

MOD1-BIO155G-Anatomy and Physiology

1. This is a method of cell division in which the two daughter cells have an equal number of chromosomes to each other and to the parent cell.

- a. Mitosis
- b. Meiosis
- c. Pinocytosis
- d. Cotyledosis

2. Cell division, wherein , each daughter nucleus receives half the number of chromosomes typical of somatic cells, is referred to as:

- a. Mitosis
- b. Pinocytosis
- c. Meiosis
- d. Haploidosis

3. Oogenesis is:

- a. The formation of sperm in the male
- b. The formation of eggs in the female
- c. The process which results in haploid sperm
- d. Both a and c

4. The final process in spermatogenesis is spermiogenesis in which the cytoplasmic bridges between the _____ spermatids are broken as they mature into sperm.

- a. 2
- b. 8
- c. 4
- d. 3

5. Meiosis occurs during the maturation of sex cells.

- a. True
- b. False

6. Which of the following is not essential to survival?

- a. Water
- b. Oxygen
- c. Gravity
- d. Atmospheric pressure

7. Homeostasis refers to the following except:

- a. Continual motion and adaptation
- b. A static or fixed and unmoving state
- c. The tendency of systems to maintain relatively constant conditions
- d. Adjusting and taking corrective action

8. Anatomical position is defined as:

- a. The body lying down facing up
- b. The body as seen from the observers point of view
- c. The body is erect, palms facing forward
- d. The body is sitting with legs forward

9. In anatomical terms, the following are true, except:

- a. The breasts are located lateral to the heart.
- b. The uterus is superior to the bladder.
- c. The foot is distal to the knee.
- d. The sternum is medial to the chest.

10. The following are two sets of internal cavities:

- a. The medullary and the peritoneal cavity
- b. The abdominal cavity and the thoracic cavity
- c. The peritoneal cavity and the serous cavity
- d. The abdominal cavity and the peritoneal cavity

11. The midwife informs you that she needs to take blood from your antecubital region. Where is she describing?

- a. The fingertips
- b. The thigh muscle
- c. The flank
- d. The inside of the elbow

12. The following are true about DNA, except:

- a. It is a molecule.
- b. It directs all the activities of living cells.
- c. It directs its own reproduction and perpetuation.
- d. It is a round, circular polymer of small nucleotides.

13. ATP is not associated with:

- a. Providing a form of chemical energy that is usable by all body cells.
- b. The joining and storage of glucose
- c. Its phosphate group is attached by high-energy phosphate bonds
- d. The destruction of life processes

14. The region of a cell that is responsible for most cellular activity is the:

- a. The nucleus
- b. The cytoplasm
- c. The plasma membrane

d. Extra-cellular spaces

15. Which of the following is the definition of osmosis?

- a. The movement of particles from an area of lower concentration to an area of higher concentration
- b. The process by which water is forced through a membrane by hydrostatic pressure.
- c. The diffusion of water through a semi-permeable membrane from an area of higher concentration of Water to an area of lower concentration of water.
- d. The stasis of fluid within a defined area.

16. Which of the following is not a function of epithelium:

- a. Protection
- b. Protein production
- c. Absorption of nutrients
- d. Secretion

17. Both fat and bones are considered what type of tissue?

- a. Cuboidal
- b. Extracellular
- c. Connective
- d. Neural

18. Which type of muscle tissue is considered voluntary?

- a. The skeletal muscle that moves the rib cage.
- b. The cardiac muscle that contracts during the beating of the heart
- c. The muscle of the small intestine as it digests food.
- d. The minute muscles surrounding the blood vessels.

19. The functions of the skeletal system include all of the following except: a. Support

- b. Protection
- c. Fat production
- d. Storage

20. In what way does the fetal skull differ from the adult skull? a. The fetal skull is proportionately smaller in relationship to the body than the adult skull is to a full grown adult.

- b. The adult cranium is larger in relation to the face than that of a fetal skull.
- c. The fetal skull is not fully formed when the newborn is born, resulting in more flexibility during delivery.
- d. The adult skull is more brittle than that of the fetus resulting in more fractures than the fetal skull.

21. Which of the following is not a difference between the male and female pelvis? a. The female inlet is larger and more circular.

- b. The female sacrum is longer and more curved.
- c. The male pelvis is heavier and thicker.
- d. The female outlet is larger due to ischial spines being shorter and farther apart.

22. What are two reasons that bones can become soft or atrophy?

- a. Too much exercise and a diet high in phosphorous.
- b. Menopause and a lack of physical stress on the bones.
- c. Too much calcium and a history of previous fractures.
- d. Not enough carbohydrates and fat in the diet and the abuse of certain types of drugs

23. Muscle cells that are single, long, striated and voluntary are which type of muscle cell?

- a. Cardiac muscle cells
- b. The cells in the walls of the intestinal tract.
- c. Skeletal muscle cells
- d. The cells within the walls of the heart.

24. Muscle fatigue most often occurs when the following is present:

- a. Prolonged muscle activity resulting in an oxygen debt.
- b. Too much oxygen resulting in hyperventilation
- c. A lack of use of individual muscles
- d. Over-stretching of the muscle resulting in actual tissue damage

25. Define the function of the hypothalamus in the autonomic nervous system:

- a. It acts as a relay station for sensory impulses.
- b. It plays a role in the regulation of body temperature, water balance, and metabolism.
- c. It controls vital activities such as breathing and blood pressure.
- d. It conveys ascending and descending impulses

26. How many pairs of spinal nerves are there?

- a. 48
- b. 36
- c. 31
- d. 28

27. We experience the sensation of bitter most strongly on what part of the tongue?

- a. The tip
- b. The back
- c. The sides
- d. The underneath portion

28. Which of the following is not a function of hormones:

- a. The destruction and dissolution of harmful substances within the body.
- b. The control of reproduction, growth and development
- c. Regulating cellular metabolism and energy balance
- d. Maintaining electrolyte, water, and nutrient balance of the blood

29. Which two hormones are significant in regulating the release of estrogen and progesterone by the ovaries?

- a. Prolactin and growth hormone
- b. Follicle stimulating hormone and luteinizing hormone
- c. Adrenocorticotrophic hormone and thyroid stimulating hormone
- d. Prostaglandin and androgen

30. Oxytocin is released by which gland?

- a. The thalamus
- b. The pituitary
- c. The ovary
- d. The hypothalamus

31. When hormone secretion is triggered by some internal or external stimuli, and then rising hormone levels inhibit further hormone release while promoting responses in their target organs it is called:

- a. The negative feedback mechanism
- b. The positive feedback system
- c. Homeostasis
- d. Hormone balance

32. Human chorionic gonadotropin (HCG) is initially produced by the corpus luteum. What organ takes over the production and release of HCG after that?

- a. The ovary
- b. The hypothalamus
- c. The placenta
- d. The fetal pituitary

33. What is the blood volume of an average-size adult?

- a. 8-9 liters
- b. 5-6 liters
- c. 8 quarts
- d. 6-7 liters

34. Which is the most common type of blood group?

- a. B
- b. A
- c. O
- d. AB

35. The events of one complete heartbeat, during which both atria and ventricles contract and then relax is called the:

- a. The cardiac cycle
- b. Cardiac output
- c. Stroke volume
- d. Fibrillation

36. Arteries carry what type of blood from the heart?

- a. Aortic
- b. De-oxygenated
- c. Venous
- d. Oxygenated

37. All of the following are important in promoting venous return except:

- a. The lumens of veins tend to be much smaller than arteries
- b. The larger veins have backflow valves that prevent backflow
- c. Skeletal muscle activity
- d. The respiratory pump

38. Fetal circulation differs from normal circulation in all the following ways except:

- a. Blood flow bypasses the immature liver through the ductus venosus
- b. Oxygenated blood is shunted past the heart directly to the lungs
- c. Oxygenated blood is carried from the placenta by way of the umbilical vein.
- d. Blood entering the right atrium is shunted directly into the left atrium through the foramen ovale.

39. The definition of pulse is:

- a. The primary function of the circulatory system
- b. The flow of blood as it travels back to the heart
- c. The pressure wave created by the alternating expanding and recoil of an artery that occurs with each beat of the left ventricle.
- d. The pressure sustained in the arteries during each cardiac cycle.

40. Systolic pressure refers to the:

- a. Pressure in the arteries when they are relaxing
- b. Pressure in the arteries at the peak of ventricular contraction
- c. Pressure when the ventricles are relaxing
- d. Resistance in the peripheral arteries when the heart is pumping

41. Any substance capable of exciting our immune system and provoking an immune response is called:

- a. An antigen
- b. An antibody
- c. Foreign-mediated immunity
- d. The immune compromiser

42. Which of the following is an example of an autoimmune disease?

- a. Multiple sclerosis
- b. Type II diabetes
- c. Congestive heart disease
- d. Rubella

43. The major function of the respiratory system is to:

- a. Transport carbon dioxide to the cells

- b. Supply the body with oxygen and to dispose of carbon dioxide.
- c. Expand the lungs
- d. Expel carbon monoxide from the lungs

44. The major way oxygen is transported in the blood is:

- a. Oxygen binds to the white blood cells and is distributed throughout the body
- b. Oxygen binds to carbon dioxide and together they are circulated throughout the body by way of the heart pumping
- c. Oxygen attaches to hemoglobin molecules inside the RBC's creating oxyhemoglobin
- d. Carbon dioxide is released so that oxygen can bind to the same receptor site and not interfere with O₂ transport

45. Which of the following is not a function of the digestive tract:

- a. Ingestion
- b. Mechanical digestion
- c. Absorption
- d. Circulation

46. The definition of catabolism is:

- a. The body builds larger molecules or structures from smaller ones
- b. The consumption of the species by another member of the same species
- c. The breakdown of substances to simpler substances
- d. The destruction of minerals within the cell structure

47. Name the food group that is most important for building cell structures.

- a. Protein
- b. Fats
- c. Carbohydrates
- d. Nucleic acids

48. Most nutrient absorption occurs in the:

- a. Esophagus
- b. Stomach
- c. Large intestine
- d. Small intestine

49. The functional units of the kidney are:

- a. The renal artery
- b. The nephrons
- c. The renal capsule
- d. The urinary bladder

50. Which of the following is not a function of the kidneys:

- a. Excretion of indigestible food residue
- b. Maintaining water
- c. Maintaining electrolyte balance of the blood
- d. Ensuring proper blood pH

51. Name the gonads of males:

- a. The ovaries
- b. The prostate
- c. The testes
- d. Testosterone

52. The two major functions of the female ovaries (gonads) are:

- a. Production and secretion of enzymes
- b. The production of female sex cells and the production and secretion of hormones
- c. The nurturing and protection of the human fetus
- d. Sexual stimulation and orgasm extension

53. Ovulation occurs as a direct result of the sudden surge in what hormone produced by the anterior pituitary?

- a. Estrogen
- b. Progesterone
- c. Luteinizing hormone
- d. HCG

54. The first day of the menstrual cycle occurs when:

- a. Ovulation occurs
- b. The lining of the uterus is thickened in preparation for a baby
- c. The first day of menses
- d. The first of every month

55. What is the "feminizing" hormone?

- a. Estrogen
- b. Prolactin
- c. Prostaglandins
- d. Testosterone

56. Progesterone causes the endometrium of the uterus to increase its blood supply, and to begin to secrete nutrients into the uterine cavity in preparation for what event:

- a. Menses
- b. The implantation of the blastocyst
- c. Ovulation
- d. The climax of the proliferative phase

57. Where does fertilization normally occur?

- a. In the ovary
- b. In the uterus

- c. In the fallopian tubes
- d. In the corpus luteum

58. The normal cessation of ovulation and menses is called:

- a. Menstruation
- b. Ovulation
- c. Menarche
- d. Menopause

59. The mammary glands' primary function is to:

- a. Produce milk in response to physical and hormonal stimulation
- b. Produce hormones in response to the birth of the baby
- c. Secrete oxytocin in response to stimuli
- d. Increase sexual function