Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date Due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

National 5 Biology (Model 1/2, Qu 1 & Int 2 2004 Qu 7 & Model 3 Qu 3)

**S4 Revision Homework 5**

**Question 1**

The diagram below show two unicellular organisms.

 

(a) Name the **two** chemical components of the cell membrane.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

 (b) Name a molecule found in structure **F** which is composed of a sequence of bases.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

(c) Choose letters from the diagram to show where each cell process takes place.

|  |  |
| --- | --- |
| **Process**  | **Letter**  |
| Aerobic respiration |  |
| mRNA synthesis |  |
| Protein synthesis |  |
| Photosynthesis  |  |

 (4)

**Question 2**

****

**Water**

**Concentrated salt solution**

**Dilute salt solution**

**Question 3**

(a) State why enzymes can be described as biological catalysts

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

(b) Give one condition which could cause an enzyme to become denatured.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

**Question 4**

(a) The diagram below represents a bacterial cell.



 (i) Name the parts labelled X and Y.

 X = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Y = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

(ii) Give the function of structure Z.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

(b) Give one difference and one similarity between the structure of a fungal and a bacterial cell.

Difference

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

Similarity

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

(c) Give one reason why cell production by cell culture requires aseptic techniques.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1)

 **15 marks**