

P530/1  
**BIOLOGY**  
 Paper 1  
**SEPTEMBER, 2023**  
 2.5 Hours



**ST. JULIAN HIGH SCHOOL SEETA CAMPUS**  
*Uganda Advanced Certificate of Education*  
**BEGINNING OF TERM III EXAMINATIONS 2023**

NAME:.....SIGN:.....

**INSTRUCTIONS**

- ✓ *Answer all questions in sections A and B.*
- ✓ *Answers to sections A should be written in the boxes provided at the right side.*
- ✓ *Answers to section B should be written in the free spaces provided.*
- ✓ *No additional sheets should be inserted in this booklet.*

***For Examiner's Use only.***

SECTION	MARKS
SECTION A	
SECTION B	
TOTAL	
GRADE	
TR'S COMMENT	

### SECTION A

1. Which type of molecule is the end product of translation
 

A. Amino acids	C. mRNA	<input style="width: 60px; height: 30px;" type="text"/>
B. DNA	D. Polypeptide	
2. The hormone produced from the duodenal mucosa stimulates the production of bile by the liver is called
 

A. Insulin	C. Gastrin	<input style="width: 60px; height: 30px;" type="text"/>
B. Cholecystokinin	D. Secretin	
3. Which cell activity must occur before prophase of mitosis can begin?
 

A. Breakdown of nuclear envelope	C. Migration of centrioles to opposite poles	<input style="width: 60px; height: 30px;" type="text"/>
B. Increased production of Mrrna	D. Replication of DNA	
4. Which part of a phospholipid molecule makes up most of the thickness of a cell surface membrane
 

A. Glycerol	C. Hydrophilic head	<input style="width: 60px; height: 30px;" type="text"/>
B. Hydrocarbon chains	D. Phosphate group	
5. Which type of tissue is present in the walls of all blood vessels
 

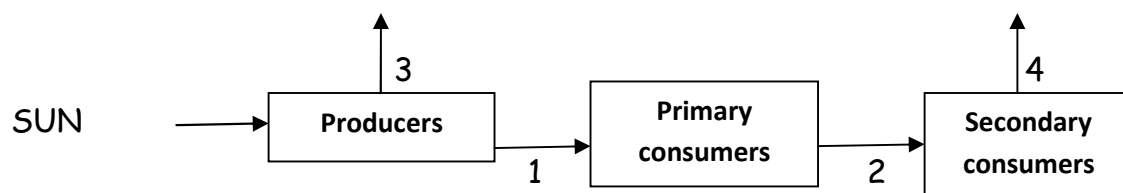
A. Elastic	C. Fibrous	<input style="width: 60px; height: 30px;" type="text"/>
B. Endothelial	D. Smooth muscles	
6. During water stress, photosynthesis reduces in plants mainly due to shortage of
 

A. Water	C. Carbondioxide	<input style="width: 60px; height: 30px;" type="text"/>
B. Mineral salts	D. Sunlight	
7. Which of the following is not caused by deforestation?
 

A. Global atmospheric warming due to greenhouse effect	<input style="width: 60px; height: 30px;" type="text"/>
B. Disappearance of water catchment areas	
C. Improved germination of positively photoblastic seeds	
D. Decrease in plant diversity	
8. Which of the following hormones is found in the the digestive system when an individual is hungry.
 

A. Gastrine hormone	C. Secretin hormone	<input style="width: 60px; height: 30px;" type="text"/>
B. Ghrelin hormone	D. CCK hormone	

9. In garden peas, the pairs of alleles coding for seed shape and color are not linked. The allele for smooth seeds(S) is dominant over the allele for wrinkled seeds(s). the allele for yellow seeds(Y) is dominant over the allele for green seeds(y). If a plant of genotype Ssyy is crossed with plant of genotype ssYy, which off springs are recombinants
- A. SsYy and Ssyy                      D. SsYy and ssyy
- C. SsYy and ssYy                      E. Ssyy and Yy
10. The arrangement below represents the correct arrangement of microtubules in a cross section of euglena's flagellum. Which one is it
- A. 9+1                      C. 2+9
- B. 9+2                      D. 9+0
11. The matrix in the cartilage is secreted by
- A. Chondrocytes                      C. Chondroblasts
- B. Osteoblasts                      D. Osteoblasts
12. The bond joining two glucose molecules in a disaccharide is called
- A. Glycosidic bond                      C. Edysosidic bond
- B. Dipeptide bond                      D. Ester bond
13. Which of the following vitamins is vital in the process of blood clotting
- A. Vitamin A                      C. Vitamin C
- B. Vitamin B                      D. Vitamin K
14. The diagram shows the flow of energy through an ecosystem.



Which arrow represents the smallest amount of energy transferred between the organisms, and the largest amount of energy lost to an ecosystem.

	Smallest energy transfer	Largest energy transfer
A	1	3
B	1	4
C	2	3
D	2	4

15. Which one of the following is not correct about pinocytosis.
- A. It involves use of energy in form of ATP
  - B. It involves the removal of bulky materials from the cell
  - C. It involves folding of the cell membrane
  - D. It involves pinching of vesicles from the cell membrane
16. How many water molecules are produced when 30 molecules of triglycerol are used to synthesize triglyceride
- A. 15
  - B. 30
  - C. 60
  - D. 90
17. Which of the following is the function of Golgi apparatus
- A. Secretion of substances out of the cell
  - B. Synthesis of proteins
  - C. Assembling of raw-materials for secretion
  - D. Synthesizing carbohydrates
18. Which of the following is correct about glycolysis
- A. There is break down of pyruvate to carbon dioxide
  - B. Oxygen is used in the process
  - C. It involves both use and production of ATP molecules
  - D. It occurs both in the cytoplasm and matrix of the mitochondria
19. Viruses are
- A. Both living and non living things
  - B. Living things.
  - C. Non living things
  - D. All of the above
20. Which of the following is not a cause of variations in living organisms
- A. Mutations
  - B. Random fertilizations
  - C. Environmental changes
  - D. Consistence of genes in a community

**SECTION B**

21. (a) Briefly explain the meaning of the terms giving examples of such organisms that show such feeding mechanism.

(i) Chemosynthesis

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(ii) Photosynthesis

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(b) State four adaptations that enable plant leaves to absorb maximum light for photosynthesis.

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22.(a) Explain how gastric juice secretion is stimulated in the stomach even when the food is still in the mouth.

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(b) How is ileum adapted to carry out its functions?

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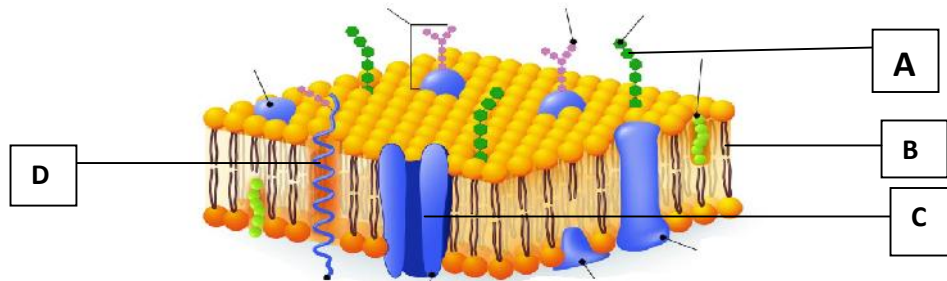
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23. The structure below was extracted from a living organism and magnified using a microscope. Study it carefully and answer questions that follow.



(a) Name the parts

A.....

B.....

C.....

D.....

(b) State four functions performed by the above structure to organisms.

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24. (a) What is

(i) Transcription.....

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(ii) Translation.....

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(iii) Protein synthesis

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(c) Explain how excessive heat denatures enzymes.

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END

The Love of Biology is the Key to its excellence