Name.....

Adm no. ……Class……...

School ……..

231/3

BIOLOGY

PAPER 3 (PRACTICAL)

August /Sept 2022

Time: 1 ¾ HOURS

SUKELEMO *EXAMINATION -2022*

INSTRUCTIONS TO CANDIDATES

- Answer ALL the questions.
- You are required to spend the first 15 minutes of 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
- Answers must be written in the spaces provided in the question paper.
- Additional pages must not be inserted.

FOR EXAMINERS USE ONLY

Question	Maximum score	Candidate's score
1	14	
2	14	
3	12	
Total Score	*40Marks*	

This paper consists of 8 printed pages.Candidates should check the question paper to ensure that all pages are printed as indicatedand no questions are missing

1. You are provided with an unknown solution labeled **G**. You are also provided with a visking tubing, a piece of thread, iodine solution, Benedict's solution, means of heating, test tubes, test tube holder and a test tube rack.

   (a) Take samples of solution **G** and test them for the food substances present using the reagents provided. Record in a table, the food substance tested the procedure of the test, the observations and conclusions. (3 marks).

Food	**Procedure**	**Observation**	**Conclusion**

Tie one end of the visking tubing tightly using the thread. Put 10ml of solution G into the visking tubing. Tie the other end of the visking tubing tightly. Ensure that there is no leakage at both ends of the visking tubing. Wash the outside of the visking tubing with water. Place the visking tubing upright in a 100 ml beaker. Add distilled water into the beaker to reach the level of the liquid in the visking tubing. Allow the set up to stand for 30 minutes and then carry out parts (b) and (c) of the experiment.

(b) Remove the visking tubing from the beaker. Test its contents for food substances using the reagents provided. Record in a table, the food substance tested, the procedure of the test, the observations and the conclusions. Keep the liquid in the beaker for part (c) of the experiment. (3 marks)

Food	**Procedure**	**Observation**	**Conclusion**

(c) Test the contents of the beaker for food substances using the reagents provided. Record in a table, the food substance tested, the procedure of the test, the observations and the conclusions. (3 marks)

Food	Procedure	Observation	Conclusion

(d) Account for your results in parts (b) and (c) above. (3 marks)

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(e) Name two enzymes in the human digestive that will be required for the complete digestion of solution G. (2 marks)

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2. You are provided with an actual twig bearing flowers labelled **M**. Examine one of the flowers externally and then carefully dissect it. Examine each of the floral parts using a hand lens where necessary.

(a) Carefully remove the corolla tube and describe the Gynoecium. (2 marks)

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(b)

I. Suggest the agent of pollination for the flower. (1 mark)

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II. State one adaptation of the flower to the agent of pollination you named in b) I) above. (1 mark)

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(c) Observe one stamen using a hand lens then draw and label its diagram. (4 marks)

(d) The diagram below illustrates the life cycle of a certain organism.

I. Using distinctive features, name the division to which the organism belongs.

Division…… (1 mark)

Features (2 marks)

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……

II. Identify the generations labeled **Q** and **Z**. (2 marks)

Q……

Z……

III. In what way is generation **Z** advantageous to generation **Q**? (1mark)

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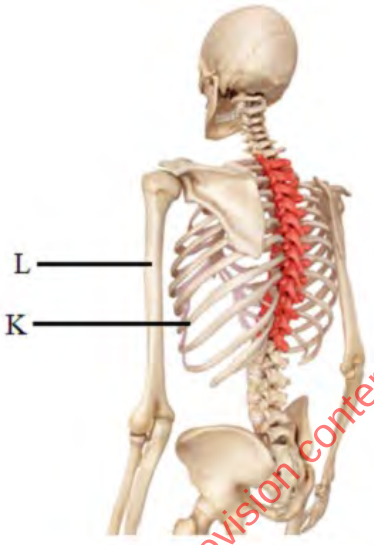
3. You are provided photographs **M, N, P** and **R**. Examine them and answer the following questions.

M



N

P

R

(a) Identify the type of skeleton in organism represented by photograph **M** and **N**.(2 marks)

M ……...

N ……

(b) Using a label line on N, indicate the region from where the bone labeled **R** is obtained. (1 mark)

(c) Give three observable differences between bones **P** and **R** above. (3 marks)

Bone P	**Bone R**

(d) Name the bone that articulates with the bone labelled **L** on: (2 marks)

I. Proximal end

……

II. Distal end

……

(e) Name the type of joints between the bone labelled **L** and the bones named in (d) above:

(2 marks)

I. Proximal end

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II. Distal end

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(f) State adaptations of the bone labelled **K** to its function. (2 marks)

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