LABASA SANGAM COLLEGE

Year 11

BIOLOGY

WORKSHEETS-2021

1. A group of cells with similar functions make up

   A. an organ. B. tissues. C. an organism. D. an organ system.

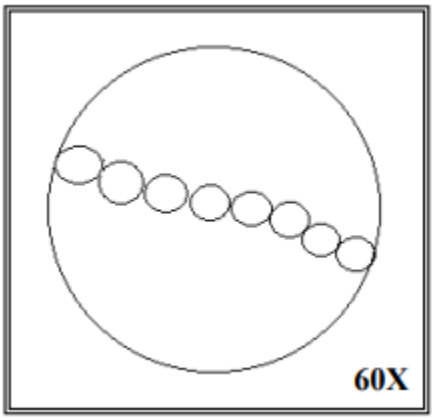
2. Which of the following is present in all plant and animal cells?

   A. Centriole B. Cell wall C. Chloroplast D. Cell membrane

3. The cell organelle which is responsible for making protein is the

   A. lysosome. B cell membrane. C. ribosome. D. Golgi bodies

4. Year 11 students prepared a wet mount in their practical class and made the observations at 60X magnification as shown in the diagram below



I If the eye piece magnification was 15X, calculate the magnification of the objective lens used.

_____

_____

_____

(ii) The diameter of the field of view at 60X magnification is 2 mm. Estimate the size of one cell in micrometers.

_____

_____

_____

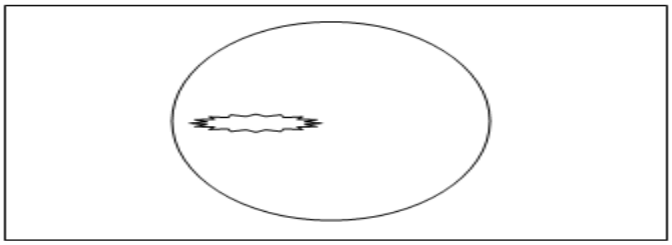
(iii) State the direction in which the cells would move if the students moved the slide forward.

_____

_____

5. The insect shown below viewed at **40X** and the diameter of the field of view is **1.5mm.** Estimate the size of the insect in microns.
   (Um). Show your working clearly

An insect viewed under the microscope at high power.



6. A group of Form 5 students were using a microscope at a **100X** objective lens and found the diameter of the field of view to be **4mm.** Calculate the new diameter if a 400X objective lens is used. Convert your answer in microns .(um)

_____

_____

7. State **two** rules for the correct use and handling of microscopes.

_____

_____

8. What is meant by resolving power of the microscope?

_____

_____

_____

9. Describe briefly the **five** stages of mitosis. Explain the significance of mitosis and discuss **two** ways in which it differs from meiosis.

_____

_____

_____

GENETICS

1. In a certain rice species, the allele for resistance to insects (**r**) is recessive to the allele for non- resistance (**R**) .
   Two rice plants **heterozygous** for this trait were crossed and produced 400 off spring.
   (i) Complete the **punnet** square in your **Answer Book** to show this cross.

   _____

   _____

   _____

   (ii) How many of these off springs would be resistant to insects?

   _____

   _____

   _____

   _____

2. The Two Colours in Japanese Four O'clock Flowers Are Red and White.German Botanist Karl Curren the First to Pollinate a Pure Bred Red Flower (R),With A Pure Bred White Flower (W), And Found That All the **F1** Off Springs Were Pink.

   i. Suggest The Genotypes of The **F1** Parents Used In Karl Curren's Cross.

   _____

   _____

   (ii). Show The Cross Using a Punnet Square.

   _____

   _____

   _____