

1. Which of the following is the correct sequence of electron acceptors in ETS for production of ATP?

- (a) Cyt b, c, a, a₃
- (b) Cyt a, a, b, c
- (c) Cyt c, b, a, a₃
- (d) Cyt b, c, a₃, a

Answer: (a)

2. Which of the following terminal cytochromes is responsible for donating electrons to oxygen?

- (a) Cyt a₃
- (b) Cyt b
- (c) Cyt c
- (d) Cyt a₁

Answer: (a)

3. Electron transport system (ETS) is present in which of the following parts of mitochondria?

- (a) Inner membrane
- (b) Outer membrane
- (c) Matrix
- (d) Stroma

Answer: (a)

4. Which of the following is the first complex (Complex I) of ETS?

- (a) NADH dehydrogenase
- (b) Cytochrome aa₃
- (c) Cytochrome bc₁
- (d) ATP synthase

Answer: (a)

5. Which of the following is the Complex III of ETS?

- (a) NADH dehydrogenase
- (b) Cytochrome aa₃
- (c) Cytochrome bc₁
- (d) ATP synthase

Answer: (c)

6. Ubiquinone transfers its electrons to

- (a) Complex I
- (b) Complex II
- (c) matrix

(d) Cyt c

Answer: (d)

7. In which part of the cell, oxidative phosphorylation takes place?

- (a) Inner mitochondrial membrane
- (b) Outer mitochondrial membrane
- (c) Grana of chloroplast
- (d) Stroma of chloroplast

Answer: (a)

8. Cytochromes are present in

- (a) lysosomes
- (b) mitochondrial matrix
- (c) cristae of mitochondria
- (d) outer membrane of mitochondria

Answer: (c)

9. ATP synthesis by ATP synthase is driven by the movement of

- (a) protons
- (b) NADH
- (c) electrons
- (d) All of the above

Answer: (a)

10. Oxidative phosphorylation results in the formation of

- (a) Oxygen
- (b) ADP
- (c) ATP + H₂O
- (d) NADH

Answer: (c)

11. Which of the following complexes of ETS does not account for the pumping out of protons from the mitochondrial matrix?

- (a) Complex I
- (b) Complex III
- (c) Complex II
- (d) Complex IV

Answer: (c)

12. Which of the following is the Complex IV of ETS?

- (a) NADH dehydrogenase
- (b) Cytochrome c oxidase

- (c) Cytochrome bc₁
- (d) Succinate dehydrogenase

Answer: (b)

13. Which of the following is the Complex II of ETS?

- (a) NADH dehydrogenase
- (b) Succinate dehydrogenase
- (c) Cytochrome bc₁
- (d) ATP synthase

Answer: (b)

14. Which of the following products of glucose oxidation are necessary for oxidative phosphorylation?

- (a) Pyruvate
- (b) NADH and FADH₂
- (c) Acetyl CoA
- (d) NADPH and ATP

Answer: (b)

15. Which of the following is true for cytochrome c oxidase complex?

- (a) It donates electrons to O₂
- (b) It accepts electrons from Cyt c
- (c) It pumps two protons out of the mitochondrial matrix
- (d) All of the above

Answer: (d)