

Name.....Signature.....

BIOLOGY.

553/1

(C.B.C)

S.1

Time. 1 ½ hrs.

BIOLOGY DEPARTMENT.

MID TERM 2 EXAMINATIONS 2022.

S.1

Time. 1 ½ hrs.

INSTRUCTIONS.

- Attempt all questions.*
- Present your work smartly.*
- Use of diagrams where necessary carries extra marks. Diagrams must be drawn only in pencils.*

For Examiner's use only.

Number	Marks.	Comment	Signature
1			
2			
3			
4			
5			

1. Biology is the natural science that is concerned with study of living organisms; divided into many specialised fields ranging from; botany, zoology; conservation; ecology; marine biology; medicine; microbiology; physiology; genetics; evolution; anatomy; cytology; taxonomy and many fields.

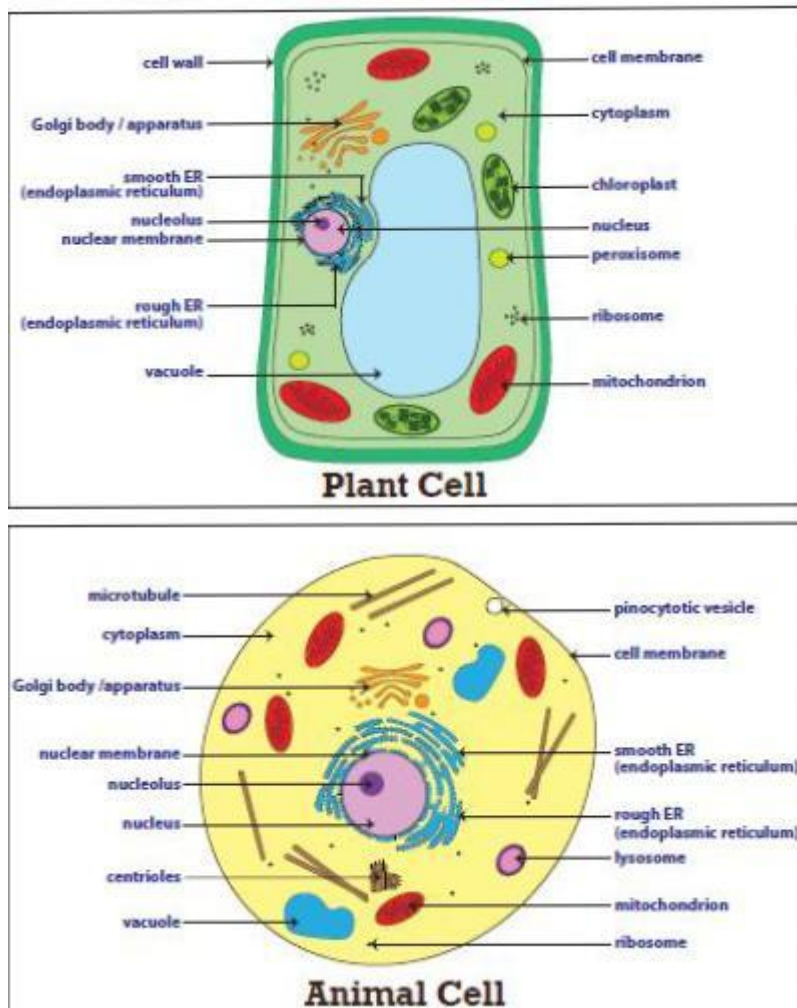
(a) Match the following fields of biology on the left hand side to what each field is concerned about on the right hand side. (10 mrks)

Field(branch) of biology.

What the branch is concerned about

- | | |
|-------------------|---|
| • Zoology. | • Protection of nature and earth's biodiversity. |
| • Ecology. | • Structural organisation of living organisms. |
| • Physiology. | • Classification of living organisms. |
| • Marine biology. | • Study of cell science. |
| • Botany. | • Study of animals. |
| • Conservation. | • Study of very smallest living Organisms that can't be seen by our naked eyes. |
| • Microbiology. | • Study of plants. |
| • Anatomy. | • Study of life in large water bodies. |
| • Cytology. | • Functioning and activities of life. |
| • Taxonomy. | • Study of interrelationship of Organisms and their environment. |

2. A cell is a smallest basic unit of life. An animal cell and plant cell differ in structure. Use the diagrams and answer the questions that follow.



(a) Use diagrams above and fill in the spaces below. (09 marks)

.....covers the inner parts of the plant cell; and contains a tough rigid substance cellulose. The use of cellulose is

.....

.....is a protective layer in both plant cell and animal cell; which allows movement of materials in and out of the cells.

.....is found in both plant cell and animal cell; whose function is controlling all activities of the cell. It is found within the centre of animal cell and located at the edge in plant cell.

.....is found in both plant cell and animal cell where food is broken down to release energy in the body. is found in both plants and animals; which serves as a medium where most of cell activities take place.

.....separates the content of the nucleus from the cytoplasm.

.....is found only in photosynthesizing plant cells; which contains a green pigment called.....

(b)Using only the information in part(a);

(i) State the similarities between a plant cell and animal cell. (04 marks)

.....

.....

.....

.....

.....

(ii)State the differences between a plant cell and animal cell. (Use a table)

(03 marks)

.....

.....

.....

.....

.....

.....

.....

.....

3. “ *The modifications in structure of specialised human cells for example sperm cell; nerve cell; white blood cell; red blood cell; ciliated cell and ovum cell are related to their functions* ” As a S.1 student; discuss the statement. (16 marks)

This image shows a full page of white paper with horizontal dotted lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

.....

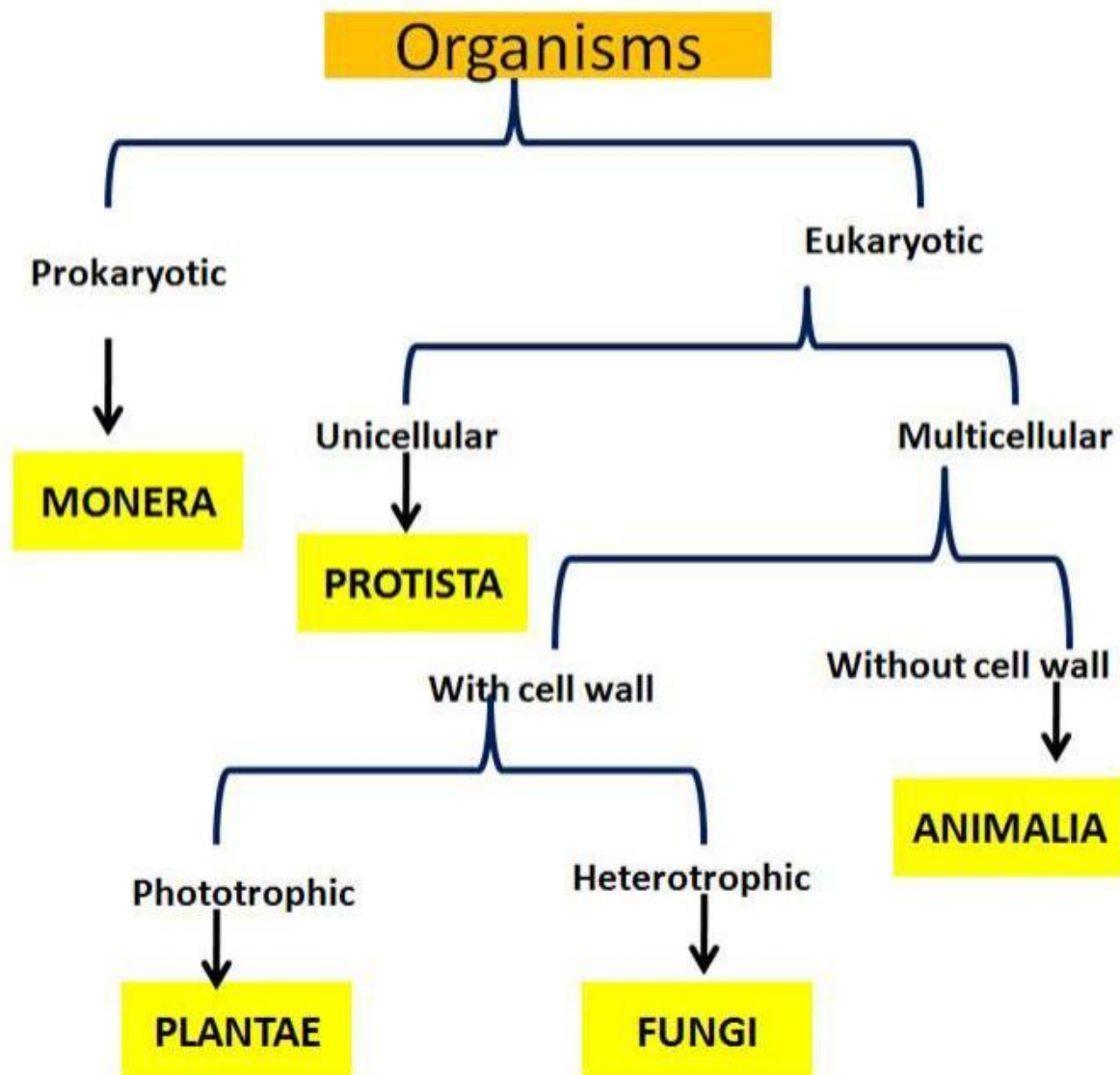
.....

.....

.....

.....

3. After studying different kinds of organisms, a group of S.1 students came up with the chart below showing the classification of organisms.



(a)Distinguish between the following terms.

(i) Prokaryotic and eukaryotic organisms.

(02 marks)

.....

.....

.....

.....

(ii) unicellular and multicellular organisms.

(02 marks)

.....

.....

.....

.....

(iii)Phototrophic and autotrophic organisms.

(02 marks)

.....

.....

.....

(b)State the level of classification of organisms showed in the chart above.

(01 mark)

.....

(c)Identify the different five groups of the level of classification showed in chart above.

(05 marks)

.....

.....

.....

.....

.....

(d)Using the chart; state the group of level of classification to which the following given organisms belong. (05 marks)

(i) Mushrooms; toad stool and yeast.

(ii)Maize; soya peas and ferns.

(iii)Amoeba; euglena and spirogyra.

(iv)Earth worms; snail; fish, lizard; kangaroo.

(v)Bacteria

(e)As a biology student; state two reasons why S.1 students need to study classification of organisms. (02 marks)

.....

.....

.....

.....

End.

@H.S.R