

2nd Term - Helping Questions for Final Exam of Bio 110

- 1) _____ requires a continuous supply of O₂ and the disposal of CO₂.
A) Transpiration
B) Cellular respiration
C) Tissue respiration
D) Photosynthesis
E) A and C are correct choices
- 2) _____ and other small animals use their entire outer skin as a gas exchange organ.
A) Grasshoppers
B) Flatworms
C) Roundworms
D) Earthworms
E) B and C choices are correct
- 3) The _____ system, which is an extensive system of branching internal tubes, is usually used only by arthropods for gas exchange.
A) lymphatic
B) tracheal
C) blood
D) immune
E) secretory
- 4) _____ in aquatic animals increase surface to volume ratio, therefore increase surface area for gas exchange O₂ absorbed and CO₂ released.
A) Tracheal surfaces
B) Gills
C) Respiratory surfaces
D) Simple lungs
E) C and D are correct choices
- 5) Gas exchange in fish is enhanced by ventilation of the gills and by the _____ flow of water and blood.
A) exact
B) different
C) analogous
D) countercurrent
E) negative
- 6) The insect tracheal system uses tiny branching tubes that reduce water loss and air is piped _____ to the cells.
A) indirectly
B) vigorously
C) directly
D) simultaneously
E) mutually
- 7) The mucus in the trachea traps dust, pollen grains, and other contaminants where cilia move the mucus upward to the _____ where it is swallowed or spit.
A) larynx
B) pharynx

- C) epiglottis
 - D) esophagus
 - E) nostrils
- 8) **Land vertebrates have -----.**
- A) single circulation
 - B) pulmonary circulation only
 - C) heart circulation only
 - D) **double circulation**
 - E) systemic circulation only
- 9) **_____ animals need high blood pressure to support more efficient blood movement.**
- A) Ectothermic
 - B) **Endothermic**
 - C) Aquatic
 - D) Poikilothermic
 - E) Exothermic
- 10) **Erythropoietin hormone (EPO) regulates red blood cell production and sometimes is misused by athletes, this might cause _____.**
- A) heart failure
 - B) blood clotting
 - C) stroke
 - D) death
 - E) **all of the above choices are correct**
- 11) **_____ is the process by which animals maintain an internal temperature within tolerable range.**
- A) Excretion
 - B) **Thermoregulation**
 - C) Sweating
 - D) Osmoregulation
 - E) Defecation
- 12) **Endothermic animals mostly warm their bodies by heat generated from their own _____.**
- A) excretion
 - B) homeostasis
 - C) **metabolism**
 - D) sweating
 - E) circulation
- 13) **Heat exchange with the environment may occur through -----**
- A) convection.
 - B) radiation.
 - C) conduction.
 - D) evaporation.
 - E) **all of the above choices are correct.**
- 14) **Honey bees survive winters by clustering and _____ so that the metabolic activity of all bees together generates enough heat to keep the cluster alive.**
- A) resting

- B) hiding
- C) shivering**
- D) sleeping
- E) b+d are correct choices

15) In _____ adaptation of thermoregulation, warm and cold blood flow in opposite directions in two adjacent blood vessels.

- A) active
- B) inhibitory
- C) countercurrent**
- D) functional
- E) inactive

16) Both endotherms and ectotherms control body temperature through _____ responses including migration, bathing and movement to the sun or shade.

- A) structural
- B) functional
- C) morphological
- D) behavioral**
- E) geographical

17) Osmoconformers are animals having the same internal _____ concentration as seawater.

- A) blood
- B) basic
- C) solute**
- D) acid
- E) neutral

18) Which of the following statements regarding freshwater fish is TRUE?

- A) Freshwater fish frequently drink to obtain salt ions.
- B) Freshwater fish use their gills to actively take up salt ions.**
- C) Freshwater fish lose water through their gills by osmosis.
- D) Freshwater fish do not produce urine.
- E) Freshwater fish cannot directly exchange water with the environment by osmosis.

19) Most animals get rid of nitrogenous waste like ammonia, urea and _____ from their bodies.

- A) phosphoric acid
- B) nitric acid
- C) uric acid**
- D) nitrous oxide
- E) urea

20) _____ is a process by which water and all other molecules small enough to be forced through the capillary wall enter the nephron tubule from the glomerulus under forces of blood pressure.

- A) Absorption
- B) Excretion
- C) Filtration**
- D) Secretion
- E) Reabsorption

- 21) Which of the following statements regarding asexual reproduction is TRUE?
- A) Asexual reproduction involves only a single individual (organism).
 - B) Asexual reproduction creates an individual that is a genetic copy of one parent.
 - C) Asexual reproduction does not involve gametes.
 - D) Asexual reproduction does not generate variations.
 - E) All are true of asexual reproduction.
- 22) Nearly all terrestrial animals exhibit _____ fertilization, which is an adaptation that enables sperm to reach an egg in a dry environment.
- A) external
 - B) mixed
 - C) internal
 - D) asexual
 - E) none of the above are correct choices
- 23) Signals from the brain to the hypothalamus, secretes the release hormone that regulates the production of the follicle-stimulating hormone (FSH) and luteinizing hormone (LH) from the _____.
- A) gonads
 - B) anterior pituitary
 - C) prostate gland
 - D) bulbourethral gland
 - E) posterior pituitary
- 24) In humans, male spermatogenesis occurs in the seminiferous tubules, where primary spermatocytes are formed by mitosis divide by _____ to produce secondary spermatocytes.
- A) meiosis II
 - B) fractionation
 - C) meiosis I
 - D) disintegration
 - E) duplication
- 25) Estrogen and progesterone are produced by _____.
- A) anterior pituitary
 - B) corpus luteum
 - C) posterior pituitary
 - D) hypothalamus
 - E) ovarian follicle
- 26) Which of the following statements regarding spermatogenesis is TRUE?
- a) Meiosis in spermatogenesis produces one cell.
 - b) Meiosis in spermatogenesis produces two cells.
 - c) Meiosis in spermatogenesis produces four cells.
 - d) Mitosis in spermatogenesis produces two cells.
 - e) Mitosis in spermatogenesis produces four cells.
- 27) Which of the following statements regarding oogenesis is TRUE?
- a) Meiosis in oogenesis produces one mature egg.
 - b) Meiosis in oogenesis produces two mature eggs.
 - c) Meiosis in oogenesis produces four mature egg.

- d) Mitosis in oogenesis produces one mature egg .
- e) Mitosis in oogenesis produces two mature eggs.

28) _____ is the formation of an egg.

- a) Spermatogenesis
- b) Oogenesis
- c) Embryogenesis
- d) Organogenesis
- e) None of the above choices are correct

29) _____ involves inheritance of unique combination of genes from two parents.

- A) Regeneration
- B) Fragmentation
- C) Budding
- D) Sexual reproduction
- E) Binary fission

30) Which statement regarding sexual reproduction is FALSE?

- A) Offsprings are similar to parents, but show variations in traits.
- B) Involves inheritance of unique sets of genes from two parents.
- C) Includes the development of fertilized eggs.
- D) Increases genetic variation than is asexual reproduction.
- E) None of the above choices is false.

31) To prepare for cell division, the _____ becomes highly compact, and the _____ are visible with a microscope.

- A) protein - DNA
- B) chromatin – chromosomes
- C) DNA – RNA
- D) chromosomes - DNA
- E) nucleus – genes

32) Cytokinesis is the _____

- A) same process in plant and animal cells.
- B) the division of cytoplasm and the formation of two cells.
- C) the first stage of mitosis.
- D) the middle stage of mitosis.
- E) the movement of kinetochores.

33) _____ is the structure across a dividing plant cell that signals the location of new plasma membranes and cell walls.

- A) Centromere
- B) Centrosome
- C) Cell plate
- D) Kinetochore
- E) Cleavage furrow

34) DNA packing tends to _____ gene expression.

- A) prevent
- B) allow
- C) facilitate
- D) stimulate

E) increase

35) Replication of DNA is considered semiconservative because each old strand serves as a _____ for the formation of a new strand.

- A) **template**
- B) fragment
- C) catalyst
- D) copy
- E) pair

36) The backbones of the DNA double helix are made up of _____

- A) ribose and phosphates.
- B) **deoxyribose and phosphate.**
- C) ribose and nitrogenous bases.
- D) deoxyribose and nitrogenous bases.
- E) deoxyglucose and phosphate.

37) If one strand of a DNA molecule has the base sequence ATTGCAT, its complementary strand will have the sequence:

- A) ATTGCAT.
- B) ATTGCAA.
- C) **TAACGTA.**
- D) GCCATGC.
- E) CGGTACG.

38) _____ is a mass of genetic material composed of DNA and proteins that condense to form chromosomes during eukaryotic cell division.

- A) RNA
- B) Gene
- C) Plasmid
- D) **Chromatin**
- E) Histone

39) Replicate copies of each chromosome are called _____ and are joined by the _____.

- A) homologues/centromere.
- B) sister chromatids/kinetochore.
- C) **sister chromatids/centromere.**
- D) homologues/kinetochore.
- E) sister chromatids/spindle.

40) In animal cells, cytokinesis takes place by the _____.

- A) membrane fusion
- B) **cleavage furrow**
- C) formation of cell plate
- D) cytoplasmic contraction
- E) binary fission