**NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ INDEX NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **CANDIDATE’S SIGNATURE \_\_\_\_\_\_\_\_\_**

 **DATE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**231/3**

**BIOLOGY**

**PAPER 3**

**(PRACTICAL)**

**1 ¾ HOURS**

**INSTRUCTIONS TO CANDIDATES**

* Answer ALL the questions in this question paper in the spaces provided
* Your are required to spent the first 15 minutes of the 1 ¾ hours allowed for this paper reading the whole paper carefully before commencing your work
* Additional paper MUST NOT be inserted

 FOR EXAMINER’S USE ONLY

|  |  |  |
| --- | --- | --- |
| Questions | Maximum. score | Candidates score |
| 1 | 13 |  |
| 2 | 13 |  |
| 3 | 14 |  |
| Total score | 40 |  |

**This paper consists of 5 printed pages**

**Turn Over**

1. Study the photograph below and answer the questions that follow

 A B C D

 (a) (i) Name the structure represented by the photograph (1mk)

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 (ii) Name the parts labelled A, B, C and D (4mks)

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B \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (ii) Name the parts on the photograph where the following processes take place

 (i) Ultrafiltration (1mk)

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 (ii) Tubular reabsorption (1mk)

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 (b) (i) State two adaptations of the part labelled C to its functions (2mks)

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2.

 (ii) List down two substances found in the structure labeled A (2mks)

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 (c) Identify the part on the photograph where counter current flow occurs (1mk)

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 (d) Explain the significance of a long loop of henle with respect to habitat of an organism (1mk)

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2. You are provide with a food solution mixture labelled Q. you are also provided with the following

reagents. 1% copper (II) sulpahte solution, 10% sodium hydroxide solution, 0.1% DCPIP solution and a filter paper. Carry out tests to determine the food substances present in Q (13mks)

|  |  |  |  |
| --- | --- | --- | --- |
| Food substance being tested | Procedure | Observation | Conclusion  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

3.

3. The photographs below are of two different plants. Study them carefully and answer the question

 that follow

 (a) Label the parts N, O, P, U on the diagram. (4mks)

 (b) (i) Into what division do the two specimens in the photograph belong? (1mk)

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 (ii) State the class into which these specimen belong

 Specimen K (1mk)

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 Specimen L (1mk)

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 (c) Giving reason, state the type of germination displayed by specimens

 K\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1mk)

Reason: (1mk)

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 L \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1mk)

 Reason: (1mk)

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4.

 (d) List Three observable differences between specimens K and L in the photograph (3mks)

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5.