

Noteskarts Sample Paper-1

Noteskarts Biochemistry & Clinical Pathology Sample Paper

Biochemistry And Clinical Pathology

Long Answers (Answer 6 out of 7) = 6 x 5 = 30

1. Draw the structure of different carbohydrates- Glucose, fructose, sucrose, maltose, galactose.
2. Define terminologies (any five)—
 - Transamination,
 - Deamination,
 - Ketogenesis,
 - Decarboxylation,
 - Ketolysis,
 - Glycolysis,
 - Lipolysis,
 - Biotechnology.
3. Classify the vitamins and explain about the fat's soluble vitamins (source, chemical nature, deficiency disease and their function).
4. Write the mechanism of action of enzyme and their pharmaceutical importance with some examples.
5. Explain the glycolysis and TCA mechanism.
6. Give some examples related to abnormal metabolism of proteins, lipids and carbohydrates.
7. Importance of urea cycle and write the mechanism of urea formation.

Short Answers (Answer 10 out of 11) = 10 x 3 = 30.

1. Define the term biochemistry and write their scope in the pharmacy.
2. Qualitative tests and biological role of carbohydrates.
3. Qualitative tests and biological role of protein and amino acids.
4. Qualitative tests and biological role of lipids.



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5. Write the differences in nucleosides and nucleotides with example.
6. Explain the Watson and Crick model.
7. Classify the minerals and explain the importance of calcium and phosphorus in the body.
8. Write the electrolyte composition of body fluids and explain the causes of dehydration.
9. Write the differences between the DNA and RNA.
10. Classify fatty acid based on chemical and nutritional basis with examples
11. Define the carbohydrates and classify them with examples.

Objective type questions (Answer all 20)

1. Biochemistry is the study of:

- a) Chemical reactions in living organisms
- b) Physical reactions in living organisms
- c) Biological reactions in non-living organisms
- d) Physical reactions in non-living organisms

Answer: a) Chemical reactions in living organisms

2. Which of the following is not a sub-discipline of biochemistry?

- a) Structural biochemistry
- b) Metabolism
- c) Biotechnology
- d) Molecular physics

Answer: d) Molecular physics

3. The structure of glucose is:

- a) a six-carbon ring with an aldehyde group
- b) a six-carbon ring with a ketone group
- c) a five-carbon ring with an aldehyde group
- d) a five-carbon ring with a ketone group

Answer: a



4. Maltose is a disaccharide composed of:

- a) glucose and fructose
- b) glucose and galactose
- c) glucose and glucose
- d) glucose and sucrose

Answer: c

5. Which of the following is a polysaccharide?

- a) Glucose
- b) Fructose
- c) Starch
- d) Maltose

Answer: c

6. Which of the following is a qualitative test for proteins?

- a. Biuret test
- b. Benedict's test
- c. Iodine test
- d. Sudan III test

Answer: a. Biuret test

7. Which of the following is a biological role of proteins?

- a. Energy storage
- b. Cellular respiration
- c. Hormone production
- d. DNA replication

Answer: c. Hormone production

8. Which of the following is not a component of a nucleotide?

- a) Nitrogenous base



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- b) Phosphate group
- c) Pentose sugar
- d) Amino acid

Answer: d) Amino acid

9. Which of the following diseases is related to malnutrition of proteins?

- a) Scurvy
- b) Rickets
- c) Kwashiorkor
- d) Pellagra

Answer: c. Kwashiorkor

10. Which of the following is an example of a globular protein?

- a) Collagen
- b) Myosin
- c) Insulin
- d) Keratin

Answer: c. Insulin

11. Which lipoprotein is often referred to as "bad" cholesterol?

- a) HDL
- b) LDL
- c) VLDL
- d) Chylomicrons

Answer: b. LDL.

12. Which qualitative test can be used to detect the presence of lipids?

- a) Biuret test
- b) Benedict's test
- c) Sudan IV test
- d) Iodine test



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Answer: c. Sudan IV test.

13. Which of the following is an example of a saturated fatty acid?

- a) Linoleic acid
- b) Oleic acid
- c) Palmitic acid
- d) Stearic acid

Answer: d. Stearic acid.

14. What is the function of DNA?

- a) Protein synthesis
- b) Energy storage
- c) Genetic information storage
- d) Cell communication

Answer: c) Genetic information storage

15. Which of the following factors can affect enzyme activity?

- a) Temperature.
- b) pH.
- c) Substrate concentration.
- d) All of the above.

Answer: d. All of the above

16. Which of the following vitamins is essential for blood clotting?

- a) Vitamin C
- b) Vitamin K
- c) Vitamin B6
- d) Vitamin D

Answer: b) Vitamin K

17. Which of the following vitamins is required for the absorption of calcium?



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- a) Vitamin A
- b) Vitamin D
- c) Vitamin K
- d) Vitamin E

Answer: b) Vitamin D

18. Which vitamin deficiency can lead to rickets?

- a) Vitamin A
- b) Vitamin D
- c) Vitamin E
- d) Vitamin K

Answer: b) Vitamin D

19. Glycogen is stored in which of the following tissues?

- a) liver
- b) muscle
- c) brain
- d) all of the above

Answer: d) all of the above

20. Which hormone is responsible for the breakdown of glycogen in the liver?

- a) insulin
- b) glucagon
- c) epinephrine
- d) growth hormone

Answer: b) glucagon

