



QUIZ TIME

Bio- chemistry

Lec 16

Done by:

RAGHAD
ALMOMANI

How many ATP molecules are produced from the complete oxidation of 1 molecule of acetyl CoA in the Krebs cycle?

- A) 2 ATP
- B) 12 ATP
- C) 24 ATP
- D) 36 ATP

Answer: B

?Which of the following is a product of pyruvate oxidation before entering the Krebs cycle

- A) Citrate
- B) Acetyl CoA
- C) Oxaloacetate
- D) Fumarate

Answer: B

:The NADH produced in the Krebs cycle is used to generate ATP through

- A) Glycolysis
- B) Substrate-level phosphorylation
- C) Electron transport chain
- D) Beta-oxidation

Answer: C

:FADH₂ contributes to ATP production by

- A) 1 ATP
- B) 2 ATP
- C) 3 ATP
- D) 4 ATP

Answer: B

Which of the following enzymes is a key regulatory enzyme of the Krebs cycle

- A) Hexokinase
- B) Citrate synthase
- C) Lactate dehydrogenase
- D) Phosphofructokinase

Answer: B

?How many CO₂ molecules are released per 1 acetyl CoA oxidized in the TCA cycle

- A) 1
- B) 2
- C) 3
- D) 4

Answer: B

?Which coenzyme is released after pyruvate is converted into Acetyl CoA

- A) NAD
- B) FAD
- C) Coenzyme A (CoA)
- D) ADP

Ans:C

:The energy yield from 3 NADH molecules generated in the Krebs cycle is

- A) 3 ATP
- B) 6 ATP
- C) 9 ATP
- D) 12 ATP

Ans:c

How many ATP molecules are generated directly from glycolysis per 1 molecule of glucose?

- A) 2 ATP
- B) 4 ATP
- C) 6 ATP
- D) 38 ATP

Answer: A

?During aerobic glycolysis, each glucose molecule generates how many NADH molecules

- A) 1 NADH
- B) 2 NADH
- C) 3 NADH
- D) 4 NADH

Answer: B

:Pyruvate is converted to acetyl CoA by

- A) Glycolysis
- B) Oxidative decarboxylation
- C) Krebs cycle
- D) Fermentation

Answer: B

:Total ATP yield per 1 glucose molecule through aerobic respiration is

- A) 2 ATP
- B) 24 ATP
- C) 38 ATP
- D) 40 ATP

Answer: C

?How many CO₂ molecules are released per 1 glucose during complete aerobic oxidation

- A) 2 CO₂
- B) 4 CO₂
- C) 6 CO₂
- D) 12 CO₂

Answer: C

?How much ATP is produced in anaerobic glycolysis per glucose

- A) 2 ATP
- B) 12 ATP
- C) 24 ATP
- D) 38 ATP

Answer: A

?Each NADH in the ETC produces approximately how many ATP molecules

- A) 1 ATP
- B) 2 ATP
- C) 3 ATP
- D) 4 ATP

Answer: C

?Each FADH₂ in the ETC produces approximately how many ATP molecules

- A) 1 ATP
- B) 2 ATP
- C) 3 ATP
- D) 4 ATP

Ans :B

:Complete oxidation of glucose produces both ATP and

- A) O₂
- B) H₂O
- C) Lactic acid
- D) Pyruvate

ans:B

Where does the Hexose Monophosphate (HMP) pathway primarily take place?

- A) Mitochondria
- B) Cytosol
- C) Nucleus
- D) Endoplasmic reticulum

Answer: B

?Which tissue uses HMP pathway mainly for fatty acid and cholesterol synthesis

- A) Red blood cells
- B) Liver
- C) Muscle
- D) Brain

Answer: B

?Which of the following tissues uses the HMP pathway for steroid hormone synthesis

- A) Adipose tissue
- B) Adrenal cortex
- C) RBCs
- D) Pancreas

Answer: B

:In red blood cells, the HMP pathway is important for

- A) Glycogen synthesis
- B) Lactic acid production
- C) Maintaining reduced glutathione
- D) Producing hemoglobin

Answer: C

?Which of the following is a main product of the HMP pathway needed for biosynthetic reactions

- A) ATP
- B) NADPH
- C) FADH₂
- D) Pyruvate

Answer: B

:The HMP pathway is especially active in

- A) Muscle during contraction
- B) Liver, mammary gland, adipose tissue, testes, ovaries, adrenal cortex
- C) Neurons for neurotransmitter synthesis
- D) Kidney medulla

Answer: