ROLL NUMBER				

SET A

INDIAN SCHOOL MUSCAT

SECOND PERIODIC TEST

BIOLOGY

CLASS: XI Sub.Code: 044 Time Allotted: 50mts.

26.11.2023 Max .Marks: 20

Name of the student:..... Roll no..... Sec.....

GENERAL INSTRUCTIONS:

- *There are three sections in the question paper.*
- *All questions are compulsory, but internal choice is given in one question each of sections B and C and attempt any one question in such case.*
- *Draw neat labeled diagram wherever required.*

1. In many bacteria, cell membrane is invaginated and folded to form 1

   (a) Pili
   (b) Cristae
   (c) Flagella
   (d) mesosomes

2. Find the odd one out from the following with regard to their composition. 1

   (a) Glycogen
   (b) Starch
   (c) Cellulose
   (d) Inulin

3. An example of competitive inhibition of an enzyme is the inhibition of 1

   (a) succinic dehydrogenase by malonic acid
   (b) cytochrome oxidase by cyanide
   (c) hexokinase by glucose-6-phosphate
   (d) carbonic anhydrase by carbon dioxide

4. Which row represents the three main constituents of DNA nucleotide? 1

(a)	Bases	Phosphate	nucleus
(b)	Deoxyribose sugar	Nucleus	chromosomes
(c)	Bases	Deoxyribose sugar	phosphate
(d)	Phosphate	Chromosome	bases

5. Plasmodesmata connections help in 1

(a) cytoplasmic streaming.
(b) synchronous mitotic divisions.
(c) locomotion of unicellular organisms.
(d) movement of substances between cells.

6. Assertion: Hydrolases catalyze the split of the larger molecules into smaller ones. 1

Reason: Ligases catalyze the union of two substrate molecules into one.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
(b) Both assertion and reason are true but the reason is not the correct explanation of the assertion.
(c) Assertion is true but reason is false.
(d) Assertion and reason are false.

7. Assertion: A plant cell does not swell up or burst if placed in a hypotonic solution. 1

Reason: Rigid cell wall does not let the plant cell expand.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
(b) Both assertion and reason are true but the reason is not the correct explanation of the assertion.
(c) Assertion is true but reason is false.
(d) Assertion and reason are false.

SECTION B

8. Differentiate between coenzyme and prosthetic group. 2

9. List any four sites where ribosomes are present in plant cells. 2

OR

What is a polysome? What is its function?

SECTION C

10. How do neutral solutes move across the plasma membrane? Can the polar molecules also move across it in the same way? If not, then how are these transported across the membrane? 3

11. Explain the 9+2 organization of axonemal microtubules in a cilium or flagellum? How are the peripheral tubules connected? 3

OR

Enlist the different types of amino acids based on the number of carboxyl and amino groups in them. Also give one example of each of these amino acids.

12. What is meant by cytoskeleton of a cell? Mention any two functions, it performs. 3

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SET B

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   (a) succinic dehydrogenase by malonic acid
   (b) cytochrome oxidase by cyanide
   (c) hexokinase by glucose-6-phosphate
   (d) carbonic anhydrase by carbon dioxide

2. DNA is present in 1

   (a) Chromosomes and dictyosomes
   (b) Chloroplasts and lysosomes
   (c) Mitochondria and chloroplasts
   (d) Mitochondria and endoplasmic reticulum

3. In many bacteria, cell membrane is invaginated and folded to form 1

   (a) Pili
   (b) Cristae
   (c) Flagella
   (d) Mesosomes

4. Plasmodesmata connections help in 1

(a) cytoplasmic streaming.
(b) synchronous mitotic divisions.
(c) locomotion of unicellular organisms.
(d) movement of substances between cells.

5. Which row of the table below correctly describes the structures present in a bacterial cell? 1

	Cell membrane	Cell wall	Chromosome	Nucleus
(a)	X	✓	X	X
(b)	✓	✓	✓	X
(c)	✓	✓	X	X
(d)	✓	X	X	✓

6. Assertion: Hydrolases catalyze the split of the larger molecules into smaller ones. 1

Reason: Ligases catalyze the union of two substrate molecules into one.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
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7. Assertion: A plant cell does not swell up or burst if placed in a hypotonic solution. 1

Reason: Rigid cell wall does not let the plant cell expand.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
(b) Both assertion and reason are true but the reason is not the correct explanation of the assertion.
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SECTION B

8. What is meant by rate of a chemical reaction? How is it represented? 2

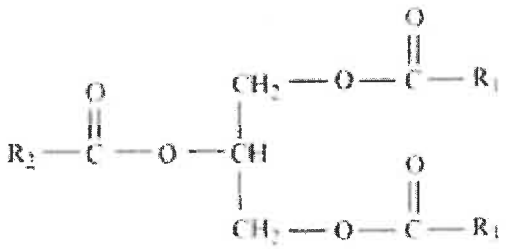
9. List any four sites where ribosomes are present in plant cells. 2

OR

What is a polysome? What is its function?

SECTION C

10. 3



Study the molecular structure of the biomolecule given and answer the following questions:

(a) Identify the molecule.
(b) What do R1, R2 and R3 represent in the fatty acids?
(c) Name the alcohol involved in it.

11. Explain the 9+2 organization of axonemal microtubules in a cilium or flagellum? How are the peripheral tubules connected? 3

OR

Enlist the different types of amino acids based on the number of carboxyl and amino groups in them. Also give one example of each of these amino acids.

12. How do neutral solutes move across the plasma membrane? Can the polar molecules also move across it in the same way? If not, then how are these transported across the membrane? 3

ROLL NUMBER				

SET C

INDIAN SCHOOL MUSCAT

SECOND PERIODIC TEST

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5. An example of competitive inhibition of an enzyme is the inhibition of 1

(a) succinic dehydrogenase by malonic acid
(b) cytochrome oxidase by cyanide
(c) hexokinase by glucose-6-phosphate
(d) carbonic anhydrase by carbon dioxide

6. Assertion: The content of the nucleolus is continuous with the rest of the nucleoplasm. 1

Reason: Nucleolus is not a membrane bound structure.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
(b) Both assertion and reason are true but the reason is not the correct explanation of the assertion.
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(d) Assertion and reason are false.

7. Assertion: A plant cell does not swell up or burst if placed in a hypotonic solution. 1

Reason: Rigid cell wall does not let the plant cell expand.

(a) Both assertion and reason are true and the reason is the correct explanation of the assertion.
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(d) Assertion and reason are false.

SECTION B

8. The concentration of a substrate is allowed to increase continuously. How will this affect the rate of enzymatic reaction? 2

9. List any four sites where ribosomes are present in plant cells. 2

OR

What is a polysome? What is its function?

SECTION C

10. How do neutral solutes move across the plasma membrane? Can the polar molecules also move across it in the same way? If not, then how are these transported across the membrane? 3

11. Explain the 9+2 organization of axonemal microtubules in a cilium or flagellum? How are the peripheral tubules connected? 3

OR

Enlist the different types of amino acids based on the number of carboxyl and amino groups in them. Also give one example of each of these amino acids.

12. Describe any three classes of enzymes. 3