

Biology

(for B.Sc (H),(Bio-Tech), B.Pharma)

1. Select the correct sequence of organs in the alimentary canal of cockroach starting from mouth
 - (1) Pharynx → Oesophagus → Crop → Gizzard → Ileum → Colon → Rectum
 - (2) Pharynx → Oesophagus → Gizzard → Crop → Ileum → Colon → Rectum
 - (3) Pharynx → Oesophagus → Gizzard → Ileum → Crop → Colon → Rectum
 - (4) Pharynx → Oesophagus → Ileum → Crop → Gizzard → Colon → Rectum

2. Which of the following muscular disorders is inherited?
 - (A) Tetany
 - (B) Muscular dystrophy
 - (C) Myasthenia gravis
 - (D) Botulism

3. In a species, the weight of newborn ranges from 2 to 5 kg. 97% of the newborn with an average weight between 3 to 3.3 kg survive whereas 99% of the infants born with weight from 2 to 2.5 kg or 4.5 to 5 kg die. Which type of selection process is taking place?
 - (A) Directional Selection
 - (B) Stabilizing Selection
 - (C) Disruptive Selection
 - (D) Cyclical Selection

4. Which of the following statements is not correct?
 - (A) Lysosomes have numerous hydrolytic enzymes
 - (B) The hydrolytic enzymes of lysosomes are active under acidic Ph
 - (C) Lysosomes are membrane bound structures

(D) Lysosomes are formed by the process of packaging in the endoplasmic reticulum

5. Which one of the following statements regarding post-fertilization development in flowering plants is incorrect?

(A) Ovary develops into fruit

(B) Zygote develops into embryo

(C) Central cell develops into endosperm

(D) Ovules develop into embryo sac

6. Consider the following statement :

(A) Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group.

(B) A complete catalytic active enzyme with its bound prosthetic group is called apoenzyme. Select the correct option.

(A) Both (A) and (B) are true.

(B) (A) is true but (B) is false.

(C) Both (A) and (B) are false.

(D) (A) is false but (B) is true.

7. Which of the following pair of organelles does not contain DNA?

(A) Mitochondria and Lysosomes

(B) Chloroplast and Vacuoles

(C) Lysosomes and Vacuoles

(D) Nuclear envelope and Mitochondria

8. Which of the following contraceptive methods do involve a role of hormone?

(A) Lactational amenorrhea, Pills, Emergency contraceptives.

(B) Barrier method, Lactational amenorrhea, Pills.

(C) CuT, Pills, Emergency contraceptives.

(D) Pills, Emergency contraceptives, Barrier methods.

9. Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalyzed by

- (A) Aldolase
- (B) Hexokinase
- (C) Enolase
- (D) Phosphofructokinase

10. Which of the following is true for Golden rice?

- (A) It is Vitamin A enriched, with a gene from daffodil
- (B) It is pest resistant, with a gene from *Bacillus thuringiensis*
- (C) It is drought tolerant, developed using *Agrobacterium* vector
- (D) It has yellow grains, because of a gene introduced from a primitive variety of rice

11. Expressed Sequence Tags (ESTs) refers to :

- (A) Genes expressed as RNA
- (B) Polypeptide expression
- (C) DNA polymorphism
- (D) Novel DNA sequences

12.

The frequency of recombination between gene pairs on the same chromosome as a measure of the distance between genes was explained by :

- (A) T.H. Morgan
- (B) Gregor J. Mendel
- (C) Alfred Sturtevant
- (D) Sutton Boveri

13. Identify the correct pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.

- (A) Plasmodium vivax / UTI test
- (B) Streptococcus pneumoniae / Widal test
- (C) Salmonella typhi / Anthrone test
- (D) Salmonella typhi / Widal test

14. Which of these following methods is the most suitable for disposal of nuclear waste?

- (A) Shoot the waste into space
- (B) Bury the waste under Antarctic ice-cover
- (C) Dump the waste within rocks under deep ocean
- (D) Bury the waste within rocks deep below the Earth's surface

15. Which of the following can be used as a biocontrol agent in the treatment of plant disease?

- (A) Trichoderma
- (B) Chlorella
- (C) Anabaena
- (D) Lactobacillus

Answer Key

1. A

2.B

3.B

4.D

5.D

6.B

7.C

8.A

9.B

10. A

11.A

12.C

13.D

14.D

15.A