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The H. N. S. B. Ltd. Science College, Himatnagar

Internal Examination September/October - 2016

B.Sc. Sem-5 **Subject: MICROBIOLOGY** Date: 30/9/2016

Marks: 40 **Paper Code: CC- MI -504 r-DNA TECHNOLOGY** Time: 1½ hr

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Part –A answer any **five** of following. **[05]**

(Choose appropriate answer: Q.1 to Q.3)

Q.1 Which dye is used in electrophoresis?

(a) SDS (b) Ethydium bromide

(c) Methylene blue (d) Bromothymol blue

Q.2 Which of the following is different from others in case of nomenclature?

(a) EcoR I (b) BamH I

(c) M13 (d) pBR322

Q.3 These are the examples of recombinant product except

(a) Humulin (b) Interferon

(c) Somatotropin (d) BCG vaccine

(Match the appropriate pair: Q.4 to Q.6)

Q.4 Taq Polymerase - [i] synthesises of complementary DNA

Q.5 Alakline phosphatase - [ii] digest ds DNA from 3′ end only

Q.6 RNA transcriptase - [iii] primer extension

- [iv] remove PO_4 from 5′ end

- [v] join sugar-phosphate backbone

PART-B Answer any **five** of following. **[05]**

Q.7 Give any two examples of bacteria containing restriction enzyme

Q.8 Give contribution of Karry Mullis.

Q.9 Explain term "Mass spectroscopy"

Q.10 What is electrophoresis?

Q.11 Define: Multiple clonning sites

Q.12 Define: Genomics

Q.13 Give functions of alkaline phosphatase

PART-C Answer any **three** of the following. [06]

Q.14 Give any two examples of Plasmid vector.

Q.15 What is the role of Bacteriophage in rDNA technology.

Q.16 What is Human Genome Project?

Q.17 Give any four examples of recombinant product.

Q.18 Give any two discovery in rDNA technology with contribution of scientist.

PART-D Answer any **four** of the following. [12]

Q.19 Explain function and mechanism of DNA ligase enzyme.

Q.10 What is cDNA library? Explain process of cDNA synthesis.

Q.21 Explain any one artificial cloning vector.

Q.22 Explain site directed mutagenesis.

Q.23 Enlist various requirements of molecular biology.

Q.24 Enlist basic steps/events of gene cloning with diagram.

PART-E Answer any **two** of the following. [12]

Q.25 Short note: Molecular scissors "restriction endonulease".

Q.26 What is Ti-Plasmid? Explain mechanism of T-DNA transfer.

Q.27 Describe applications of r-DNA technology in agriculture and medical field.

Q.28 Write a detailed note on PCR.

-: Best of Luck :-