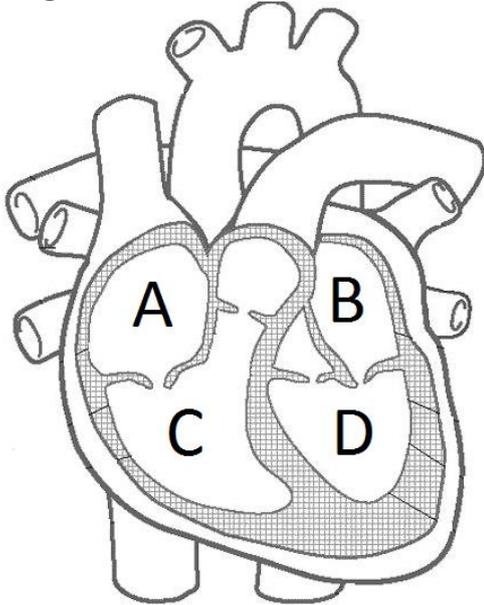


BIOLOGY

Instruction: You are offered the test tasks with one correct answer from five proposed. The selected answer should be marked on the answer sheet by painting the appropriate circle.

1. All fungi have in common
 - A) absorption of nutrients
 - B) asexual reproduction
 - C) symbioses with algae
 - D) parasitic lifestyle
 - E) sexual reproduction
2. To survive in harsh conditions some bacteria can produce
 - A) cell wall
 - B) cell membrane
 - C) flagellum
 - D) sex pilus
 - E) endospore
3. Type of asexual reproduction seen in Hydra is called
 - A) amitosis
 - B) fertilization
 - C) budding
 - D) binary fission
 - E) conjugation
4. Whales breath by
 - A) trachea
 - B) air sacs
 - C) gills
 - D) lungs
 - E) skin

5. Diagram below shows heart's cross section



Blood pumped by C goes to

- A) internal organs
 - B) brain and internal organs
 - C) lungs and internal organs
 - D) lungs
 - E) brain
6. Human cell that can move by means of tail (flagellum)
- A) myocyte
 - B) sperm
 - C) osteocyte
 - D) ovum
 - E) egg
7. Normal number of chromosomes in human gametes
- A) 46
 - B) 45
 - C) 23
 - D) 20
 - E) 22
8. In upper layer of atmosphere and in the deep ocean the biomass concentration decreases. Increasing of biomass related to
- A) fungi
 - B) green plants
 - C) microorganisms
 - D) atmospheric pressure
 - E) animals

9. Organisms that called producers are
- A) herbivores
 - B) plants
 - C) carnivores
 - D) animals
 - E) fungi
10. Lets imagine you are assistant in DNA investigating laboratory. Substance that is suitable for linking DNA strands in nucleosome
- A) positive charged protein
 - B) glucose
 - C) phosphoric acid
 - D) negative charged protein
 - E) pentose
11. Effective way to protect humans from viruses
- A) take vitamins
 - B) drink a lot water
 - C) healthy lifestyle
 - D) get vaccinated
 - E) take antibiotics
12. Substance that make hoof and horn in mammals
- A) chitin
 - B) keratin
 - C) glycogen
 - D) cellulose
 - E) starch
13. While Rapid Eye Movement (REM) sleep in organism
- A) muscles relax
 - B) breathing slows down
 - C) blood pressure decrease
 - D) pulse slows down
 - E) metabolism increase
14. Because of intensive reproduction base of biomass in water is made by
- A) fishes
 - B) mammals
 - C) birds
 - D) microorganisms
 - E) insects
15. You are studying structure of moss reproduction. Haploid part is
- A) zygote+sporophyte
 - B) zygote
 - C) zygote+spore
 - D) gamete
 - E) spore

16. Fertilization occurs in
- A) fallopian tubes
 - B) penis
 - C) uterus
 - D) testes
 - E) vagina
17. They don't have urinary bladder
- A) dogs
 - B) tunas
 - C) pigeon
 - D) lizards
 - E) cats
18. Fusion of sperm and egg called
- A) embryo
 - B) zygote
 - C) fertilization
 - D) connection
 - E) cleavage
19. Step that common for aerobic and anaerobic respirations
- A) ETC
 - B) Calvin cycle
 - C) Glycolysis
 - D) Krebs cycle
 - E) Citric juice cycle
20. Earthworms respire by skin. Skin of earthworms need to be moist. After heavy rain earthworms try to get out from soil because
- A) to make skin more moist
 - B) they cannot get oxygen from water
 - C) change place for living
 - D) feed with microorganism in water
 - E) they need more water

Instruction: You are offered the test items on the base of context with one correct answer from five proposed ones. Read the context attentively and do the items. The selected answer should be marked on the answer sheet by full painting the appropriate circle.

Cell cycle

Mitosis is just one part of the cell cycle. In fact, the mitotic (M) phase, which includes both mitosis and cytokinesis, is usually the shortest part of the cell cycle. The other phase interphase often accounts for about 90% of the cycle. It has 3 stages as G₁ (“first gap”), S stage (“synthesis”) and G₂ stage (second gap). The reason why G₁ and G₂ are named gaps comes from the first observed time. The cells appeared inactive, but we now know that intense metabolic activity and growth occur throughout interphase. During all three phases of interphase, in fact, a cell grows by producing proteins and cytoplasmic organelles such as mitochondria and endoplasmic reticulum. Only after interphase starts phase M (mitosis) the cell completely divides and divide the cytoplasm by cytokinesis.

21. Related to the 90 % of time in cell cycle, except

- A) Cytokinesis
- B) S
- C) G₂
- D) Interphase
- E) G₁

22. The longest stage of cell cycle

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

23. Cytokinesis occurs right after

- A) S stage
- B) anaphase
- C) mitotic phase
- D) G₁ stage
- E) interphase

24. Shortest phase of cell cycle

- A) S stage
- B) G₁ stage
- C) G₂ stage
- D) Interphase
- E) M-phase

25. The phase of cell cycle where cell is just relaxing or doing nothing except growth and metabolism
- A) telophase
 - B) interphase
 - C) metaphase
 - D) anaphase
 - E) prophase

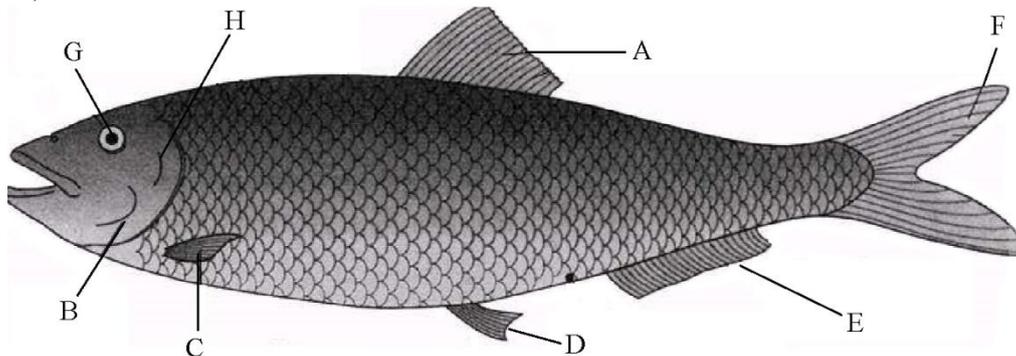
Instruction: You are offered the test tasks with one or more correct answers from multiple choices. The selected answer should be marked on the answer sheet by painting the appropriate circle.

In the test tasks with one or more correct answers there can be up to three correct answers.

26. Find red algae
- A) spirogyra
 - B) ulva
 - C) laminaria
 - D) chlamydomonas
 - E) coralina
 - F) porphyra
 - G) chondrus
 - H) sargassum
27. Examples of mosses
- A) vovlox
 - B) lycopodium
 - C) laminaria
 - D) ulotrix
 - E) chlamydomonas
 - F) common hair moss
 - G) euglena
 - H) sphagnum
28. Excretory system of fishes include
- A) appendix
 - B) kidneys
 - C) urinary bladder
 - D) stomach
 - E) rectum
 - F) intestine
 - G) urethra
 - H) esophagus
29. Chordates include
- A) mollusks
 - B) insects
 - C) mammals
 - D) arachnids
 - E) birds
 - F) vertebrates
 - G) arthropods
 - H) cnidarians

30. Male reproductive anatomy include

- A) ovary
- B) testes
- C) seminal vesicles
- D) vagina
- E) penis
- F) uterus
- G) oviduct
- H) labia minora



31.

Find caudal and anal fins

- A) D
- B) F
- C) B
- D) G
- E) A
- F) E
- G) G
- H) C

32. Glycogen carbohydrates collect in

- A) muscles
- B) heart
- C) appendix
- D) kidney
- E) brain
- F) pancreas
- G) stomach
- H) liver

33. The complete set of genes of organism

- A) genotype
- B) gene
- C) phenotype
- D) allele
- E) tetraploidy
- F) polyploidy
- G) aneuploidy
- H) haploidy

34. Find false statement (-s) about photosynthesis
- A) oxygen is produced during light-phase
 - B) Calvin cycle occurs both in daytime and at night in stroma
 - C) carboxylation occurs during light phase
 - D) water molecule broken down during light phase
 - E) oxygen is used by dark reactions
 - F) chlorophyll reduced by photolysis
 - G) dark reactions need light energy
 - H) light-dependent phase takes place in thylakoids
35. Hydrophyte plants include
- A) birch tree
 - B) algae
 - C) agave
 - D) rice
 - E) elodea
 - F) sagebrush
 - G) water lily
 - H) pear

BIOLOGY TEST IS COMPLETED