

SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

[32/A12]

SARDAR PATEL UNIVERSITY  
T.Y.B.Sc. (SEMESTER- VI)  
EXAMINATION MARCH 2018  
BIOCHEMISTRY: USO6CBCH01  
TITLE: MOLECULAR BIOLOGY-II

Date: 26/03/18; *Monday* Time: 10:00 AM TO 01:00 PM TOTAL MARKS: 70

**Q.1 Select proper option from following MCQ.**

[10]

- 1) In the trp operon leader sequence made up of \_\_\_\_\_ nucleotides.  
a) 162      b) 164      c) 166      d) 168
- 2) Genes for the enzymes of central metabolic pathways are referred to as \_\_\_\_\_ genes.  
a) Housekeeping      b) induced gene      c) repressible      d) activator
- 3) Structured gene A code for \_\_\_\_\_ enzyme.  
a) thiogalactoside transacetylase      b) B-galactosidase  
c) galactoside permease      d) all of these
- 4) Which one of the following is alkylating agents?  
a) EES      b) 5BU  
c) x-rays      d) HNO<sub>3</sub>
- 5) Which one of the following is a chemical mutagen?  
a) 5BU      b) DMS      c) EMS      d) all of these
- 6) Name the agent which producing distortion in DNA.  
a) hypoxanthine      b) EES      c) DMS      d) proflavine
- 7) Which one of the following removes  $Mg^{+2}$  that is essential for preserving the overall structure of the cell envelope.  
a) EDTA      b) Lysozyme      c) SDS      d) promase
- 8) Which of the following detergent forms an insoluble complex with nucleic acids?  
a) CTAB      b) GTC      c) SDS      d) EDTA
- 9) \_\_\_\_\_ Enzymes are thermostable.  
a) Taq DNA polymerase      b) DNA directed DNA polymerase  
c) RNA polymerase      d) Reverse Transcriptase
- \* 10) ddATP is used in \_\_\_\_\_ method.  
a) Sanger's method      b) Chain termination  
c) Maxam & Gilberts      d) a & b both

**Q2. Answer in short. (any ten)**

[20]

1. What is an operon?
2. What is catabolic repression?
3. What do you know about SWI/SNF?
4. What do you know about hotspots?
5. What is induced mutation?
6. Explain Role of    1) Glycosylase    2) Apendonulease
7. Write the use of EtBr.
8. Write down the use of guanidium thiocyanate.

9. What is RFLP?  
10. What is gene probe?  
11. Give reason: PCR is known as people's choice reaction  
12. What do you know about Taq DNA polymerase?

Q3. Explain in detail Negative control mechanism of Lac operon [10]

OR

Q3. Explain in detail mechanism of attenuation [10]

Q4 Write short note on:

- a) Agents labializes the base [5]  
b) Agents producing distortion in DNA [5]

OR

Q.4 Explain in short:

- a) Thymine dimer. [5]  
b) Direct repair. [5]

Q. 5 Explain in detail:

- a) Ti plasmid. [5]  
b) Preparation of total cell DNA from bacteria. [5]

OR

Q.5 Write short note on:

- a) Restriction Endonuclease. [5]  
b) PBR322 as a vector [5]

Q6. Explain the following

- a) DNA finger. [5]  
b) gene libraries [5]

OR

Q6. Explain the following

- a) PCR [5]  
b) Sanger & conclusion method for DNA sequence. [5]

2

\*\*\*\*\*