MARKING SCHEME.

NAME..... INDEX NO.....

SCHOOL.....SIGNATURE.....DATE.....

INSTRUCTIONS TO CANDIDATES:

(a) Write your name, index number and school in the spaces provided above.

(b) Sign and write the date of examination in the spaces provided above.

(c) Answer all the questions in the spaces provided.

(d) You are required to spend the first 15 minutes of the 1¾ hours allowed for

(e) This paper reading the whole paper carefully before commencing your work.

(f) This paper has three questions.

(g) Students should check the question paper to ascertain that all the papers are printed as indicated and that no questions are missing.

(h) Candidates should answer the questions in English

FOR EXAMINER'S USE ONLY

Question	Maximum Score	Candidate's Score
1	16	
2	13	
3	11	
Total Score	40	

1. You are provided with three unknown solutions labeled S1, S2 and S3. You are also provided with Benedict's solution and iodine solution, together with other laboratory apparatus.

(a) Procedure

i. To about 2ml of solution S1 in a test tube, add an equal amount of Benedict's solution. Shake to mix and then heat the test tube over a Bunsen burner flame.

ii. Repeat the same step in (i) with solutions S2 and S3

iii. Record your observations and conclusions in the table given below. (6 mks)

Test tube	Observation	Conclusion
S1	Yellow/orange/Brown	Reducing Sugar present.
S2	Blue Colour persists	Reducing Sugar Absent.
S3	Blue Colour persists	Reducing Sugar Absent.

(b) Based on your observation in (a) above, give the name of a common food substance belonging to the class disaccharides that may be present in S1.

Maltose / Lactose; (1 mk)

(c) From the experiment in (a) above, explain how you would carry out a test for someone with diabetes mellitus in a school laboratory. (3 mks)

(d) (i) To about 2ml of solution S1 in a test tube, add three drops of iodine solution. Shake the tube mix the contents.

(ii) Repeat the step in d (i) above with solutions S2 and S3.

Take a urine sample of the person in TS
Add equal volume of Benedicts Solution,
Heat to boil; If the Colour turns from
Blue to yellow/orange/Brown; then person has
diabetes.

(iii) Record your observations and conclusions in the table given below. (6 mks)

Test tube	Observation	Conclusion
S1	Yellow / Brown Colour	Starch absent.
S2	Yellow / Brown Colour	Starch absent.
S3	Blue black Colour	Starch Present;

2. You are provided with specimen T. Examine it carefully and answer the questions that follow.

(a) **Name** the sub division to which the plant belongs. Give a reason for your answer. (2 mks)

Angiospermatophyta;

Presence of a flower;

(b) **Name** the **class** to which the flower belongs and give a reason for your answer. (2 mks)

Dicotyledonae;

- Network veins on the bracts.
- 8 stamens.
- 5 fused petals.

(c) Examine one flower with the help of a hand lens and describe the following floral parts. (3 mrks)

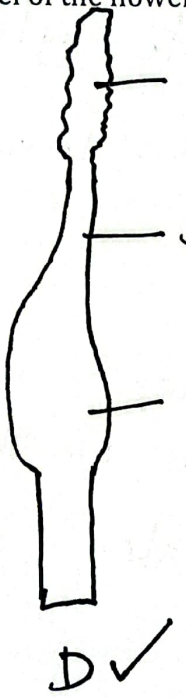
(i) **Corolla**

- It has five ~~fuse~~ petals;
- The petals form a tube and are fused;
- The inside of the petals are yellow in Colour.

(ii) **Androecium** (3 mrks)

- the flower has 8 stamens of varying lengths;
- Anthers are bilobed;
- Filaments are thin and long;
- Anthers are above the Stigma;

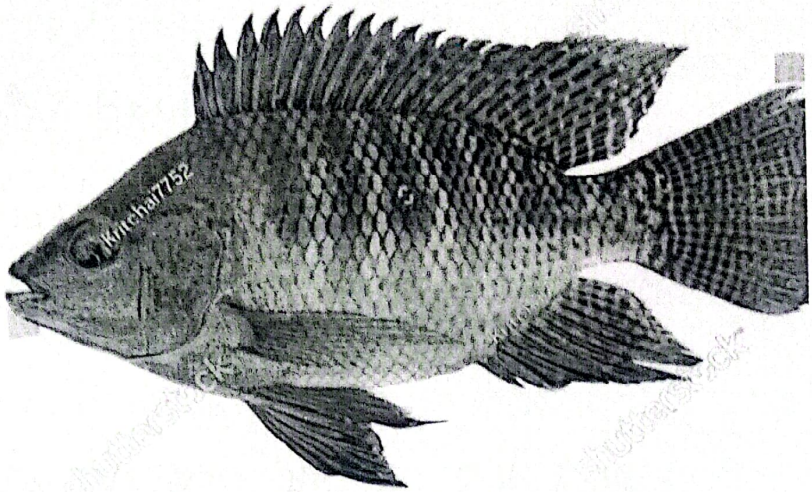
(d) Isolate the carpel of the flower and make a labeled drawing of the same. (3 mrks)



D - 1

L - $\frac{3}{2}$ = 2.

3. The photograph below represents an organism that lives in aquatic environment. Examine it carefully and answer the questions that follow.



(a) (i) Using observable features only, **name the class** to which the specimen belong (1 mk)

Pisces;

(ii) List **two features** on the lateral part of the organism you would use to identify the class apart from the fins. (2 mks)

- Backward Pointing scales that are overlapping.
- Presence of lateral line;
- Presence of operculum;

(b) Briefly describe how the specimen moves in its habitat. (4 mrks)

Movement of tail to one side pushes water backwards and sideways. The backward push on the water creates a forward reaction that pushes the organism forward. The sideways push on the water creates a sideways rxn in the opposite direction which tends to push the organism sideways;

(c) With reference to the specimen above, state what is meant by the following movements and name the structures that prevent each from occurring.

(i)Pitching (2 mks)

- plunging of head vertically downwards;
- Prevented by pectoral and pelvic fins;

(ii) Rolling (2 mks)

- Rotation of the fish along its axis;
- Prevented by dorsal, anal and tail fins;