

# P.S.Science and H.D.Patel Arts College Kadi

CLASS – B.Sc. SEMESTER – IV SUBJECT – BIOTECHNOLOGY

STE A

Core Compulsory PAPER: 602 Genetic Engineering

TIME : 1:45 to 3:45

Date 6/3/2019

MARKS : 40

## Q – 1 ANSWERS THE FOLLOWING.

10 MARKS

- 1) A recombinant DNA molecule is produced by joining with
  - 1). Helicase 2). Gyrase 3). ligase 4). Polymerase
- 2) Define Phagmed
- 3) Who Discovered DNA Fingerprinting
- 4) X-gal is a substrate for
  - 1) beta-galactosidase 2) alpha-galactosidase 3) Permease 4) None
- 5) EcoRI endonucleases have the ability of cutting
  - 1). DNA fragment with sticky end 2) DNA at specific sites
  - 3) Both a and b 4). DNA and RNA at random site
- 6) Fragments from 30 to 46 kb can be accommodated by a -----
  - 1) cosmid vector. 2) Plasmid vector 3) Lemda Phage 4) None
- 7) Which group of enzymes is popularly called “Molecular seizer ”
  - 1). restriction Endonuclease 2). ligases
  - 3). RNA polymerase 4). DNA polymerase
- 8) Ori site is usefull for plasmid
  - 1). ligation 2). Cutting 3). Recognition sequence 4). Replication site
- 9) The presence of Restriction endonucleases were postulated in 1960 by
  - 1). Khorana 2). Watson 3). Crick 4). Arber
- 10) BamH1 explain by taxaomy

## Q – 2 ANSWER THE FOLLOWING. (ANY four)

20 MARKS

- 1) Explain pBR 322
- 2) Write a note a BAC and Virus as gene transfer tools
- 3) Write a note on gene insertion in host cell
- 4) Write a note on Northern Blotting with its application
- 5) Justify Transduction as natural recombination

## Q – 3 ANSWER THE FOLLOWING. ( ANY ONE )

10 MARKS

- 1) Write a note on Cosmid and Lemda phage as cloning vector
- 2) Write a note on Adapter gene and linker gene with its application
- 3) Explain the Genomic DNA library and cDNA library