FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF LIFE SCIENCES
DEPARTMENT OF MICROBIOLOGY

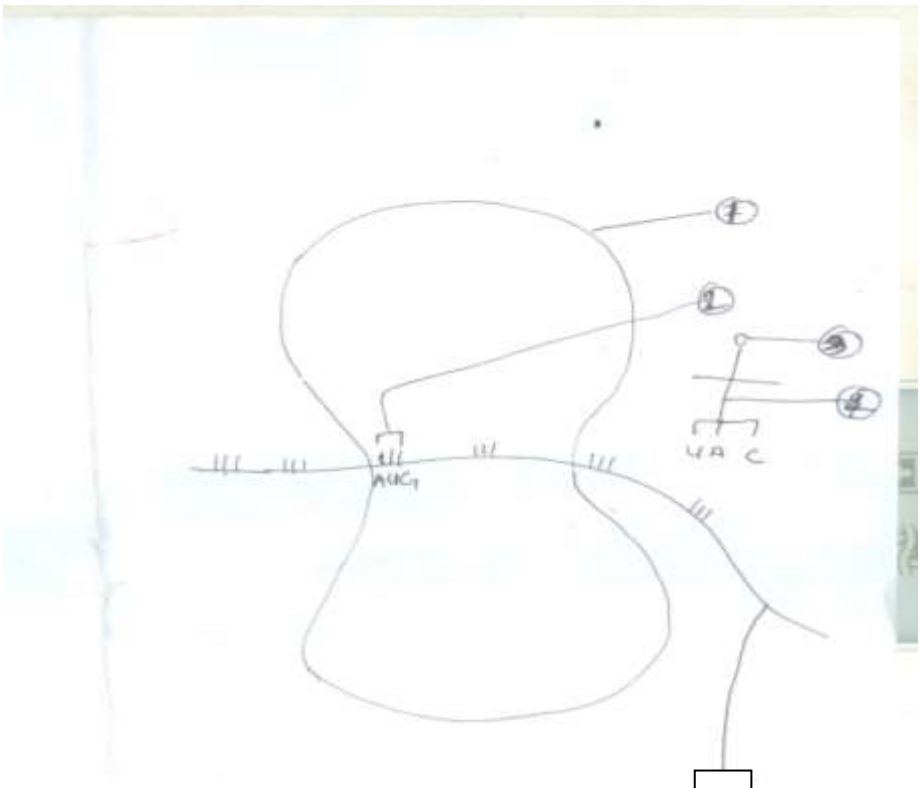
FIRST SEMESTER EXAMINATION 2015/2016 SESSION

COURSE CODE: MCB 415
COURSE TITLE: MICROBIAL GENETICS AND MOLECULAR BIOLOGY (3 UNITS)
CLASS: 400 LEVEL
TIME: 2 HOURS

Section A

Instruction: Answer **Question 1** and any other one in this section**.**

1.



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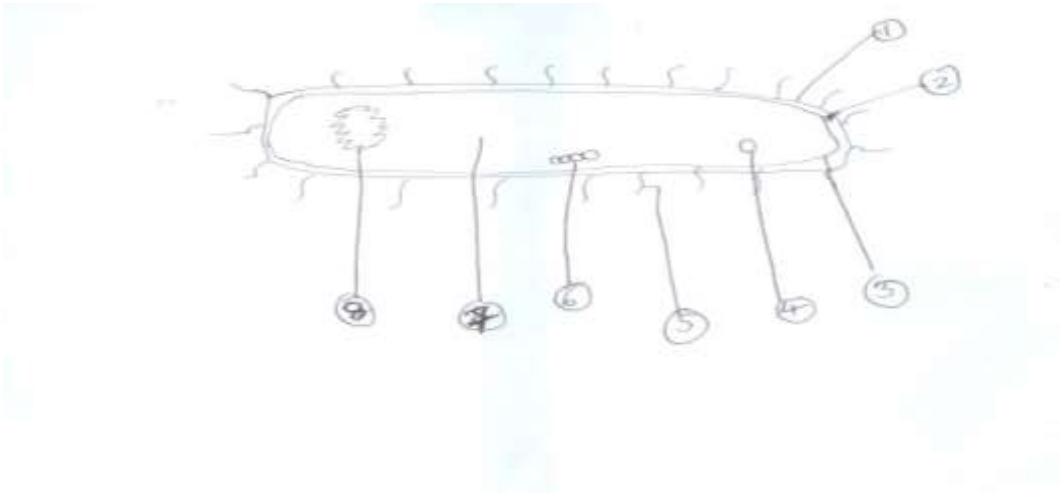
(i) Title the diagram above
(ii) Label the diagram above
(iii) What is its significance to prokaryotes?
(iv) Explain the first stage in protein synthesis

(v) State five differences between deoxyribonucleotides and ribonucleotides in a tabular form.

2.



(i) Label the diagram above
(ii) State the functions of five (5) parts you have labeled

3. By means of a well labeled diagram, explain the functions of transfer RNA (tRNA) in protein synthesis.

SECTION B

Instruction: Answer any **two (2)** questions in this section.

1. Define the following:

   (i) Polycistronic mRNA
   (ii) RNA polymerase core enzyme
   (iii) RNA polymerase holoenzymes
   (iv) Sigma factor
   (v) Rhofactor

2. (a) Why is sickle cell patient resistant to malaria?

   (b) Write short note on the following:
   (i) Haemophilia
   (ii) Genetics
   (iii) Okazaki fragment
   (iv) Genotype
   (v) Phenotype.

3. Discuss the three stages in bacterial chromosome replication.