



EMBU UNIVERSITY COLLEGE
(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)
FIRST SEMESTER EXAMINATION 2014/2015
THIRD YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
AND BACHELOR OF SCIENCE IN BIOLOGY
SZL 307: MOLECULAR BIOLOGY

DATE: DECEMBER 8, 2014

TIME: 10:30AM – 12:30PM

INSTRUCTIONS:

ANSWER ANY SEVEN (7) QUESTIONS (7 MARKS EACH)

1. Explain the principal properties that are exploited in separation of proteins.
2. State the different techniques used in protein characterization.
3. Outline the properties of DNA polymerase.
4. Describe the chromosome structure of *Escherichia coli*.
5. Describe eukaryotic telomeres.
6. Outline the techniques of DNA extraction.
7. Explain the steps in Polymerase Chain Reaction (PCR).
8. Explain the mode of action of the restriction endonuclease EcoR1.
9. Explain the principle of gel electrophoresis.
10. Explain how *Escherichia coli* cells may be transformed.
11. Outline the types of cloning vectors.
12. Outline the techniques used in screening genomic and cDNA libraries.

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