1852

Sr. No. of Question Paper: 1852 E

Unique Paper Code: 216651

Name of the Paper: Applied Biology and Biotechnology

Name of the Course: B.Sc. (Life Science)

Semester: VI

Duration: 3 Hours

Maximum Marks: 75

Instructions for Candidates

1. Write your Roll No on the top immediately on receipt of this question paper.
2. Attempt any **FIVE** questions including **Questions No 1** which is compulsory

Q1.

a. Define: 05

I. Electroporation
II. Extrinsic incubation period
III. Electrophoresis
IV. Expression vector
V. Rancidity

b. Differentiate between the following: 10

i. *Vivax* and *Falciparum* Malaria
ii. BCG and DOTS
iii. Genomic and cDNA library
iv. Exonuclease and Endonuclease
v. Probiotics and Prebiotics

c. Briefly answer the following questions 06

i. Mention the infective stage and describe the mode of transmission of *Entamoeba*
ii. Give the commonly used micro-organisms for the production of Lactic acid and Acetic acid
iii. What are the limitation/s of Taq DNA polymerase?

d. Expand the following 02

i. PAGE
ii. pUC
iii. DHF
iv. NMEP

e. Write the contributions of the following 04

i. Herbert Boyer and Stanley Cohen
ii. Karry Mullis
iii. E.M. Southern
iv. Ronald Ross

Q2. 06, 06

a) Describe in detail the process of production of human growth hormone by recombinant DNA technology
b) What are recombinant vaccines? Describe the process of industrial biosynthesis of recombinant Hepatitis B vaccine.

Q3. 06, 06

a) What are the various methods of food preservation? Write a note on food borne diseases.
b) Describe in detail the process of formation of cheese by microbes.

Q4 12

Give an account of the life history, pathology and prevention of the disease caused by *Wucheria bancrofti.*

Q5 06, 06

a) Write a brief note on the production and application of either transgenic animals or transgenic plants.
b) Describe in detail the process of Polymerase Chain Reaction. Also list the applications of the technique.

Q6 Diagrammatically explain the process of 06, 06

a) Molecular diagnosis of Cystic fibrosis
b) DNA sequencing by Sanger's method

Q7 Write short notes on (Any Three): 04, 04, 04

a) Dengue
b) Alpha complementation
c) Gene Therapy
d) *Mycobacterium tuberculosis*