____ is the evaporation of water from the surface of leaves through stomata

- Respiration
- Guttation
- Photosynthesis
- None of the above

71. Osmoregulation means the _____

- there is no answer
- the disposal of nitrogen-containing wastes
- maintenance of internal temperature within narrow limits
- the active regulation of the osmotic pressure of an organism fluids

72. Animals that absorb heat from their surroundings are called _____

- Photosynthetic AND Herbivorous
- Herbivorous
- Ectothermic
- Photosynthetic

73. Endothermic animals _____

- absorb heat from their surroundings
- All other answers are correct
- derive body heat mainly from their metabolism
- use water and atmospheric CO_2 to produce sugar

74. Animals exchange heat with the environment by _____

- there is no answer
- Fertilization
- Evaporation
- Pollination

75. The adaptations that promote the process of thermoregulation include _____

- Behavioral responses
- Increased metabolic heat production
- Evaporative cooling
- All of the above

76. The saltwater fish _____

- Gain water by osmosis
- Pump out excess salt
- Excrete excess water
- All other answers are correct

77. The land animals conserve water using _____

- Kidneys
- Behavior adaptations
- First AND Second
- Stomach

78. In vertebrates the excretion is primarily carried out by _____

- Gills
- Lungs
- First AND Second
- Kidneys

79. The key excretory processes of the urinary system include _____

- Conduction
- Convection
- Excretion
- None of the above

80. The nitrogenous wastes are toxic breakdown products of _____

- Fats
- there is no answer
- Inorganic compounds
- Protein

81. The animals dispose off nitrogenous wastes in the form of _____

- Hydrochloric acid AND Nitrate
- Nitrate
- Hydrochloric acid
- Urea

82. Urea Is _____

- Poisonous
- Soluble in water
- First AND Second
- Less toxic

83. _____ is the nitrogen-containing metabolic waste products in most aquatic animals (including most fishes)

- Ammonia
- Uric acid
- All other answers are correct
- Urea

84. The kidney dialysis can be a lifesaver by _____

- Removing wastes from the blood AND Maintaining the solute concentration in the blood
- Maintaining the solute concentration in the blood
- Maintaining the toxic compounds in the blood
- Removing wastes from the blood

85. Excess of CO_2 or O_2 in the plant leaves exit through _____

- Stomata
- penetrating the external cell on surfaces directly to the air
- First AND Second
- Xylem

86. The halophytes excrete the excess salts outside their body by _____

- vascular bundles
- Cortex
- Frist AND Second
- special glands

87. _____ convert excess amino acids into uric acid and Keto acids

- aquatic plants
- terrestrial plants
- All other answers are correct
- halophytes

88. Asexual reproduction _____

- unique offspring
- Can proceed via Budding, Fission, and Fragmentation
- All other answers are correct
- Two parents produce genetically identical offspring

89. Hermaphroditism _____

- there is no answer
- One individual with male and female reproductive systems
- One parent produces genetically identical offspring
- One individual with male reproductive system and the other with female reproductive systems

90. In Sexual reproduction, sperm may be transferred to the female by _____

- Wind
- Insects
- Internal fertilization
- fragmentation

91. Both sexes in humans have _____

- Carpels
- Sepals
- A set of gonads where gametes (sperms & ovum) are produced
- there is no answer

92. Human Male Reproductive anatomy has _____

- Prostate
- several glands contribute to semen AND Prostate
- The uterus opens into the vagina through the cervix
- several glands contribute to semen

93. Which of the following statement is true _____

- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in Ovaries
- Oogenesis (the egg formation) Occurs in Ovaries
- All other answers are correct

94. Menstrual Cycles Occur about every _____ days

- 28
- 29
- 14
- None of the above

95. Fertilization is the union of _____

- sperm and egg to form a sex organ
- there is no answer
- sperm and egg to form a haploid zygote
- sperm and egg to form a diploid zygote

96. Sperm are adapted to reach and fertilize an egg via _____

- Many mitochondria provide ATP for tail movements
- Head contains an acrosome containing penetrating enzymes
- Streamlined shape moves more easily through fluids
- all of the above

97. Cleavage _____

- Embryo is getting larger
- produces a ball of cells from the zygote called Gastrula
- is a rapid series of cell divisions
- None of the above

98. Gastrula produces _____

- a four-layered embryo
- a three-layered embryo
- a two-layered embryo
- None of the above

99. Asexual reproduction _____

- there is no answer
- One parent produces genetically identical offspring
- One parent produces genetically different offspring
- Very slow reproduction

100. Hermaphroditism _____

- One parent produces genetically identical offspring
- One individual with male reproductive system and the other with female reproductive systems

- First AND Second
- One individual with male and female reproductive systems

101. In Sexual reproduction, sperm may be transferred to the female by _____

- Wind
- Internal fertilization
- fragmentation
- there is no answer

102.Both sexes in humans have _____

- Ducts for gamete transport
- All other answers are correct
- Carpels
- Sepals

103.Human Male Reproductive anatomy has _____

- Ovaries contain follicles that Nurture eggs and Produce sex hormones
- Oviducts convey eggs to the uterus where embryos develop
- several glands contribute to semen
- The uterus opens into the vagina through the cervix

104.Which of the following statement is true _____

- All other answers are correct
- Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in Ovaries

105.Sperm are adapted to reach and fertilize an egg via _____

- Cubical shape moves more easily through fluids
- Head contains a diploid nucleus
- First AND Second
- Streamlined shape moves more easily through fluids

106.Cleavage _____

- produces a ball of cells from the zygote called Gastrula
- produces a ball of cells from the zygote
- is a slow series of cell divisions
- is a slow series of cell divisions AND produces a ball of cells from the zygote called Gastrula

107.Asexual reproduction _____

- Very slow reproduction
- Two parents produce genetically identical offspring
- All other answers are correct
- Very rapid reproduction

108.Which of the following statement is true _____

- Oogenesis (the egg formation) Occurs in testes
- Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
- Spermatogenesis (the sperm formation) Occurs in Ovaries
- there is no answer

109.Human Male Reproductive anatomy has _____

- Seminal vesicles
- All other answers are correct
- Ovaries contain follicles that Nurture eggs and Produce sex hormones
- The vagina Receives the penis during sexual intercourse

110.Binary fission _____.

- resulted in plasma membrane growth inward at the midpoint to divide the cells
- resulted in duplication of a single circular chromosome
- First AND Second
- resulted in plasma membrane growth outward at the midpoint to divide the

111.Eukaryotic Cell Division includes _____

- mitosis
- meiosis
- mitosis AND meiosis

112.The sequence of Eukaryotic Cell Cycle is _____

- S, G1,G2, and M
- All other answers are correct
- G1, S, G2, and M
- G1, S, M, and G2

113._____ is a part of Eukaryotic Cell Cycle

- G2
- S
- G1
- All of the above

114._____ is a part of Mitosis of the Eukaryotic Cell Cycle

- Metaphase
- Prophase
- Telophase
- All of the above

115.Duplicated chromosome is made of_____

- two Sister chromosome
- two Sister chromatin
- two identical DNA molecules
- there is no answer

116.Cytoplasmic division _____

- there is no answer
- is called Cytogenesis
- is called Cytogenetic
- overlaps with telophase

117.Pairs of autosomes _____

- have the same genetic information
- have the same size AND have the same genetic information
- have different genetic information
- have the same size

118.During meiosis II _____

- The chromosome number is reduced by half
- All other answers are correct
- haploid cell is produced
- diploid cell is produced

119.In Mendel experiment, the heritable factors is now known as _____

- chromosmes
- chromatids
- genes
- First AND Second

120.Filled circle in human pedigree is symbol for _____

- affected female
- affected male
- normal female
- there is no answer

121.Which of the following is an exception to Mendels Laws?

- Pleiotropy
- Segregation
- recessiveness AND Segregation
- recessiveness

122.Which of the following is ture in bees sex determination system?

- haploid = female
- haploid = male
- triploid = male
- haploid = female AND triploid = male

123.Binary fission _____.

- Occurs in eukaryotic cells
- produces two different cells from one cell
- First AND Second
- resulted in duplication of a single circular chromosome

124.Sexual reproduction Involves _____

- inheritance of unique sets of genes from two parents
- inheritance of unique sets of genes from one parent
- All other answers are correct
- Offspring are similar to one parent

125.The Interphase of Eukaryotic Cell Cycle includes _____ phases

- G1, M, and S
- G1, and S
- G2, S, and M
- None of the above

126.G1 _____

- All other answers are correct
- first gap phase, growth and prepares for S-phase
- second gap phase,growth and preparation for division
- DNA synthesis phase, duplication of chromosomes,each becomes two sister chromatids

127._____ is (are) Chromosomes align on cells midplane on top of each other.

- Telophase
- Anaphase
- Metaphase
- First AND Second

128.Sister chromatids are joined at a narrow region called the _____

- chromatin
- there is no answer
- chromosome
- chromomer

129.Cytoplasmic division _____

- is called Cytogenesis
- overlaps with telophase
- is called Cytosol
- First AND Second

130.Pairs of autosomes _____

- different in Centromere position
- have different size
- matched in Gene locations
- have different genetic information

131.Crossing over occurs during_____

- mitosis
- meiosis II
- meiosis I
- None of the above

132.Which of the following is Heterozygous?

- ab
- aa
- Aa
- First AND Second

133._____ is referred to as Heterozygote expresses phenotypes of both homozygotes

- All other answers are correct
- Incomplete dominance
- Codominance
- Pleiotropy

134.Which of the following is ture in bees sex determination system?

- Diploid = female
- haploid = female
- Diploid = female AND haploid = male
- haploid = male

135.The sequence of Eukaryotic Cell Cycle is _____

- G1, M, G2, and S
- G1, S, G2, and M
- All other answers are correct
- G1, S, M, and G2

136._____ is a part of Eukaryotic Cell Cycle

- M
- G1 AND G2
- G1
- G2

137.The sequence of Mitotic phase of Eukaryotic Cell Cycle is _____

- Prophase, Prometaphase, Anaphase, Metaphase, and Telophase
- Prophase, Telophase, Metaphase, Anaphase, and Prometaphase
- Metaphase, Prophase, Prometaphase, Anaphase, and Telophase
- None of the above

138.Meiosis _____

- has two S phases
- has one devision AND has two S phases
- has one devision
- has one interphase

139.Which of the following statements are true

- The allele that disappear in the F_1 generation is called dominant allele
- there is no answer
- dominant allele appears in the F_1 generation
- Recessive and dominant allele disppear in the F_2 generation

140.Multiple alleles is referred to _____

- Heterozygote expresses phenotypes of both homozygotes
- there is no answer
- Heterozygote has intermediate phenotype
- The phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic.

141.Which of the following is ture in birds sex determination system?

- ZW = female AND ZZ = male
- ZW = male
- ZW = female
- ZZ = male

142._____ is a part of Mitosis of the Eukaryotic Cell Cycle

- Anaphase
- All other answers are correct
- G2
- G1

143.Duplicated chromosome is made of_____

- two Sister chromomer
- two Sister chromatids
- two Sister chromatin
- there is no answer

11. Meiosis _____
(A) Produces haploid cells (B) Occurs in the lungs
(C) Occurs in the liver (D) There is no answer

12. In the four-chambered hearts are _____
(A) Two atria and two ventricles (B) One atrium and two ventricles
(C) One atrium and one ventricle (D) None of the above

13. Oogenesis (the egg formation) Occurs in _____.
(A) Seminiferous tubules (B) Testes
(C) Ovaries (D) There is no answer

14. _____ is secretion of water and its solutes by hydathodes found in the leaves
(A) Photosynthesis (B) Transpiration
(C) Guttation (D) There is no answer

15. _____ is (are) first gap phase, growth and prepares for S-phase.
(A) S (B) S and G2
(C) G2 (D) G1

16. The tracheal systems are the major site of gas exchange in _____.
(A) Arthropods (B) Birds
(C) Jellies (D) Mammals

17. If egg is not fertilized, _____ is triggered.
(A) Menstruation (B) Cleavage
(C) Binary fission (D) Gastrulation

18. Which of the following is Heterozygous?
(A) AA (B) Aa
(C) aa (D) All other answers are correct

19. The Birds dispose off nitrogenous wastes in the form of _____.
(A) Hydrochloric acid (B) Sugar
(C) Uric acid (D) None of the above

20. In the human respiratory system, air passes from trachea to the _____.
(A) Bronchi (B) Phloem
(C) Liver (D) First and second choice

21. Prokaryotes reproduce asexually by _____.
(A) Meiosis (B) Binary fission
(C) Mitosis (D) All other answers are correct

22. _____ the disposal of nitrogen-containing wastes.
(A) Thermoregulation (B) Osmoregulation
(C) Excretion (D) None of the above

University of Jeddah
Faculty of Science
Department of Biological Sciences

14/4/1439 – 1/ 1 /2048
Time allowed: 120 min

(D)

Final Exam of General Biology (Bio101)
1st Semester 1438 / 1439

1. **Which of the following statement is true _____.**
   (A) Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
   (B) Oogenesis (the egg formation) Occurs in testes
   (C) Spermatogenesis (the sperm formation) Occurs in ovaries
   (D) None of the above

2. **Osmoregulation is the control of the _____ and _____ of water and solutes.**
   (A) Ions- actions
   (B) Gain- loss
   (C) Acidity- alkalinity
   (D) None of the above

3. **Normal male in genetic pedigree is represented by _____.**
   (A) Filled circle
   (B) Open square
   (C) Open circle
   (D) There is no answer

4. **Exhalation occurs when _____.**
   (A) The rib cage contracts
   (B) Diaphragm moves upward
   (C) Diaphragm moves downward
   (D) First and second choice

5. **If egg is fertilized, _____ does not occur.**
   (A) Cleavage
   (B) Menstruation
   (C) Gastrulation
   (D) All of the above

6. **The halophytes plants excrete the excess salts outside their body by _____.**
   (A) Flowers
   (B) Vascular bundles
   (C) Special salt glands
   (D) All other answers are correct

7. **During _____, homologous chromosomes come together as pairs, each Pair with four chromatids is called tetrad.**
   (A) Prophase I
   (B) Metaphase I
   (C) Cytokinesis
   (D) There is no answer

8. **Copper-containing pigment (Hemocyanin) found in _____.**
   (A) Mollusca
   (B) Arthropods
   (C) Mammals
   (D) First and second choice

9. **In Sexual reproduction, sperm transferred to the female by _____.**
   (A) Wind
   (B) Internal fertilization
   (C) Insects
   (D) none of the above

10. **Excess of CO_2 or O_2 in the plant leaves exit through _____.**
    (A) Liver
    (B) Flowers
    (C) Stomata
    (D) None of the above

35. **Cytoplasmic division is called** _____
(A) Cytogenetic
(C) Overlaps with Metaphase
(B) Cytokinesis
(D) There is no answer

36. **The skin is the major site of gas exchange in** _____.
(A) Fishes
(C) Lions
(B) Flatworms
(D) None of the above

37. _____ **is the nitrogen metabolic waste products by aquatic animals.**
(A) Urea
(C) Ammonia
(B) Carbohydrates
(D) None of the above

38. **Fertilization is the union of** _____
(A) Sperm and egg
(C) Somatic cells
(B) Liver and kidneys
(D) All the above

39. **Which of the following is true in birds' sex determination system?**
(A) ZZ = male
(C) XO = female
(B) XY = female
(D) there is no answer

40. **Iron-containing pigment (hemoglobin) found in** _____.
(A) Arthropods
(C) Mollusca
(B) Almost all vertebrates
(D) None of the above

25. Both sexes in humans have _____
(A) Stamens
(C) Sepals
(B) Ovaries for gamete transport
(D) There is no answer

24. Menstrual Cycles Occur about every _____ days.
(A) 10
(C) 15
(B) 28
(D) There is no answer

23. _____ are networks of hollow tubes and transport blood
(A) Blood vessels
(C) Liver
(B) Urethra
(D) None of the above

26. Both ureters drain into a common urinary bladder and urine is expelled through a _____.
(A) Kidneys
(C) Liver
(B) Urethra
(D) None of the above

27. In mammals sex is determined by _____.
(A) X-Y system
(C) X-O system
(B) Z-W system
(D) Number of chromosomes

28. The white blood cells (leukocytes) that help the body for _____.
(A) Osmotic balance
(C) Blood pressure
(B) pH buffering
(D) Defense

29. Gastrula produces a _____.
(A) A two-layered embryo
(C) A three-layered embryo
(B) A one-layered embryo
(D) None of the above

30. Animals that absorb heat from their surroundings are called _____.
(A) Herbivorous
(C) Ectothermic
(B) Endothermic
(D) First and second choice

31. Sister chromatids are joined at a narrow region called the _____.
(A) Cytoplasm
(C) Mitochondria
(B) Centromere
(D) None of the above

32. In the body tissues, blood _____.
(A) Drops off CO_2
(C) Drops off waste products
(B) Picks up CO_2
(D) There is no answer

33. Human Female Reproductive anatomy has _____.
(A) Ovaries
(C) Prostate
(B) Testis
(D) First and second choice

34. The key processes of the urinary system are filtration and _____.
(A) Reabsorption
(C) Excretion
(B) Secretion
(D) All of the above

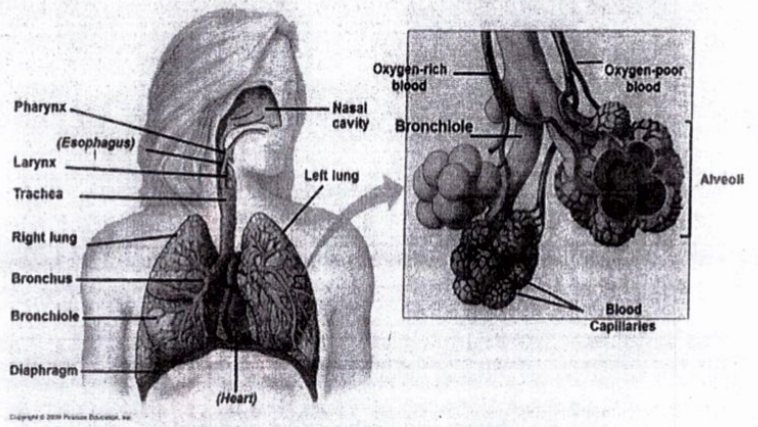
١٤٣٩.. النصف الدراسي الاول .. دفعة ١٨.. الدوري النهائي

د. جمال الشعراوي

تست / اخزدر

جزء ١

Chapter (9):- Gas exchange



The anatomy of the human respiratory system (left) and details of the structure of alveoli (right)

9 December 2017

1. In the human respiratory system, air passes from nostrils to _____

- Alveoli
- larynx
- Nasal cavity
- pharynx

2. In the human respiratory system, air passes from nasal cavity to _____

- Alveoli
- larynx
- bronchioles
- pharynx

3. In the human respiratory system, air passes from pharynx to the _____

- bronchioles
- nasal cavity
- larynx
- trachea

4. In the human respiratory system, air passes from larynx to the _____

- bronchioles
- nasal cavity
- larynx
- trachea

5. In the human respiratory system, air passes from trachea to the _____

- bronchioles
- nasal cavity
- larynx
- Bronchi

6. In the human respiratory system, air passes from bronchi to the _____

- bronchioles
- nasal cavity
- larynx
- Bronchi

7. In the human respiratory system, air passes from bronchioles to _____

- trachea
- nasal cavity
- alveoli
- Bronchi

8. The actual site of gas exchange in human is _____

- larynx
- alveol i
- vocal cord
- nasal cavity

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9. *Alveoli* are _____

- having small surface area
- the site where O_2 diffuses out of the blood
- ✓ the site where CO_2 diffuses out of the blood
- the site where CO_2 diffuses into the blood

10. **In the lungs, blood** _____ (الرئتين)

- ✗ drops off urine
- picks up CO_2
- drops off O_2
- ✓ drops off CO_2

✓ picks up O_2

11. **In the body tissues, blood** _____

- drops off CO_2
- ✗ drops off waste products
- ✓ picks up CO_2
- picks up O_2

✓ Drops off O_2

12. **During the transport of gases between alveoli and blood** _____

- ✗ O_2 moves from the blood into the tissues
- ✓ CO_2 moves from the blood into the alveoli of the lungs
- ✗ the tissues have more CO_2 and less O_2 than in the blood
- ✗ CO_2 moves from the tissues into the blood

13. **During the transport of gases between blood and tissues** _____.

- ✗ Gases in the alveoli have more O_2 and less CO_2 than gases the blood
- ✓ CO_2 moves from the tissues into the blood
- ✗ CO_2 moves from the blood into the alveoli of the lungs
- ✗ O_2 moves from the alveoli of the lungs into the blood

14. The iron-containing pigment (hemoglobin) _____

- is found only in birds
- is found in Arthropods
- ✓ is found in almost all vertebrates
- is found in Mollusca

15. The copper-containing pigment (hemocyanin) _____

- ✓ is found in Mollusca
- is found in many mammals ✗
- is found in almost all vertebrates ✗
- is found only in birds ✗

✓ Is found in Arthropods (insects)

16. Inhalation occurs when _____.

- ✓ the volume of the chest cavity increases, lowering the air pressure around lungs.
- the diaphragm moves upward
- the rib cage contracts
- air is forced out of the respiratory tract

17. Exhalation occurs when _____

- air rushes into lungs to equalize the pressure difference
- the volume of the chest cavity increases, lowering the air pressure around lungs.
- ✓ the diaphragm moves upward
- the diaphragm moves downward

18. The major site of gas exchange in _____ are gills.

- tetrapods that live on land
- jellies
- mammals
- ✓ fish

19. the major site of gas exchange in _____ are tracheal systems

- mammals
- ✓ arthropods
- fish
- jellies

✓ insects

20. the major site of gas exchange in _____ are lungs

- sponges
- ✓ birds
- arthropods
- fish

✓ Tetrapods that live on land
✓ Mammals
✓ Reptiles

21. The skin is the major site of gas exchange in _____

- ✓ flatworms
- mammals
- arthropods
- tetrapods that live on land

✓ Eearthworm
✓ Sponge
✓ jellies

22. Amphibians use _____ as the respiratory surface

- ✓ Small lungs
- more complex lungs
- simple lungs
- lungs

✓ their body surfaces

23. Nonbird reptiles use _____ as the respiratory surface

- ✓ Simple lungs
- their body surfaces
- more complex lungs
- small lungs

24. Birds and mammals use _____ as the respiratory surface

- their body surfaces
- ✓ more complex lungs
- simple lungs
- small lungs

25. Gills _____

- release oxygen
- ✓ release carbon dioxide
- decrease the surface to volume ratio
- absorb carbon dioxide

26. Smoking ______

- decreases the harmful types of cholesterol
- reduces blood pressure
- decreases the risk of heart attacks and strokes
- raises blood pressure

27. ______ are a grape-like cluster of air sacs where gas exchange occurs.

A) Alveoli
B) Bronchi
C) Trachea
D) bronchioles

28. Cellular respiration requires a continuous supply of O_2 and __ of CO_2.

A) charging
B) activation
C) disposal
D) inhibition

29. The O_2 that diffuses into blood attaches to ______ in red blood cells.

A) Plasma
B) white blood cells
C) Hemoglobin
D) platelets

30. Most of carbon dioxide in blood is transported as bicarbonate ions in ___

A) Plasma
B) Red blood cells
C) White blood cells
D) Platelets

31. Most of carbon dioxide (CO_2) in blood is transported as __ ions in plasma

A) Bicarbonates ions
B) Carbonyl
C) Carbon monoxide
D) Carbonate

32. The breathing control centers sense and respond to ___ levels in blood

A) Oxygen
B) CO_2
C) water
D) hormones

33. The breathing control centers are found in the ______

A) Head and aorta
B) Larynx and pharynx
C) Pons and medulla oblongata
D) Esophagus and trachea

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1. The heart _____ (القلب)

- Carries food through body
- ✓ Pumps blood through body
- Carries oxygen through body
- Is network of hollow tubes

2. The blood vessels _____ (الأوعية الدموية)

- Pump blood through body
- Carry O2 to the lungs
- Carry waste to body cells
- ✓ Transport blood throughout the entire body

✓ are networks of hollow tubes

3. The blood _____ (الدم)

- ✓ carries food through body
- pumps blood through body
- transport blood throughout the entire body
- is network of hollow tubes

✓ carry waste to body cells
✓ carries oxygen through body

4. Arteries _____ (الشرايين)

- are narrow, blood cells flows in a single file
- have one-way valves that restrict backward flow
- increases surface area for gas and fluid exchange
- ✓ have thicker walls

✓ are under more pressure

✓ carry blood from heart to body organs & tissues

5. Veins _____ (الأوردة)

- are narrow, blood cells flows in a single file
- composed of a single layer of epithelial cells
- ✓ have one-way valves that restrict backward flow
- have thicker walls

ملخص

6. **Capillaries** _____ (الشعيرات الدموية)

- force blood back to right heart atrium
- have thicker walls
- ✓ increases surface area for gas and fluid exchange
- are under more pressure

ملخص

7. **In the four-chambered hearts** _____ (القلب الرباعي الغرف)

- ✗ blood stays confined to vessels
- ✓ the left side of the heart pumps blood from lungs to body
- ✗ heart pumps blood through open-ended vessels
- ✗ there is no answer

ملخص

8. **In the four-chambered hearts** _____

- ✗ heart pumps blood through open-ended vessels
- ✗ there is no answer
- ✓ there are two atria and two ventricles
- ✗ there are one atrium and one ventricle

9. **The heart rate** _____ (معدل ضربات القلب)

- Prevent the backflow of blood
- is the amount of blood/minute pumped into systemic circuit
- ✓ defined as the number of beats/minute
- is a defect in one or more heart valves

10. **The cardiac output** _____ (الـ م القلبيم)

- defined as the number of beats/minute
- is a defect in one or more heart valves
- ✓ is the amount of blood/minute pumped into systemic circuit
- prevent the backflow of blood

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11. **The heart valves** _____ (الصمامات)

- is a defect in one or more heart valves
- define as the number of beats/minute
- is the amount of blood/minute pumped into systemic circuit
- ✓ prevent the backflow of blood

12. **A heart attack is defined as** _____ (السكتة القلبية)

- The death of brain tissue from blocked arteries in the head
- the force blood exerts on vessel walls
- the development of plaques inside walls of blood vessels
- ✓ the damage to cardiac muscle typically from a blocked coronary artery

13. **The stroke** _____ (السكتة الدماغية)

- ✓ is the death of brain tissue from blocked arteries in the head
- is the damage to cardiac muscle
- is the plaque inside walls of blood vessels
- X reduces the diastolic pressure

14. **The heart murmur** _____

- ✓ is a defect in one or more heart valves
- is the amount of blood/minute pumped into systemic circuit
- define as the number of beats/minute
- prevent the backflow of blood

15. **Atherosclerosis** _____ (تصلب الشرايين)

- is measured as diastolic pressure
- ✓ narrows the blood vessels
- is the force blood exerts on vessel walls
- is measured as systolic pressure

16. **The pacemaker (SA node)** _____ (المايسترو (العقدة الجيبية الأذينية)

- relays electrical signals to the ventricles
- is the amount of blood/minute pumped into systemic circuit
- is the development of plaques inside walls of blood vessels
- ✓ generates electrical signals in atria

✓ sets the rate of heart contractions

17. **The AV node** _____ → العقدة الأذينية البطينية

- generates electrical signals in atria
- sets the rate of heart contractions
- is the amount of blood/minute pumped into systemic circuit
- ✓ relays electrical signals to the ventricles

18. **The blood pressure** _____ (ضغط الدم)

ملخص

- ✓ Highest in arteries and lowest in veins
- is the death of brain tissue from blocked arteries in the head
- is the damage to cardiac muscle
- is the block of coronary artery

19. **The red blood cells (erythrocytes)** _____ (كرات الدم الحمراء)

- ✓ transport O2 bound to hemoglobin
- promote clotting
- fight infections
- fight cancer

✓ Transport carbon dioxide (CO_2)

20. **The white blood cells (leukocytes)** _____ (كرات الدم البيضاء)

- ✓ function inside and outside the circulatory system
- are small fragments of cells
- transport CO_2
- transport O2 bound to hemoglobin

✓ fight cancer
✓ fight infections

21. **The platelets** _____ (الصفائح الدموية)

✓ promote clotting

- fight infections
- fight cancer
- transport O2 bound to hemoglobin
- ✓ are small fragments of cells

التجلط / تخثر الدم

22. **Some athletes artificially increase their red blood cell production by injecting** _____

- fibrinogen
- ✓ erythropoietin
- immunoglobulins
- sodium ions

23. **Plasma contains fibrinogen, which is converted into fibrin that help**_____

- as pH buffering
- ✓ in blood clotting
- as solvent for carrying other substance
- in defense

24. **The immunoglobulin are proteins that help the body in** _____

A) Osmotic balance
B) PH buffering
✓C) Defense الدفاع
D) blood pressure

25. **If blood vessel is injured platelets help trigger the conversion of ___to ___**

A) Plasminogen----plasmin
B) Albumin----- aminoglobin
✓C) Fibrinogen-----fibrin
D) Immunoglobin-----alphglobin

26. **In birds, crocodiles, mammals have _____hearts and two blood circuits that do not mix.**

A) 2-chambers
✓B) 4-chambers
C) 1-chambers
D) 3- chambers

آخر جزء ⑤ محاضرة ⑨

1) The maintenance of steady internal conditions despite fluctuations in the external environment is called _____

- ✓ Homeostasis
- ○ Osmoregulation
- ○ Excretion
- ○ all of the above

2) The maintenance of internal temperature within narrow limits is called _

- ○ Osmoregulation
- ○ Homeostasis
- ✓ Thermoregulation
- ○ Excretion

3) The control of the gain and loss of water and solutes is called _____

- ○ All other answers are correct
- ○ Thermoregulation
- ✓ Osmoregulation
- ○ Homeostasis

4) the active regulation of osmotic pressure of an organism fluids is _____

- ○ Homeostasis
- ○ Thermoregulation
- ✓ Osmoregulation
- ○ All other answers are correct

5) The disposal of nitrogen-containing wastes is called _____

- ✓ Excretion
- ○ Osmoregulation
- ○ Homeostasis
- ○ Thermoregulation

6) __is the process by which waste products are eliminated from an organism

- ✓ Excretion
- ○ Osmoregulation
- ○ Homeostasis
- ○ Thermoregulation

7) Animals that derive body heat mainly from their metabolism are called ___

- ✓ Endothermic
- ○ Ectothermic
- ○ Herbivorous
- ○ Photosynthetic

8) Animals that absorb heat from their surroundings are called ___

- ○ Herbivorous
- ○ Herbivorous
- ✓ Ectothermic
- ○ Photosynthetic

9) Ectothermic animals _____

- use water and atmospheric CO_2 to produce sugar
- ✓ absorb heat from their surroundings
- there is no answer
- ✗ are represented by birds and mammals

✓ Many fish, most amphibians, lizards, most invertebrates

10) Endothermic animals _____

- ✓ Derive body heat mainly from their metabolism
- ✗ are represented by worms and Molluscs
- absorb heat from their surroundings
- ✗ are represented by worms and molluscs

✓ birds and mammals and few reptiles

11) Animals exchange heat with the environment by _____

- ✓ Conduction
- Pollination
- Fertilization
- none of the above

✓ birds and mammals and few reptiles
✓ Convection
✓ Radiation
✓ Evaporation

12) The adaptations that promote the process of thermoregulation include __

- ✓ Behavioral responses
- Conduction
- Convection
- Radiation

ملخص

13) The freshwater fish _____

- Drink seawater
- Pump out excess salt
- ✓ Gain water by osmosis
- All other answers are correct

ملخص

14) In vertebrates the excretion is primarily carried out by _____

- ✓ Kidneys
- Lungs
- Gills
- there is no answer

✓ Skin

15) In mammals, the ureters drain urine into _____

- ✓ urinary bladder
- Renal artery and vein
- Inferior vena cava
- there is no answer

16) In mammals, the urine is expelled through _____

- ✓ Urethra
- Aorta
- Inferior vena cava
- Aorta and Inferior vena cava

17) The key excretory processes of the urinary system include ____

- ✓ Secretion
- Conduction
- Radiation
- Conduction AND Radiation

✓ Filtration
✓ Reabsorption
✓ Excretion

18) The kidney dialysis can be a lifesaver by _____

- ✓ Maintaining the solute concentration in the blood
- there is no answer
- Maintaining the toxic compounds in the blood
- Extracting a filtrate from the urine

✓ Removing wastes from the blood

19) The nitrogenous wastes are toxic breakdown products of ____

- Fats
- Inorganic compounds
- Fats AND Inorganic compounds
- ✓ Protein

✓ Nucleic acids

20) The animals dispose of nitrogenous wastes in the form of ___

- Sugar
- Nitrate
- ✓ Ammonia (NH_3)
- Nitrate AND Sugar

✓ Urea
✓ uric acid

21) Ammonia (NH_3) is _____

- Easier to store
- non Poisonous
- ✓ Easily disposed of by aquatic animals
- Less toxic

✓ Poisonous
✓ Soluble in water

22) Urea Is _____

- Easily disposed of by aquatic animals
- Poisonous
- ✓ Less toxic
- Soluble in water

✓ Easier to store

23) The nitrogen-containing metabolic waste products in most aquatic animals is _____

- Carbonate
- Uric acid
- Urea
- ✓ Ammonia

24) ____ is the nitrogen-containing metabolic waste products in mammals, amphibians, sharks, and some bony fishes

- Carbonate
- Uric acid
- ✓ Urea
- Ammonia

25) The nitrogen-containing metabolic waste products in birds and many reptiles, insects, and Snails is_____

- ✓ Uric acid
- Carbonate
- Urea
- Ammonia

26) Excess of CO_2 or O_2 in the plant leaves exit through _____

- ✓ Stomata
- Cortex
- Phloem
- there is no answer

✓ penetrating the external cell on surfaces directly to the air

27) Secretion of water and its solutes by hydathodes found in the leafs epidermis of some plants is called _____

- ✓ Guttation
- Transpiration
- Photosynthesis
- there is no answer

28) The evaporation of water from the surface of leaves through stomata is called _____

- Photosynthesis
- ✓ Transpiration
- Respiration
- there is no answer

29) The halophytes excrete the excess salts outside their body by _____

- ✓ Special salt glands
- vascular bundles
- Stomata
- all of the above

30) In ___ the excess of amino acids are converted to ammonia and keto acids

- terrestrial plants
- ✓ aquatic plants
- prokaryotic
- All other answers are correct

31) _____ convert excess amino acids into uric acid and Keto acids.

- ✓ terrestrial plants
- aquatic plants
- prokaryotic
- All other answers are correct

32) The terrestrial plants convert excess amino acids into _____

- ✓ Uric acid and Keto acids
- ammonia and urea
- keto acids and urea
- ammonia and Keto acids

33) In aquatic plants the excess of amino acids are converted to ___

- ✓ Ammonia and keto acids
- uric acids and keto acids
- keto acids and urea
- ammonia and urea

34) Osmoregulation is the control of the _____ and _____ of water and solutes

A) addition-subtraction
B) acids-bases
C) gain-loss
D) ions-cations

35) Mammals, birds, few reptiles are _____

A) Ectothermic
B) exothermic
B) mesothermic
D) endothermic

36) Evaporating cooling of thermoregulation includes panting and _____

A) breathing
B) urinating
C) sweating
D) defecating

37) ____cooling of thermoregulation includes panting and sweating.

A) Extensive
B) effective
C) Transpirative
D) Evaporative

38) Osmoconformers are animals having the same internal ___ concentration as seawater.

A) blood
B) basic
C) solute
D) acid

39) Marine animals with a solute concentration equal to that of the surrounding seawater are_____

A) osmoregulators.
B) osmoconformers.
C) osmoinformers.
D) hypertonic.

40) Many _____ invertebrates are osmoconformers.

A) Terrestrial
B) marine
C) Desert
D) fresh water

(الأخيرة)

بالتوفيق والنجاح

1) **Sexual reproduction Involves** ________

✓ *inheritance of unique sets of genes from two parents*

- *Offspring are similar to one parent*
- *inheritance of unique sets of genes from one parent*
- *Offspring are similar to parents, but show variations in traits*
- *there is no answer*

2) **Asexual reproduction** ________

- *Very rapid reproduction*
- *One parent produces genetically different offspring*
- *All other answers are correct*
- *unique offspring*

ملخص

3) **Asexual reproduction includes** ________

- *there is no answer*
- *Binary fission* الانقسام
- *mitosis*
- *meiosis*

✓ *Budding* تبرعم

✓ *Fragmentation*

4) **Offspring of asexual reproduction** ________

- *there is no answer*
- *are different from the original cell or organism*
- *Involves inheritance of all genes from two parents*
- *Involves inheritance of all genes from one parent*

5) **Prokaryotes are reproduced by** ________

✓ *Binary fission*

- *mitosis*
- *meiosis*
- *asexually*
- *mitosis AND meiosis*

6) **Prokaryotes are reproduced by** ________

- *Binary fission*
- *sexually*
- *asexually AND binary fission*
- *asexually*

7) Binary fission _____

- ✗ Occurs in eukaryotic cells
- ✓ means dividing in half
- produces two different cells from one cell
- ✗ there is no answer

8) Fertilization is the union of _____

- All other answers are correct
- testis and ovary to form a sex organ
- sperm and egg to form a sex organ
- ✓ sperm and egg to form a diploid zygote

not haploid

9) In Sexual reproduction, sperm may be transferred to the female by ___

- ✗ Insects الحشرات
- ✓ Internal fertilization
- ✗ All other answers are correct
- ✗ Wind الرياح

✓ External fertilization

10) Human Male Reproductive anatomy has _____

- Ovaries contain follicles that Nurture eggs and Produce sex hormones
- The uterus opens into the vagina through the cervix
- ✓ Testes produce Sperm
- there is no answer

11) Human Female Reproductive anatomy has _____

- ✓ Oviducts convey eggs to the uterus where embryos develop
- Testes produce Sperm ✗
- Epididymis stores sperm as they develop further ✗
- ✗ All other answers are correct

12) The vagina _____

✓ Forms the birth canal

- ✗ Receive the egg from the ovary
- ✗ Is the site for egg fertilization
- ✓ Receives the penis during sexual intercourse
- ✗ Is for external fertilization

13) Both sexes in humans have _____

✓ Ducts for gamete transport
✓ Structures for copulation

- Carpels كربلة
- A set of gonads where gametes (sperms & ovum) are produced
- Sepals سبلة
- Sepals AND Carpels

14) Hermaphroditism _____ (الخنثى)

- Two individuals with male and female reproductive systems
- One individual with male and female " "
- ✗ One parent produces genetically identical offspring
- One individual with male reproductive system and the other with female reproductive systems

15) Which of the following statement is true?

- Spermatogenesis (the sperm formation) Occurs in Ovaries
- there is no answer
- ✓ Spermatogenesis (the sperm formation) Occurs in seminiferous tubules
- Oogenesis (the egg formation) Occurs in testes

16) Menstrual Cycles Occur about every _____ days

- 29
- ✓ 28
- 21
- there is no answer.

17) Sperm are adapted to reach and fertilize an egg via _____

- Less mitochondria provide ATP for tail movements
- Cubical shape moves more easily through fluids
- ✓ Many mitochondria provide ATP for tail movements
- Head contains a diploid nucleus

18) Cleavage _____

- there is no answer
- ✓ is a rapid series of cell divisions
- Embryo is getting larger
- is a slow series of cell divisions

19) Gastrula produces _____

- a four-layered embryo
- a two-layered embryo
- ✓ a three-layered embryo
- a one-layered embryo

20) The endoderm layer inside the human embryo (gastrula) become ____

A) Kidney
B) Skin and nervous system
C) Muscle and bones
✓ D) Digestive tract

21) The ectoderm layer outside the human embryo (gastrula) become __

A) Kidney
✓ B) Skin and nervous system
C) Muscle and bones
D) Digestive tract

22) The mesoderm layer in middle the human embryo (gastrula) become __

A) Kidney
B) Skin and nervous system
✓ C) Muscle and bones
D) Digestive tract

23) Which of the following is Contribute to semen production?

✗ A) Epididymis
✓ B) prostate
✓ C) bulbourethral
D) All of above are correct

24) The uterus opens into the _____ through the _____

A) penis .....testis
B) ovary ..... oviduct
C) Vagina ..... cervix
D) Follicles....embryo

25) A women cervix opens to the _____, where embryo development

A) Uterus
B) Vagina
C) Ovary
D) Oviduct

26) The female's _____, receives the penis during sexual intercourse and forms the birth canal.

A) Oviducts
B) vagina
C) Ovary
D) uterus

27) Follicle stimulating hormone (FSH) stimulates the growth of _____

A) Interstitial follicles
B) Ovarian follicles
C) The corpus leuteum follicles
D) Sperm cells

28) Leutenizing hormone (LH) stimulates _____

A) Interstitial follicles
B) Ovarian follicles
C) Ovulation
D) Sperm cells

29) Estrogen and progesterone are produced by _____

A) anterior pituitary.
B) corpus luteum
C) hypothalamus.
D) ovarian follicle

30) Meiosis of the ovum is completed after _____

A) Regeneration
B) fertilization
C) Packing
D) manufacturing

31) Many aquatic invertebrates and most fishes and amphibians exhibit _____

A) Internal fertilization
B) External fertilization
C) Copulation
D) regeneration

1) **Pairs of autosomes** _____

- different in Centromere position
- different in Centromere position AND have different size
- have different size
- ✓ matched in Length

✓ Have the same...
✓ Matched in ...

2) **Homologous chromosomes are** _____

- different in Gene locations
- All other answers are correct
- ✓ matched in Centromere position
- different in Centromere position

✓ Have the same...
✓ Matched in ...

3) **Sex chromosomes are** _____

- matched in Centromere position
- matched in Length
- ✓ different in Length
- there is no answer

✓ Different in ...

4) **Eukaryotic Cell Division includes** _____

- ✗ Binary fission
- ✓ meiosis
- ✗ budding
- there is no answer

✓ Mitosis
✓ produces two identical cells from one cell

5) **The sequence of Eukaryotic Cell Cycle is** _____

- ✗ G1, S, M, and G2
- ✓ G1, S, G2, and M
- ✗ S, G1,G2, and M
- All other answers are correct

6) _____ **is a part of Eukaryotic Cell Cycle**

- ✓ G1
- ✓ M
- ✓ G1 AND G2
- ✓ G2

المفروض كله صح

✓ G1
✓ G2
✓ S

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7) _____ is a part of Eukaryotic Cell Cycle

- G1
- G2
- S
- ✓ All other answers are correct

8) The Interphase of Eukaryotic Cell Cycle includes _____ phases

- G2, S, and M ✗
- ✓ G1, S, and G2
- G1, and G2
- ✗ M, G1, and G2

9) G1 _____

- ✓ first gap phase, growth and prepares for S-phase
- second gap phase, growth and preparation for division
- DNA synthesis phase, duplication of chromosomes, each becomes two sister chromatids
- All other answers are correct

10) G2 _____

- first gap phase, growth and prepares for S-phase
- ✓ second gap phase, growth and preparation for division
- DNA synthesis phase, duplication of chromosomes, each becomes two sister chromatids
- All other answers are correct

11) S _____

- First gap phase, growth and prepares for S-phase
- There is no answer
- ✓ DNA synthesis phase, duplication of chromosomes, each becomes two sister chromatids
- second gap phase, growth and preparation for division

12) _____ is (are) first gap phase, growth and prepares for S-phase

- S
- there is no answer
- ✓ G1
- G2

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19) The all Mitotic phases of Eukaryotic Cell Cycle are _____

- Prophase, Prometaphase, Metaphase, and Telophase
- Prophase, Prometaphase, Anaphase, and Telophase
- Prophase, Prometaphase, Metaphase, and Anaphase
- ✓ Prophase, Prometaphase, Metaphase, Anaphase, and Telophase

20) _____ is (are) Chromatin condenses and chromosomes become visible

- Anaphase
- Metaphase
- ✓ Prophase
- All other answers are correct

21) _____ is (are) Chromosomes align on cells midplane on top of each other

- Prophase
- Telophase
- ✓ Metaphase
- there is no answer

22) _____ is (are) Sister chromatids separate, move to opposite poles.

- ✓ Anaphase
- Metaphase
- Prophase
- All other answers are correct

23) _____ is (are) Sister chromatids separate, move to opposite poles.

- Prophase
- Telophase
- Metaphase
- ✓ there is no answer

24) _____ is (are) Chromosomes decondensed. Cytokinesis begins

- ✓ Telophase
- Prophase
- Metaphase
- All other answers are correct

25) Prophase _____

- Chromosomes decondensed. Cytokinesis begins
- Chromosomes align on cells midplane on top of each other.
- there is no answer
- ✓ Chromatin condenses and chromosomes become visible.

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26) **Metaphase** _____

- ✗ Chromosomes decondensed. Cytokinesis begins
- ✓ Chromosomes align on cells midplane on top of each other.
- there is no answer
- ✗ Chromatin condenses and chromosomes become visible.

27) **Anaphase** _____

- ✗ Chromosomes decondensed. Cytokinesis begins
- ✓ Sister chromatids separate, move to opposite poles.
- ✗ Chromosomes align on cells midplane on top of each other.
- ✗ Chromatin condenses and chromosomes become visible.

28) **Telophase** _____

- ✓ Chromosomes decondensed. Cytokinesis begins
- ✗ Chromosomes align on cells midplane on top of each other.
- there is no answer
- ✗ Chromatin condenses and chromosomes become visible.

29) **Cytoplasmic division** _____

- ✓ is called Cytokinesis
- ✗ is called Cytosol
- ✗ is called Cytogenesis
- ✗ overlaps with Anaphase

✓ overlaps with telophase

30) **Cytokinesis in animal cells** _____

- A cell plate forms in the middle from vesicles
- Forms a cell plate
- ✓ forms a cleavage furrow
- All other answers are correct

✓ separates the contents into two cells

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31) **Cytokinesis in plant cells** _____

- ✓ forms a cell plate AND separates the contents into two cells
- ✓ forms a cell plate
- ✓ separates the contents into two cells
- ✗ forms a cleavage furrow

32) **Synapsis occurs during** _____

- ✗ prophase of meiosis II AND mitosis
- ✓ meiosis I
- prophase of meiosis II ✗
- mitosis ✗

✓ prophase of meiosis I

33) **Synapsis occurs during** _____

- ✓ prophase of meiosis I AND meiosis I
- ✓ prophase of meiosis I
- ✗ metaphase of meiosis II ✗
- ✓ meiosis I

34) **Tetrads forms during** _____

- ✗ mitosis ✗
- ✓ meiosis I
- ✓ metaphase of meiosis I
- ✓ metaphase of meiosis I AND meiosis I

✓ prophase of meiosis I

35) **Crossing over occurs during** _____

- Metaphase of meiosis II ✗
- ✓ Prophase of meiosis I
- ✗ meiosis II AND metaphase of meiosis II
- meiosis II ✗

✓ meiosis I
✓ metaphase of meiosis I

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36) Sister chromatids separate during _____

- mitosis
- telophase
- ✓ meiosis II
- Anaphase
- mitosis I

37) Sister chromatids separate during _____

- meiosis II
- Anaphase
- mitosis
- All other answers are correct

38) homologous chromosomes separate during _____

- meiosis II
- Anaphase
- meiosis I AND Anaphase
- ✓ meiosis I

39) During meiosis I _____

- sister chromatids separate
- ✓ homologous chromosomes separate
- diplod cell is produced
- ✓ haploid cell is produced
- ✓ The chromosome number is reduced by half 2n to 1n
- All other answers are correct

40) During meiosis II _____

- The chromosome number is reduced by half
- ✓ chromosome number remains the same
- ✓ sister chromatids separate
- ✓ haploid cell is produced
- All other answers are correct
- homologous chromosomes separate

41) Meiosis _____

- ✓ has one interphase
- has one cytokinesis
- produces diploid cells
- has two interphases

42) **Meiosis** _____

- has two devisions AND has one S phase
- has two interphases
- has one S phase
- has two devisions

43) **The genetic material is duplicated during _____ of the cell cycle.**

A) Mitotic phase
B) S-phase
C) G2
D) telophase

44) **Replicate copies of each chromosome are called _____ and are joined by _____**

A) homologous / centromere.
B) sister chromatids / kinetochore.
C) sister chromatids / centromere.
D) sister chromatids / spindle

45) **Condensed DNA and protein complex, make up _____**

A) RNA
B) gene
C) Chromosome
D) chromatin

46) **When cell is not dividing, the genetic material is decondensed and is called ____**

A) Lysosome
B) chromatin
C) Chromosome
D) None of the above

1) **Haploid cells** _____

- Have three homologous sets of chromosomes (3n)
- Are sex cells
- Have two homologous sets of chromosomes (2n)
- Are mainly somatic cells

✓ have one set of chromosomes (1n)

2) **Diploid cells** _____

- are sex cells
- have two homologous sets of chromosomes (2n)
- have one set of chromosomes (1n)
- have three homologous sets of chromosomes (3n)

✓ Are mainly somatic cells

3) **Which of the following is ture in mammals sex determination system?** ≅ Fruit fly

- XY = female AND ZW = male
- XY = male
- XY = female
- ZW = male

✓ XX = female

4) **Which of the following is true in grasshoppers sex determination system?**

- XX = male
- ZW = male
- XX = female
- All other answers are correct

✓ XO = male

5) **Which of the following is ture in birds sex determination system?**

- ZW = female
- XY = female
- ZW = male
- All other answers are correct

✓ ZZ = male

6) **Which of the following is true in bees sex determination system?**

- haploid = female
- Diploid = male AND haploid = female
- haploid = male
- Diploid = male

✓ Diploid = female

7) Copy of a gene is called _____

- Sister chromosomes AND Gametes
- Sister chromosomes
- Gametes
- ✓ alleles

8) Which of the following is Homozygous?

- ab
- ✓ Two identical alleles
- Aa AND ab
- Aa

✓ AA
✓ aa

9) Which of the following is Heterozygous?

- ✓ Aa
- aa
- AA AND aa
- AA

✓ Two different alleles
✓ ab

10) Alleles that is expressed in the heterozygous _____

- ✓ Dominant allele
- Recessive allele

11) Alleles that is not expressed in the heterozygous _____

- Dominant allele
- ✓ Recessive allele

12) Open circle in human pedigree is symbol for _____

- affected female
- ✓ normal female
- normal male
- affected male

13) Filled circle in human pedigree is symbol for _____

- ✓ affected female
- normal female
- normal male
- affected male

14) Open square in human pedigree is symbol for _____

- affected female
- normal female
- ✓ normal male
- affected male

15) Filled square in human pedigree is symbol for _____

- affected female
- normal female
- normal male
- ✓ affected male

16) Normal female in genetic pedigree is represented by _____

- Filled square
- Filled circle
- there is no answer
- ✓ Open circle

17) Affected female in genetic pedigree is represented by _____

- Filled square
- ✓ Filled circle
- Open circle
- All other answers are correct

18) Normal male in genetic pedigree is represented by _____

- Filled square
- Filled circle
- ✓ Open square
- there is no answer

19) Affected male in genetic pedigree is represented by _____

- Open square
- ✓ Filled square
- Open circle
- Open circle AND Open square

20) In Mendel experiment, the heritable factors is now known as _____

- chromatids
- chromomers
- there is no answer
- ✓ genes

21) Which of the following statements are true _____

- Recessive allele appears in the F1 generation
- Recessive and dominant allele disppear in the F2 generation
- All other answers are correct
- ✓ dominant allele appears in the F2 generation

✓ in the F1 generation	✓ in the F2 generation
○ dominant allele appears	○ dominant and Recessive allele appear
○ Recessive allele disppear	

22) Which of the following is an exception to Mendels Laws?

- dominance
- Co-dominance
- recessiveness
- Segregation

✓ Incomplete dominance
✓ multiple alleles
✓ polygens
✓ poliotropy

23) _____ is referred to as Heterozygote expresses phenotypes of both homozygotes.

- Pleiotropy
- Incomplete dominance
- there is no answer (Co-dominance)
- Multiple alleles

24) _____ is referred to as Heterozygote has intermediate phenotype.

- there is no answer
- Codominance
- Pleiotropy
- Incomplete dominance

25) ___ is referred to as three or more alleles in a population for same locus.

- Incomplete dominance
- Multiple alleles
- Polygenes
- Pleiotropy

26) _____ is referred to as Multiple independent pairs of genes may have similar and additive effects on the phenotype

- Incomplete dominance
- Multiple alleles
- Polygenes
- Pleiotropy

27) _____ is referred to as the phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic.

- Incomplete dominance
- Multiple alleles
- Polygenes
- Pleiotropy

28) Codominance is referred to _____

- Heterozygote expresses phenotypes of both homozygotes
- there is no answer
- Heterozygote has intermediate phenotype
- Multiple independent pairs of genes may have similar and additive effects on phenotype

29) Incomplete dominance is referred to _____

- Heterozygote expresses phenotypes of both homozygotes
- there is no answer
- Heterozygote has intermediate phenotype
- Multiple independent pairs of genes may have similar and additive effects on the phenotype.

30) Polygenes is referred to _____

- Heterozygote expresses phenotypes of both homozygotes
- Multiple independent pairs of genes may have similar and additive effects on the phenotype.
- Three or more alleles in a population for the same locus.
- The phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic (= Single traits).

31) Multiple alleles is referred to _____

- Three or more alleles in a population for the same locus.
- The phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic.
- there is no answer
- Multiple independent pairs of genes may have similar and additive effects on the phenotype.

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32) Pleiotropy is referred to _____

- All other answers are correct
- Multiple independent pairs of genes may have similar and additive effects on the phenotype.
- Three or more alleles in a population for the same locus.
- The phenomenon of one gene mutation being responsible for or affecting more than one phenotypic characteristic.

33) In mammals sex is determined by _____

A) X-Y system
B) Z-W system
C) Number of chromosome
D) X-O system

34) In grasshopper and roaches sex is determined by _____

A) X-Y system
B) Z-W system
C) Number of chromosome
D) X-O system

35) In birds and butterflies is determined by _____

A) X-Y system
B) Z-W system
C) Number of chromosome
D) X-O system

36) In ants and bees sex is determined by _____

A) X-Y system
B) Z-W system
C) Number of chromosome
D) X-O system

37) For each character, an organism inherits two ___, one from each parent.

A) Alleles
B) genes
C) traits
D) DNA

38) A _____ gene may mask the expression of a _____ gene.

A) Recessive – dominant
B) sex – autosomal
C) Dominant – recessive
D) sex – recessive

39) ___carry two different alleles of a locus wheras, ____carry identical alleles

A) Diplozygous--- heterozygous

B) heterozygous ---homozygous

C) homologous---- homozygous

D) homozygous ---heterozygous

40) The Phenotypic ratio of F2 generation in monohybrid cross is _____

B) 3:1

B) 4:1

C) 1:2:1

D) none of the above

41) The genotypic ratio of F2 generation in monohybrid cross is _____

A) 3:1

B) 1:2:1

C) 2:3

D) all of the above

42) In mendels F2 generation, one out of four plants had one white flowers because _____

A) The trait is sex –linked

B) both patterns where heterozygous purple

C) One parent was homozygous reccsive

D) both patterns where heterozygous white

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