

Excretion

1- Homeostasis is the :

- a) ability to regulate internal environment.
- b) maintenance of steady internal conditions despite fluctuations in the external environment.
- c) maintenance of internal temperature within narrow limits.
- d) control of the gain and loss of water and solutes.
- e) all of the above

2- The kidney's filtrate consists of _____

- a) solutes
- b) urea
- c) water
- d) vitamins
- e) all of the above choices are correct

3- Marine animals that have body fluids with a solute concentration equal to that of the surrounding seawater are:

- a) osmoregulators)
- b) **osmoconformers**
- c) hypertonic
- d) hypotonic.
- e) a and c are correct.

4- In kidney, Reabsorption means that water and valuable solutes are returned to the _____ from the filtrate

- a) glomerulus
- b) renal pelvis
- c) renal cortex
- d) **blood.**
- e) Renal medulla.

5- Ectothermic animals:

- a) derive body heat mainly from their metabolism.
- b) absorb heat from their surroundings
- c) include lizards
- d) include birds
- e) **b and c are correct.**

Gas exchange and circulation

- 6- The O_2 that diffuses into blood attaches to _____ in red blood cells.
- a) plasma
 - b) white blood cells
 - c) hemoglobin
 - d) platelets
 - e) all of the above choices are correct.
- 7- In mammals, air enters through the nostrils to the ----- where it is filtered by hairs and mucus, warmed or moisturized and sampled for odor.
- a) pharynx
 - b) nasal cavity
 - c) mouth
 - d) larynx
 - e) esophagus
- 8- During _____ rib cage expands, diaphragm moves down pressure and lung decreases, air is drawn into the respiratory tract.
- a) exhalation
 - b) inhalation
 - c) respiration
 - d) passive diffusion
 - e) active diffusion
- 9- The sinoatrial node (SA node) in the pacemaker which sets the rate of heart _____ and generates electrical signals in atria
- a) rhythm
 - b) contractions
 - c) relaxations
 - d) resting
 - e) a+b are correct choices
- 10- Atherosclerosis is due to _____
- a) plaques narrowed blood vessels
 - b) blood flow is reduced
 - c) plaques develop inside walls of blood vessels

- d) blood flow is doubled
- e) a+b+c are correct choices

11- 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

12- Most of carbon dioxide in the blood is transported as bicarbonate ions in the _____

- a) **Plasma**
- b) Red blood cells
- c) White blood cells
- d) Platelets
- e) Macrophages

13- Blood pressure is _____

- a) Highest in arteries
- b) Decreases as blood moves away from the heart
- c) Lowest in veins
- d) Reduced during violent exercise
- e) **A+b+c are correct choices**

Reproduction

14- Sperm production is regulated by a negative feedback system of hormones and involves the _____, pituitary, and testes.

- a) **Hypothalamus**
- b) Thyroid
- c) Thalamus
- d) Cerebrum
- e) Ovaries

15- The movement of the sperm tail is due to the:

- a) fertilization
- b) primary spermatogenesis
- c) the large number of sperm
- d) spermatids
- e) ATP released from mitochondria

16- The process by which the sperms are produced is known as

_____.

- a) Ovulation.
- b) Spermatogenesis.
- c) Oogenesis.
- d) Gestation.
- e) embryogenesis.

17- Gastrulation produces:

- a) A two-layered embryo.
- b) A primary oocyte.
- c) A large number of sperm.
- d) Mature ova.
- e) A three-layered embryo.

18- _____ involves inheritance of unique combination of genes from two parents.

- a) Regeneration.
- b) Fragmentation.
- c) Budding.
- d) Sexual reproduction.
- e) Binary fission.

19- Prokaryotes reproduce by a type of cell division called binary fission which means _____.

- a) Split via budding.
- b) Dividing in half.
- c) Fragment of the cell.
- d) Two gonads in one organism.

e) None of the above.

Genetics

- 20- The two sister chromatids are joined together tightly at the _____, a narrow region.
- a) Nuclear envelope
 - b) Spindle
 - c) Microtubules
 - d) Centromere.
 - e) Nucleolus
- 21- Cytokinesis in animal cells is accomplished by:
- a) Cleavage furrow made by contractile ring of intermediate filaments.
 - b) Cleavage furrow made by contractile ring of microfilaments.
 - c) Cleavage ring made by microtubules.
 - d) Binary fission.
 - e) Cell plate formation
- 22- In Mendel's F₂ generation, one out of four plants had white flowers because _____.
- a) The trait is sex-linked
 - b) Both parents were heterozygous purple
 - c) One parent was homozygous recessive
 - d) Both parents were heterozygous white
 - e) One parent was heterozygous purple
- 23- The expression of the two alleles in a heterozygous individual is the result of:
- a) Crossing over.
 - b) Codominance.
 - c) Polygenic inheritance.
 - d) Pleiotropy
 - e) Chromosomes.
- 24- In grasshoppers and roaches sex is determined by:
- a) X-Y system.
 - b) Z-W system.
 - c) Number of chromosomes

- d) Size of the sex chromosomes.
- e) X-O system.

25- Which of the following is true ?

- a) Chromosomes are located on genes.
- b) Genes are located on chromosomes.
- c) Genes are polymer of amino acids.
- d) Chromosomes are part of a chromatid.
- e) Prokaryotes have paired chromosomes.

26- mRNA is produced in the process called:

- a) Respiration.
- b) Translation.
- c) Replication.
- d) Transcription.
- e) Transpiration

27- Mendel showed that parents pass heritable factors to offspring, These heritable factors are now called:

- a) Chromosomes.
- b) Chromatids.
- c) RNA.
- d) DNA.
- e) Genes.

28- The somatic cells in human male have chromosomes of the type _____.

- a) 22+ X.
- b) 22 + Y.
- c) 23 + Y.
- d) 44 + XX.
- e) 44 + XY.

29- _____ is the division of the cytoplasm following mitosis and meiosis.

- a) Crossing over
- b) **Cytokinesis.**
- c) Cleavage
- d) Binary fission
- e) Interkinesis

30- What are the correct order for the 3 stages of interphase of cell cycle:

- a) S, G1, G2
- b) S, G2, G1
- c) G1, G2, S
- d) **G1, S, G2.**
- e) there is no certain order