

**NSC207 List of eExam Questions in the Bank**

*Latex formatted questions may not properly render*

- Q1 The glycolytic pathway can be divided into    stages
- Q2 Anaerobic fermentations of glucose lead to formation of \_\_\_\_.
- Q3 Reactions of glycolysis occur in the    .
- Q4 In aerobic organisms, glycolysis preludes \_\_\_\_.
- Q5 The end product of Glycolysis that enters the citric acid cycle is
- Q6 The second stage of Glycolysis consists of    chemical reaction steps
- Q7 Which of the following minerals is a non essential minerals found as contaminants in foodstuffs
- Q8 Glyceraldehyde 3-phosphate contains    carbon units
- Q9 Glycolysis yields energy inform of
- Q10 ATP contains    molecules of phosphates
- Q11 Cellular energy currency is in form of
- Q12 Stage 3 glycolysis is comprised of    steps of chemical reactions
- Q13 The end product of stage 3 glycolysis is
- Q14 The final step of production of pyruvate is catalyzed by
- Q15 The breakdown of one molecule of Glucose will yield    molecules of pyruvate
- Q16 The fate of Pyruvate includes conversion to \_\_\_\_.
- Q17 The breakdown of one molecule of glucose will produce a net yield of molecule of ATP
- Q18 Most of the energy yield in glycolysis is harvested in the \_\_\_\_.
- Q19 Pyruvate kinase is synthesized and secreted by \_\_\_\_.
- Q20 Tricarboxylic acid (TCA) cycle is a strict    pathway.
- Q21 The principal entry substrate into TCA cycle and electron transport chain is \_\_\_\_.
- Q22 TCA is the final common pathway for the oxidation of    molecules

**Q23** Energy harvested in the TCA is conserved in the reduced electron carriers such as

**Q24** The conserved energy, in the later stages of TCA, is released and stored as

**Q25** TCA in eukaryotes occurs in the

**Q26** The starting substrate in the TCA is

**Q27** Constant cellular energy balance of the TCA Cycle indicates its nature.

**Q28** Replenishing the metabolic intermediates in the TCA cycle indicates its nature.

**Q29** Synthesis of several amino acids in the TCA is from

**Q30** Mobilization of free fatty acids from fat stores is herald through of triglycerides into glycerol and free fatty acids

**Q31** Fatty acid oxidation occurs in the matrix

**Q32** Ketone bodies are products of fatty acid and amino acid

**Q33** The enzyme involved in ketogenesis is

**Q34** The ketone bodies are composed of

**Q35** Ketone bodies are synthesized and released from

**Q36** HMG CoA is used for synthesis in the cytosol of many tissues

**Q37** HMG CoA is used for hepatic mitochondrial ketogenesis by an isozyme of

**Q38** Non pathologic form of ketosis is due to

**Q39** The group of compounds that have vitamin A activities include

**Q40** Retinoids are cleaved in the mucosa by carotene dioxygenase

**Q41** The digestive enzyme that completes digestion of small peptides within the intestinal mucosal cells is

**Q42** The pro-enzyme, trypsinogen is converted to active trypsin by

**Q43** Proteolytic enzymes in pancreatic juice include

**Q44** Free Amino Acids are degraded to yield

Q45 An essential minerals with unknown functions is

Q46 Vitamin D is also known as

Q47 Naturally produced vitamin D can be produced in the skin from activation of 7-dehydrocholesterol

Q48 Vitamin E is also known as

Q49 Vitamin has an important role in the synthesis of blood clotting proteins

Q50 Beriberi signals the deficiency of

Q51 Cheilosis signals the deficiency of

Q52 Deficiency of folic acid can cause anaemia

Q53 Utilization of fatty acids for energy production occurs in

Q54 An inhibitor of electron transport chain is .

Q55 In the TCA, Oxaloacetate is regenerated through the formation of

Q56 The tricarboxylic acid cycle (TCA) cycle is also known as cycle.

Q57 Under aerobic conditions, complete oxidation of pyruvate releases and H<sub>2</sub>O.

Q58 The glucose molecule has carbons.

Q59 An enzyme that Transfers a phosphoryl group from ATP to an acceptor is called a .

Q60 Glycolysis degrades to generate ATP.

Q61 Ascorbic acid promotes synthesis of \_\_\_\_\_.

- Collagen fibres
- Nor Epinephrine
- Amino acids
- All of the above

Q62 Vitamin \_\_\_\_\_ do not have any known toxic effects

- A
- D
- E
- K

Q63 Vitamin A deficiency will lead to \_\_\_\_\_.

Blindness  
Hypoguesia  
Growth retardation  
All of the above

**Q64 Sources of Vitamin A include \_\_\_\_\_**

Cod liver oil  
Dark green vegetables  
Dairy products  
All of the above

**Q65 Ketones are excellent fuels for many non hepatic tissues such as**

\_\_\_\_\_  
Brain  
Cardiac muscles  
Skeletal muscles  
All of the above

**Q66 The key enzyme for utilization of ketone bodies is found in \_\_\_\_\_ tissues.**

Brain  
Kidneys  
Skeletal muscles  
None of the above

**Q67 Disorders of fatty acid oxidation include \_\_\_\_\_.**

Carnitine deficiency  
Jamaican vomiting sickness  
Ketoacidosis  
All of the above

**Q68 The process of  $\beta$ -oxidation of fatty acids includes oxidation of \_\_\_\_\_.**

Fatty acyl coA  
 $\beta$ -hydroxy derivative  
Pyruvic acid  
Acyl Carnitine

**Q69 The carnitine fatty acyl carrier system consists of all but**

\_\_\_\_\_.  
Carnitine acyl transferase I  
Carnitine acyl transferase II  
Carnitine acyl translocase  
Acyl Carnitine

**Q70 Mobilization of free fatty acids from fat stores is herald through \_\_\_\_\_ of triglycerides into glycerol and free fatty acids**

Ketolysis  
Lipolysis  
Glycogenolysis

Gluconeogenesis

**Q71 Fatty Acid activation is triggered by all these hormones except**

Epinephrine  
Insulin  
Glucagon  
Somatostatin

**Q72 During prolonged fasting, the body source its major metabolic fuel through hepatic \_\_\_\_\_.**

Conversion of acetyl CoA from fatty acids  
Ketogenesis  
Glycogenolysis  
Gluconeogenesis

**Q73 Utilization of fatty acids for energy production is absent in \_\_\_\_\_.**

Cardiac muscle  
Skeletal muscles  
Brain  
Red Blood Cells

**Q74 An inhibitor of electron transport chain is \_\_\_\_\_.**

Sodium Amytal  
Rotenone  
Pericidine A  
All of the above

**Q75 Beriberi is caused by deficiency of \_\_\_\_\_.**

Citrate  
Riboflavin  
Thiamine  
Niacin

**Q76 Citrate is used for the synthesis of all but \_\_\_\_\_.**

Lipids  
Carbohydrate  
Proteins  
Amino acids

**Q77 Synthesis of several amino acids in the TCA is from \_\_\_\_\_.**

Isocitrate  
 $\alpha$ -ketoglutarate  
Oxaloacetate  
Fumarate

**Q78 The major source of oxaloacetate in the TCA is \_\_\_\_\_.**

pyruvate  
Carboxylation

Decarboxylation  
Dehydrogenation  
Isomerization

**Q79 In the TCA, Oxaloacetate is regenerated through the formation of** \_\_\_\_\_

Isocitrate  
 $\alpha$ -ketoglutarate  
Oxaloacetate  
Fumarate

**Q80 The starting substrate in the TCA is** \_\_\_\_\_

Isocitrate  
 $\alpha$ -ketoglutarate  
Oxaloacetate  
Fumarate

**Q81 TCA in eukaryotes occurs in the** \_\_\_\_\_

Cytosol  
Mitochondrion  
Nucleus  
Ribosome

**Q82 The conserved energy, in the later stages of TCA, is released and stored as** \_\_\_\_\_.

ATP  
FADH<sub>2</sub>  
NADH  
AMP

**Q83 Energy harvested in the TCA is conserved in the reduced electron carriers such as** \_\_\_\_\_

ATP and Pi  
NADH and FADH<sub>2</sub>  
ADP and Pi  
AMP

**Q84 TCA is the final common pathway for the oxidation of** \_\_\_\_\_ **molecules**

Protein  
Carbohydrate  
Fat  
All of the above

**Q85 Lactic Acidosis is a form of metabolic acidosis caused by** \_\_\_\_\_.

Overproduction of Lactate  
Underutilization of lactate  
Inhibition of Pyruvate dehydrogenase

All of the above

**Q86 Oxidative decarboxylation of Pyruvate in the mitochondria heralds the formation of \_\_\_\_\_.**

- Acetyl coA
- Pyruvate
- Lactate
- Ethanol

**Q87 The principal entry substrate into TCA cycle and electron transport chain is \_\_\_\_\_.**

- Acetyl coA
- Pyruvate
- Lactate
- Ethanol

**Q88 Tricarboxylic acid (TCA) cycle is an \_\_\_\_\_ pathway.**

- Strict oxidative
- Strict anaerobic
- Facultative oxidative
- Facultative anaerobic

**Q89 Hexokinase is allosterically inhibited by \_\_\_\_\_.**

- Glucose 6 Phosphate
- Pyruvate
- Lactate
- Ethanol

**Q90 Pyruvate kinase is synthesized and secreted by \_\_\_\_\_.**

- Liver
- Skeletal muscles
- A & B
- None of the above

**Q91 Most of the energy yield in glycolysis is harvested in the \_\_\_\_\_.**

- Krebs's cycle
- Tricarboxylic acid cycle
- Citric Acid Cycle
- All of the above

**Q92 The breakdown of one molecule of glucose will produce a net yield of \_\_\_\_\_ molecule of ATP**

- One
- Two
- Three
- Four

**Q93 Clinical conditions that impair glycolysis include \_\_\_\_\_.**

Lactic acidosis  
Pyruvate Kinase deficiency  
A & B  
None of the above

**Q94 The fate of Pyruvate includes conversion to** \_\_\_\_\_.

Acetyl coA  
Ethanol  
Lactate  
All of the above

**Q95 The enzyme catalyzing the committed step (the first irreversible reaction) in the glycolytic pathway is** \_\_\_\_\_.

Hexosekinase  
Phosphofructokinase  
Pyruvate kinase  
Phosphofructokinase

**Q96 The rate of Glycolysis is regulated by all the following enzymes except** \_\_\_\_\_.

Hexosekinase  
Phosphofructokinase  
Enolase  
Isoglucokinase

**Q97 The breakdown of one molecule of Glucose will yield \_\_\_\_\_ molecules of pyruvate**

Two  
Three  
Four  
Five

**Q98 The final step of production of pyruvate is catalyzed by** \_\_\_\_\_.

2 – phosphoglyceromutase  
Enolase  
Pyruvate kinase  
None of the above

**Q99 The end product of stage 3 glycolysis is** \_\_\_\_\_.

Lactose  
Pyruvate  
Ethanol  
Fructose

**Q100 Cellular energy currency is in form of** \_\_\_\_\_.

ATP  
ADP



AMP  
All of the above

**Q101 ATP contains \_\_\_\_\_ molecules of phosphates**

Two  
Three  
Four  
Five

**Q102 ATP means \_\_\_\_\_**

Adenosine Triphosphate  
Adenine Triphosphate  
Alanine Triphosphate  
All of the above

**Q103 Splitting of Fructose 1, 6 biphosphate is catalyzed by**

\_\_\_\_\_.  
Aldolase  
Triose phosphate isomerase  
Hexokinase  
Phosphofructokinase

**Q104 \_\_\_\_\_ is a ketose sugar isomer**

Glyceraldehydes 3-phosphate  
Fructose 1,6-biphosphate  
Dihydroxyacetone phosphate  
None of the above

**Q105 Glyceraldehydes 3-phosphate is a/an \_\_\_\_\_ sugar.**

Aldose  
Ketose  
Hexose  
Fructose

**Q106 Glyceraldehyde 3-phosphate contains \_\_\_\_\_ carbon units**

Two  
Three  
Four  
Five

**Q107 The end product of Glycolysis that enters the citric acid cycle is**

\_\_\_\_\_.  
Lactose  
Pyruvate  
Glucose  
Fructose

**Q108 In aerobic organisms, glycolysis preludes \_\_\_\_\_.**

Electron Transport Chain

Tricarboxylic acid cycle  
Citric Acid Cycle  
All of the above

**Q109 Reactions of glycolysis occur in the \_\_\_\_\_.**

Cytosol  
Mitochondrion  
Nucleus  
Ribosome

**Q110 Anaerobic fermentations of glucose lead to formation of**

\_\_\_\_\_.

CO<sub>2</sub>  
Pyruvic acid  
Ethanol  
NO<sub>2</sub>

**Q111 In the presence of inadequate oxygen, within active muscles, pyruvate oxidation yields \_\_\_\_\_.**

CO<sub>2</sub>  
Pyruvic acid  
O<sub>2</sub>  
NO<sub>2</sub>

**Q112 The breakdown of ATP, catalyzed by Kinases, releases**

\_\_\_\_\_.

ADP  
ASP  
ALT  
AST

**Q113 An allosteric enzyme is \_\_\_\_\_.**

Hexokinase  
Phosphofructokinase  
Fructose 6 Phosphate  
Isoglucokinase

**Q114 The first step of the first stage of Glycolysis, phosphorylation of glucose is catalyzed by \_\_\_\_\_.**

Hexokinase  
Phosphofructokinase  
Phosphoglucose Isomerase  
Isoglucokinase

**Q115 During the first stage of Glycolysis, phosphorylation reaction happens \_\_\_\_\_ times**

Once  
Twice  
Thrice

None

**Q116** The first stage of the glycolytic pathway has \_\_\_\_\_ chemical reaction steps

- Two
- Three
- Four
- Five

**Q117** The most energy yielding process of glucose breakdown occurs in the \_\_\_\_\_

- Glycolysis
- Tricarboxylic acid cycle
- Pentose Phosphate Pathway
- Embbed Meyerhoff pathway

**Q118** Glycolysis yields energy inform of \_\_\_\_\_

- ATP
- ASP
- ALT
- AST

**Q119** Oxidation of pyruvate occurs in the \_\_\_\_\_

- Cytosol
- Mitochondrion
- Nucleus
- Ribosome

**Q120** The glycolytic pathway can be divided into \_\_\_\_\_ stages

- Two
- Three
- Four
- Five