

FOCUS A365

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FORM 4 TERM 1 BIOLOGY PP3 EXAMINATIONS 2018

NAME: _____ ADM NO: _____ CLASS: _____

KENYA CERTIFICATE OF SECONDARY EDUCATION MWAKICAN FORM 4 JOINT EXAMINATION - 2018

Instruction to Candidates

- Write your name, Adm No. and class in the spaces provided at the top of this page.
- Answer all the questions in the spaces provided.
- You are required to spend the first 15 minutes of the 1³/₄ 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.
- The paper consists of 7 printed pages.

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	15	
2	13	
3	12	
TOTAL SCORE	40	

Candidates should check the question paper to ascertain that all the pages are printed as indicated and no questions are missing.

1. You are provided with liquids labeled H₁ and H₂ and a piece of visking tubing. Spare about 10ml of each of the liquids for part (a) of this question.

Using a piece of thread, tightly tie one end of the visking tubing, open the other end of the visking tubing and half fill it with liquid H₁. Tightly tie this end. Ensure there is no leakage at both ends. Immerse the tubing in a beaker containing liquid H₂. Leave the set up for 30 minutes.

- a) Using iodine solution and Benedict's solution provided test for the food substances in liquids H₁ and H₂. Record your observations in the table below (8mks)

Liquid	Procedure	Observations	Conclusions
1/2MKS	1/2MKS	1/2MKS	1/2MKS
	1/2MK	1/2MKS	1/2MKS
1/2MKS	1/2MK	1/2MKS	1/2MKS
	1/2MKS	1/2MKS	1/2MKS

- b) Using the same reagents test for food substances in liquid H₁ in the visking tubing. Record your observations in the table below. (4mks)

Food substance	Procedure	Observations	Conclusions
1/2MKS	1/2MKS	1/2MKS	1/2MKS
1/2MKS	1/2MKS	1/2MKS	1/2MKS

- c) Account for the results obtained after carrying out tests on liquids H₁ before and after immersion in liquid H₂ (3mks)

2. You are provided with specimen J.

- a) Using observable features only, identify the class to which the specimen belongs
- Class 1mk
 - List the observable features used to identify the class which the specimen belongs (4mks)
- b) Cut and remove the operculum to expose the gills. Remove one complete gill from the specimen and place it in a petridish containing enough water to cover it. Observe the gill using a hand lens.
- Draw and label it (5mks)
 - How is the gill adapted to its function? (3mks)

3. You are provided with specimen K₁ and K₂ of plant parts from two different plants. Examine them.

(a) (i) Name the parts (1mk)

(ii) State the major observable difference between the two specimens (1mk)

- (b) Specimen K₂ has a relatively thick Lamina and a shiny surface. State how these characteristics adapt the plant to its habitat (3mks)
- c) State the sub division to which specimen K₁ belongs. Give a reason for your answer. (2mks)
- d) i) State the likely habitat of the plant from which specimen K₁ was obtained. Give a reason. (2mks)
- iii) suggest one other likely feature of specimen K₁, which is only visible under the microscope that adapts the plant to its natural environment (1mk)
- iv) how does the feature you have stated in (d) (ii) above adapt the plant to its environment (2mks)

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