



BIOLOGY

BOOKS - KVPY PREVIOUS YEAR

MOCK TEST 6

Exercise

1. Brown (y^+) is dominant over yellow body colour (y) and red eyes (w^+) is dominant over white eyes (w). Both are carried on X

chromosome. What is the genotype of a male *Drosophila* fly that has yellow body colour and red eyes?

A. $X^{w+y}Y$

B. $X^{wy}Y$

C. $X^{wy+}Y$

D. $X^{wy+}X^{wy+}Y$

Answer:



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2. Select the incorrect match.

A. Lampbrush chromosomes - Diplotene bivalents

B. Allosomes- Sex chromosomes

C. Polytene chromosomes- Oocytes of amphibians

D. Submetacentric chromosomes- L-shaped chromosomes

Answer:



3. The coding ratio in all known organisms is three, i.e., three nucleotides specify one amino acid. If DNA were to exclusively consist of only A-T base pairs, what would the minimum coding ratio be assuming that there are only 20 amino acids to be encoded?

A. Two

B. Three

C. Four

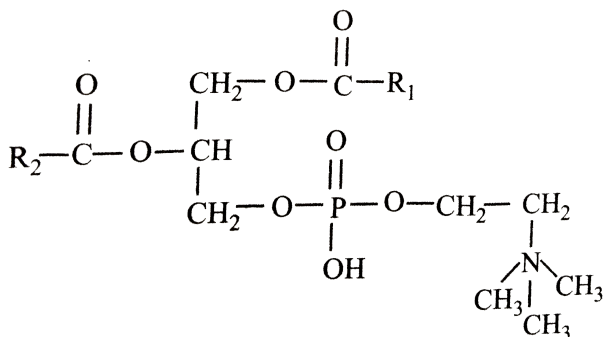
D. Five

Answer:



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4. Given structural formula is correctly identified along with its related function by which of the following options ?



A. Cholesterol - A component of animal cell membrane

B. Lecithin- A component of cell membrane

C. Triglyceride - An energy source

D. Adenosine - A component of nucleic acids

Answer:



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5. How many moles of carbon dioxide are produced by the complete oxidation of 1 mole of pyruvate?

A. 1

B. 2

C. 3

D. 4

Answer:



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6. Which of the following is essential mineral element and is not a constituent of any enzyme but stimulate the activity of many enzymes

A. Zn

B. Mg

C. Mn

D. K

Answer:



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7. Emphysema damages the tissues of the lungs and slows pulmonary blood flow. This causes blood to back up, stretching and weakening the walls of the heart and blood vessels. Which of the following do you think would be most affected by this backup of blood from the lungs?

A. Aorta

B. Right atrium

C. Left atrium

D. Right ventricle

Answer:



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8. Algae and other submerged plants float in water during day time and sink at night, because

A. they come up to enjoy some time.

B. they lose weight at night.

C. they become buoyant due to accumulation of O_2 as a result of photosynthesis.

D. they become light due to food material accumulation.

Answer:



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9. The embryo is carefully taken out of pea seed and sown in the soil and watered normally. New plant will

- A. be healthier.
- B. be weaker.
- C. not be formed
- D. be formed normally.

Answer:



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10. Centrifugation of a cell results in the rupture of the cell membrane and the contents compacting into a pellet in the bottom of the centrifuge tube. Bathing this pellet with a glucose solution yields metabolic activity including the production of ATP. One of the contents of this pellet is most likely which of the following?

A. Cytosol

B. Mitochondria

C. Lysosomes

D. Golgi bodies

Answer:



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11. Sita saw an old Tarzan movie on television. The movie supposedly took place in Africa, but Trina easily spotted that it was not really filmed there. Which of the following could have tipped her off?

A. Chimps like cheetah do not live in Africa.

B. The monkeys in the jungle all had prehensile tails.

C. There were no lemurs shown in the forest.

D. Tarzan wrestled with a gorilla.

Answer:



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12. Ectopic pregnancies are referred to as

A. Implantation of embryo at site other than uterus.

B. Implantation of defective embryo in the uterus.

C. Pregnancies terminated due to hormonal imbalance.

D. Pregnancies with genetic abnormality.

Answer:



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13. Find out the odd one from the given pair.

A. Polysaccharide - Glycosidic bond

B. Protein- Peptide bond

C. Fat- Ester

D. Polynucleotide- Hydrogen bond

Answer:



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14. For approximately how long during the human female's menstrual cycle, progesterone concentrations are high enough to maintain the uterus in a proper condition for pregnancy?

- A. All of the cycle
- B. None of the cycle
- C. During the first half of the cycle
- D. During the second half of the cycle

Answer:



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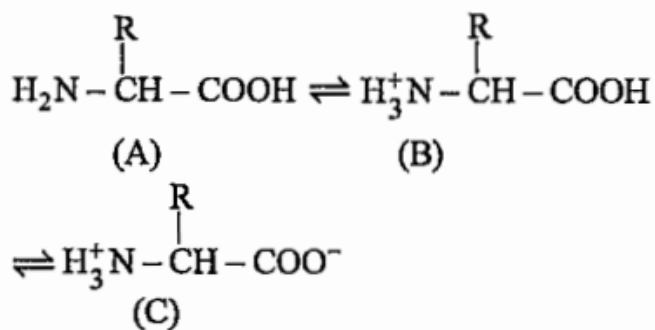
15. When mitochondria are actively engaged in phosphorylation and electron transport, it is

- A. in active state.
- B. in condensed state.
- C. having enlarged intermembrane space.
- D. all of the above

Answer:



16. Which of the given structures represent Zwitter ionic form?



A. A

B. C

C. B

D. All of these

Answer:



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17. When the receptor of a T_H cell binds to a pathogen, being presented on a macrophage it:

- A. Activates itself
- B. Secretes cytokines
- C. Activates B cells
- D. All of the above

Answer:



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