



ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE, NIGERIA

DEPARTMENT OF BASIC & APPLIED SCIENCES

FACULTY OF BIOLOGICAL SCIENCES

SECOND SEMESTER EXAMINATION

2016/2017 ACADEMIC SESSION

COURSE CODE: BTH 414

COURSE TITLE: MOLECULAR GENETICS

DURATION: 2 HOURS

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HOD'S SIGNATURE

NAME:.....MAT.No:.....

INSTRUCTIONS: Answer any four questions. All questions carry equal marks.

1. Deoxyribonucleic acid (DNA) and ribonucleic acid (RNA) are important genetic molecules involved in plant animal cellular modifications.
 - i. In a tabular form, list the three types of RNAs and their function.
 - ii. Explain in detail what is meant by gene splicing (include diagrammatic representations where possible)
2. Describe in detail the characteristics of the genetic code laying emphasis on codons and two special amino acids.
3. Mutation is a change in the genetic code of an organism.
 - i. Describe the effects of mutations on protein structure.
 - ii. Describe wobble phenomena during translation.
4. Make a sketch of plasmid and phage vectors, and state their differences
 - a) Explain negative and positive transcriptional control in gene regulation.
 - b) What are okazaki fragments?
5. Explain the mechanism of Lac operon in gene regulation under the headings below.
 - c) List types of genes.
 - d) Explain the types of gene.