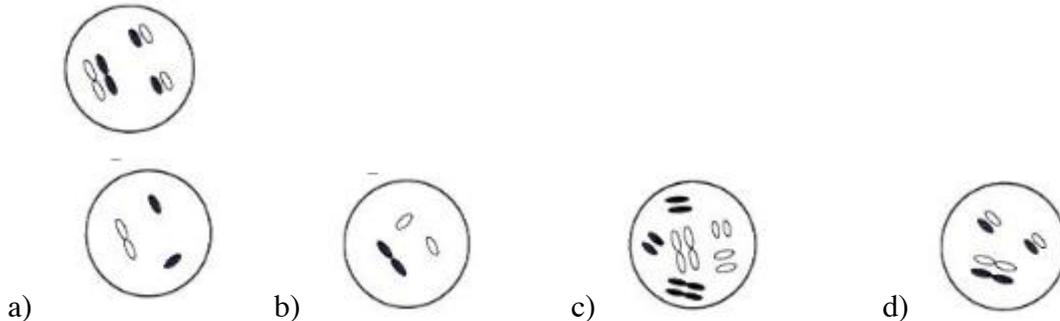


MUG Sample Question Bank - Biology

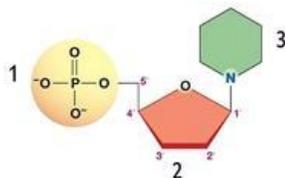
1. Which chamber of the bird's heart pumps blood to the pulmonary circulation?
 - a) Left ventricle
 - b) Left atrium
 - c) Right ventricle
 - d) Right atrium
2. The cell nucleus below contains the chromosomes of a lizard embryo at the two-cell stage. Which of the diagrams below best represents the nucleus of an embryo at the 64-cell stage grown from this cell?



3. The clumping of red cells when they are mixed with matching antiserum is called:
 - a) Agglutination
 - b) Hemostasis
 - c) Hemolysis
 - d) Transfusion
4. Which of the following does NOT describe correctly the structure of DNA?
 - a) DNA contains adenine-uracil pairs
 - b) DNA is double stranded
 - c) DNA has a shape of double helix
 - d) DNA is nucleotide polymer
5. In this process virus integrates its DNA into the DNA of the host cell, and viral genetic information replicates along with the host cell's DNA. This description applies to:
 - a) Lysogenic infection
 - b) Lytic infection
 - c) Bacterial infection
 - d) Viral infection
6. Animals that eat meat exclusively are known as:
 - a) Prolific organisms
 - b) Carnivores

- c) Arthropods
 - d) Herbivores
7. Down's syndrome is a genetic disorder caused by the presence of all or part of a third copy of chromosome ____.
- a) 15
 - b) 12
 - c) 23
 - d) 21
8. The islets of Langerhans are found in the:
- a) Kidney
 - b) adrenal gland
 - c) pancreas
 - d) pituitary gland
9. Photoreceptor cells almost entirely responsible for the night vision are:
- a) Carpels
 - b) rods
 - c) hair cells
 - d) cones
10. Which gland is accessory digestive organ:
- a) Submandibular gland
 - b) Suprarenal gland
 - c) Thyroid gland
 - d) Bulbourethral gland
11. During skeletal muscle contraction calcium:
- a) Unblocks sites where cross-bridges can form
 - b) Binds to the receptors of postsynaptic membrane
 - c) Is source of energy
 - d) Is stored in perimysium
12. The degree of energy dissipation in the biocenosis increases with:
- a) Reducing number of the population
 - b) Shortening trophic chains
 - c) Extinction of species
 - d) Elongation of the trophic chains
13. Among different types of mutation; an example of TRANSVERSION is:
- a) Conversion of cytosine to thymine (C to T)
 - b) Conversion of thymine to adenine (T to A)
 - c) Conversion cytosine to uracil (C to U)
 - d) Conversion of adenine to guanine (A to G)
14. A characteristic feature of nervous tissue is:
- a) An ability to contract
 - b) Secretion of many hormones
 - c) The origin of the three germ layers
 - d) An ability to transmit impulses throughout the body almost instantaneously
15. How does carbon monoxide act as poison?
- a) It binds to hemoglobin, displacing oxygen
 - b) It binds to hemoglobin, displacing carbon dioxide
 - c) It circulates in the blood at high concentration
 - d) It forms carbonic acid

16. Number 3 on the graph shows:



- a) Ribose b) phosphate group **c) pyrimidine** d) purine
17. The end product of cellular respiration are:
a) Pyruvic acid and oxygen
b) Carbon dioxide and water
c) Water and glucose
d) Lactic acid and pyruvic acid
18. Vasoconstriction of which of the following vessels will most effectively reduce fat absorption from the small intestine into the bloodstream?
a) Lacteals inside intestinal villi of the small intestine
b) Capillaries in the smooth muscle of the small intestine
c) Capillaries in the peritoneum around the small intestine
d) Lacteals in the peritoneum around the small intestine
19. Which of the following digestive enzymes is active in very low pH?
a) **Pepsin** b) chymotrypsin c) maltase d) lipase
20. Which of the following feature **IS NOT** present in mammals?
a) **Hair** b) placenta c) single occipital chondyle d) ribs
21. A particular cell type specializes in breaking down harmful byproducts of metabolism. This cell type would contain very high levels of:
a) **Lysosomes** b) centrioles c) peroxisomes d) endoplasmic reticulum
22. The condition of scurvy is associated with a deficiency in which vitamin?
a) **C** b) D c) A d) K
23. A molecule of hemoglobin can hold how many molecules of oxygen in the blood for transport?
a) **4** b) 8 c) 6 d) 2
24. Cholesterol is a precursor of which of the following hormones:
a) Gastrin **b) estrogen** c) thyroxin d) insulin
25. Which structure is NOT eye transparent refractive part:
a) Lens **b) ciliary body** c) cornea d) vitreous body
26. The major lipids in the plasma membrane are:
a) Calcium salts and phospholipids
b) Carbohydrates and proteins
c) Phospholipids and cholesterol
d) Proteins and phospholipids
27. The process that ribosome participate in is:

- a) Mutation
- b) DNA synthesis
- c) Transcription
- d) Translation

28. The order in which impulses travel through the heart is:

- a) Sinoatrial node, atrioventricular node, bundle of His, Purkinje fibres
- b) Atrioventricular node, bundle of His, Sinoatrial node, Purkinje fibres
- c) bundle of His, Purkinje fibres, Sinoatrial node, atrioventricular node
- d) Purkinje fibres, bundle of His, atrioventricular node, Sinoatrial node

29. Thyroxin is amino acid derivative that contains:

- a) Iodine
- b) calcium
- c) iron
- d) magnesium

30. A recessive gene is:

- a) Is only found on the X chromosome
- b) Never alters the phenotype
- c) Only alters the phenotype in heterozygous individuals
- d) Only alters the phenotype in homozygous individuals