COMENIUS UNIVERSITY IN BRATISLAVA
FACULTY OF MEDICINE

BIOLOGY BOOKLET

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1. The state, when living processes are limited to the minimum, is called:
a) phagocytosis
b) anabiosis
c) pinocytosis
d) activation
e) depression
f) reduction
g) amitosis
h) conjugation

2. Water in the organism is important because:
a) it acts as a solvent for many substances
b) it participates in the transport of substances in the body
c) it influences temperature control
d) it allows for the dissociation of molecules of the compounds into ions
e) it is a source of nitrogen for amino acid formation
f) it concentrates hypotonic solutions
g) it prevents the entry of associated substances into the cell
h) it directly participates in many reactions

3. What specificity of enzymes we recognize:
a) absolute
b) cell
c) paralytic
d) stereochemical
e) analytical
f) catabolic
g) anabolic
h) reproductive

4. Which of the following statements is characteristic for vegetative reproduction:
a) all offspring are identical as parental organisms
b) the offspring are not always identical to the parent organism
c) it leads to an increase in hereditary diversity among offspring
d) the offspring are identical to the parent organism only in certain cases
e) it allows the reproduction of organisms so that their advantageous properties are maintained
f) it allows the reproduction of organisms so that new beneficial properties appear
g) it allows the generation of a large number of genetically identical offspring from one parent organism
h) it does not lead to hereditary diversity among offspring

5. Gonochorism is:
a) differentiation of male and female individuals
b) development of sexual organs
c) differentiated gender
d) the similarity of male and female individuals
e) phenomenon when an organism produces one type of gamete
f) phenomenon when the organism produces both types of gametes
g) phenomenon when the organism produces macrogametes or microgametes
h) phenomenon when the organism produces macrogametes and microgametes

6. The ability of the organism to adapt to the external environment is called:
a) anabiosis
b) autotrophy
c) adaptability
d) homeostasis
e) autolysis
f) heterotrophy
g) replication
h) mutation

7. Enzyme inhibitors:
a) are substances found in the cell that inactivate the active enzyme
b) are substances found in a cell responsible for activation of the enzyme
c) are substances that change the concentration of the substrate
d) may change the structure of the active centre
e) are substances found only in the nucleus that inactivate the active enzyme
f) are substances entering cells responsible for activation of the substrate
g) are substances in the cell that activate the inactive substrate
h) are substances in the cell that inactivate the active substrate

8. What is the substrate specificity of enzymes:
a) an enzyme can catalyze a chemical reaction with any substrate
b) an enzyme can catalyze a chemical reaction with only a particular substrate
c) the blocking of specific chemical reactions
d) the enzyme can catalyze, e.g. reaction with glucose as a substrate, but not with glycerol
e) each enzyme can catalyze a particular chemical reaction with each substrate
f) one enzyme can catalyze a particular chemical reaction with each substrate
g) if the reaction is catalyzed by two enzymes, both of them are substrates
h) the specificity of the enzyme is provided by the substrate which forms its active centre

9. What is the name of the covalent bond in ATP that contains a large amount of energy and is easily cleaved:
a) high-energy phosphate bond
b) hydrogen bridge
c) low-energy phosphate bond
d) peptide bond
e) accumulation bond
f) accumulation phosphate bond
g) phosphate bridge
h) ionic bond

10. Osmotic lysis of cells occurs in the environment:
a) hypotonic
b) hypertonic
c) in an environment in which the osmotic pressure is lower than in the cell
d) in an atonic environment
e) isotonic
f) in an environment in which the osmotic pressure is the same as in the cell
g) in an environment in which the osmotic pressure is higher than in the cell
h) hyperosmotic

11. What is the basis for sexual reproduction of all multicellular organisms:
a) presence of somatic cells

b) differentiation of cells into gametes
c) the presence of sex chromosomes
d) presence of external genital organs
e) the presence of sex cells
f) differentiation of cells into zygotes
g) differentiation of cells into blastomeres
h) presence of coupling

12. Embryos of all multicellular animals pass in their individual development:
a) the morula stage
b) the blastula stage
c) ectoderm, endoderm and mesoderm stages
d) the gastrula stage
e) the endoderm stage
f) the mesoderm stage
g) the mesoglea stage
h) the ectoderm stage

13. Amino acids in the protein molecule are linked by bond:
a) complementary
b) ester
c) peptide
d) high-energy bond
e) hydrogen
f) glycosidic
g) low-energy bond
h) covalent

14. Conjugation occurs in:
a) viruses
b) bacteria
c) cilliata
d) plasmodia
e) plasmids
f) sponge
g) human
h) placentalia

15. Sexual dimorphism is:
a) differentiation of the method of sexual reproduction
b) differentiation of individuals by primary and secondary sexual characteristics
c) the existence of the same male and female sex cells
d) differentiation of individuals by gonads, morphological and functional properties
e) differentiation of male and female individuals by primary and secondary sexual characteristics
f) separation of external and internal fertilization
g) phenomenon present in seminal monoecious plants
h) phenomenon present in dioecious plants

16. Model organisms used in biological experiments include:
a) viruses
b) bacteria
c) Drosophila

d) amphibians
e) Guinea pigs
f) eobionts
g) chimpanzees
h) ribosomes

17. Inbreeding is:
a) reproduction, in which the heterozygotes increase in the population
b) interspecific crossing
c) mating of relatives
d) crossing of heterozygotes
e) the method used in selective breeding
f) crossing individuals with very similar genotypes
g) opposite of panmixia
h) reproduction which results in homozygosity

18. Anaerobic glycolysis is a chemical process that takes place:
a) only in anaerobic organisms
b) without receiving molecular oxygen from the environment
c) when cleaving high-energy bonds
d) only in the presence of oxygen
e) in the absence of diapedesis
f) without the presence of sugars
g) in anaerobic organisms
h) in aerobic organisms

19. What are the enzymes:
a) a certain type of hormones
b) specific macromolecules that catalyze chemical transformations during metabolism
c) products of glands with internal excretion
d) "tools" of cellular metabolism
e) a specific type of pituitary hormones
f) "tools" for the transfer of substances in body fluids
g) specific substances for dissociation of NaCl
h) cell products for protection against osmotic effects

20. Catabolism is:
a) the set of metabolic pathways that construct molecules from smaller units
b) the part of the metabolism responsible for breaking complex molecules down into smaller molecules
c) a set of cellular processes in proteosynthesis
d) metabolic processes in cell reproduction
e) a set of processes in which substances are decomposed, e.g. glucose is oxidized to CO_2 and H_2O
f) a set of cellular processes that are the basis of proteosynthesis
g) usually synonymous with biosynthesis.
h) a set of cellular processes that underlie photosynthesis

21. The various tissues are grouped into higher units that are called:
a) specialized tissues
b) organs
c) cell cultures
d) organisms

BIOLOGY - Multiplele Choice Questions - ANSWERS

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2	TTTTFFFT	53	TFFFFFTF	104	FFFFFTFF	155	TTTTFTFF
3	TFFTFFFF	54	TTFTTFFF	105	FTTTFFFF	156	FTTTFFTF
4	TFFFTFTT	55	FTFTTTFF	106	FTFFTTTF	157	FFTFTTFT
5	TFTFTFTF	56	FFFTTFFF	107	FTTTFFFF	158	TTTFFFFT
6	FFTFFFFF	57	FFFTFFFF	108	FFTFFTFF	159	FFTFFFFT
7	TFFTFFFF	58	TFFTFFFF	109	FTFFFFFF	160	TTTTFFFF
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24	TTTFTFTT	75	TFFTFFFT	126	FTFFTFFF	177	FFTFTFFF
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