

# BIOLOGY

*Instruction: You are offered the test items with one correct answer from four proposed ones.*

1. Breaking down polymers into monomers is a function of
  - A) digestive system
  - B) circulatory system
  - C) respiratory system
  - D) excretory system
  
2. This part of chloroplast is a site where dark reaction of photosynthesis occurs
  - A) grana
  - B) stroma
  - C) lamella
  - D) thylakoid
  
3. Liquid part of blood is
  - A) plasma
  - B) platelets
  - C) hemoglobin
  - D) blood cells
  
4. Blood vessel that have valves
  - A) artery
  - B) capillary
  - C) vein
  - D) aorta
  
5. All of the followings are aerobic organisms EXCEPT
  - A) yeast
  - B) pine tree
  - C) earthworm
  - D) fiish
  
6. The sum of metabolic reactions which consume energy to build complex molecules from simpler ones
  - A) cellular respiration
  - B) fermentation
  - C) catabolism
  - D) anabolism

7. Animals living in fresh water excrete

- A) urea
- B) ammonia
- C) uracil
- D) uric acid

8. Cannot be reabsorbed in the nephron

- A) glucose
- B) vitamins
- C) proteins
- D) water

9. One end of actin filament in sarcomere connects to each other with

- A) cap Z
- B) M line
- C) Z disc
- D) H band

10. First animal that was cloned

- A) lamb
- B) duck
- C) tiger
- D) cat

11. During mitosis sister chromatids move to opposite poles

- A) telophase
- B) anaphase
- C) prophase
- D) metaphase

12. A condition when two alleles of a gene are dominant, and in heterozygous organisms both dominant alleles express their traits fully is

- A) Epistasis
- B) Incomplete dominance
- C) Co-dominance
- D) Pleiotropy

13. Binomial nomenclature was first proposed by

- A) Pavlov
- B) Lamarck
- C) Mendel
- D) Linnaeus

14. Monomer of protein

- A) amino acid
- B) glucose
- C) nucleic acid
- D) nucleotide

15. Heterotrophic organisms with cell wall made of chitin

- A) mammals
- B) birds
- C) fungi
- D) plants

16. Not one of the macroelements

- A) Carbon
- B) Oxygen
- C) Nitrogen
- D) Aluminium

17. Blood component(s)

- A) blastocytes
- B) leukocytes
- C) myocytes
- D) hepatocytes

18. Damage of cerebellum will affect

- A) hearing
- B) balance
- C) coughing
- D) thermoregulation

19. An organelle that is found in plants but absent in the animal cells

- A) Nucleus
- B) Endoplasmic Reticulum
- C) Plastids
- D) Mitochondria

20. Undergo incomplete metamorphosis

- A) spiders
- B) grasshopper
- C) bees
- D) butterflies

21. The teeth response for chewing and grinding of food

- A) canines
- B) slobber
- C) molars and premolars
- D) incisors

22. The type of the blood cells that defines human blood group and transports gases in body

- A) plasma
- B) leucocytes
- C) thrombocytes
- D) erythrocytes

23. Formation of egg cells

- A) fertilization
- B) spermatogenesis
- C) cleavage
- D) oogenesis

24.  $\beta$ -glycosidic linkage found in

- A) glycogen
- B) amylose
- C) cellulose
- D) starch

25. Hemophilia is a X-linked recessive disease. If hemophilia carrier woman will marry a man with normal blood clotting then the probability of having hemophilic son would be

- A) 33%
- B) 50%
- C) 0%
- D) 100%

**Instruction:** You are offered the test items on the base of text with one correct answer from four proposed ones. Read the text attentively and do the items.

### **The Heart Never Rests**

The heart is a fairly small muscle that beat 100 000 times a day and produces roughly 115 00 Joules of energy, enough to boil a cup of water. Like a flowing river, deoxygenated blood travels from right side of heart via valve and chambers until passing through our lung, where each breath we take facilitate the oxygenation of every individual blood cell with 4 molecules of oxygen by it to special protein hemoglobin. Then oxygenated blood continues to progress through the left side of the heart, again passing through chambers and valves, that separate them, eventually being pushed out through largest blood vessel, aorta, to the rest our body with the help of the left ventricle, most muscular and thickest part/chamber of the heart.

The hearts responsibility is not only to provide oxygenated blood it the rest of the body but primarily it feeds itself by coronary vessels. The heart's muscles exhaust 11.6% of the body's total oxygen consumption, while all other muscles of our body could have a fatigue due to shortage of oxygen, by realizing lactic acid, heart will not.

Ceyda Sablek  
Fountain magazine

26. Heart structure that prevents backflow of the blood and seperates chambers

- A) coronary vein
- B) aorta
- C) valve
- D) hemoglobin

27. By passing through lungs, blood

- A) get oxygenated
- B) losses 4 molecules of oxygen
- C) get deoxygenated
- D) gains 4 molecules of carbon dioxide

28. Heart never releases lactic acid because

- A) it always supplies itself with oxygen
- B) it has thick muscular walls
- C) it has 4 chambers
- D) it has aorta

29. Systemic circulation starts at

- A) left ventricle
- B) right atria
- C) left atria
- D) right ventricle

30. Structure that helps to squeeze blood to all our body parts

- A) valve between right atria and ventricle
- B) coronary blood vessels
- C) thick muscular walls of right ventricle
- D) largest blood vessel Aorta

**Instruction:** You are offered test items to matching.

31. Match the hormones with their glands

A)	epinephrine	thyroid gland
		adrenal gland
		ovary
		Pancreas
B)	estrogen	thyroid gland
		adrenal gland
		ovary
		Pancreas

32. Match the characteristics of germ layers

A)	mesoderm	formation of bone and muscle tissues
		formation of thyroid and adrenal glands
		formation of brain and spinal cord
		formation of sebaceous and sweat glands
B)	entoderm	formation of bone and muscle tissues
		formation of thyroid and adrenal glands
		formation of brain and spinal cord
		formation of sebaceous and sweat glands

33. Match the skin diseases with their characteristics

A)	dark spots	highly production of melanin in certain areas of the skin
		producing more oils from sebaceous glands
		appearing of red dots caused by insects
		highly melanin production because of low ultraviolet light
B)	acne	highly production of melanin in certain areas of the skin
		producing more oils from sebaceous glands
		appearing of red dots caused by insects
		highly melanin production because of low ultraviolet light

34. Match the types of plants with their structural features

A)	C <sub>3</sub>	light-dependent absorption of oxygen occurs
		the first product is four-carbon compounds
		the first product is five-carbon compounds
		acceptor of CO <sub>2</sub> is ATP
B)	C <sub>4</sub>	light-dependent absorption of oxygen occurs
		the first product is four-carbon compounds
		the first product is five-carbon compounds
		acceptor of CO <sub>2</sub> is ATP

35. Match the reactions of metabolism with their characteristics

A)	catabolism	denaturation of protein into fatty acids
		synthesis of glycogen from several glucose molecules
		breaking down of protein molecules to amino acids
		formation of starch molecule from amino acids
B)	anabolism	denaturation of protein into fatty acids
		synthesis of glycogen from several glucose molecules
		breaking down of protein molecules to amino acids
		formation of starch molecule from amino acids

***Instruction:*** You are offered the test items with one or more correct answers.

36. Move(s) using flagella

- A) Spider
- B) Amoeba
- C) Euglena
- D) Earthworm
- E) Paramecium
- F) Tripanosoma

37. Eye receptors

- A) Pacinian corpuscle
- B) hair cells
- C) rods
- D) Ruffini's corpuscle
- E) Merkel's disk
- F) cones

38. Part(s) of nephron

- A) glomerulus
- B) urinary bladder
- C) Bowman's capsule
- D) urethra
- E) ureter
- F) loop of Henle

39. Isomers of glucose

- A) maltose
- B) lactose
- C) galactose
- D) starch
- E) fructose
- F) sucrose

40. Types of chromosomal mutations

- A) deletion
- B) replication
- C) transcription
- D) inversion
- E) translation
- F) duplication

**BIOLOGY TEST IS COMPLETED**