SEAT No._____ No. of Printed Pages: 2

[A-3(A)]

Sardar Patel University

On Demand

B.Sc Examination, IV semester

Biotechnology

US04CBIT01

(FUNDAMENTALS OF BIOTECHNOLOGY - II)

Date: 03/10/2022

Time: 12:30 -02:30 PM **Marks: 70**

Q-1 **Multiple Choice Question (Attempt All)** **10**

1. The consensus sequence centered at -10 region of pribnow box is
   a) ATAATA b) TATAGG
   c) TATAAT d) GTATGC
2. Which of the following operon contains a leaky promoter
   a) Lac b) Trp
   c) Gly d) Ori
3. Deacylated tRNA is being existed from ---------- site of ribosome
   a) E site b) P site
   c) A site d) X site
4. Termination of prokaryotic translation is done by
   a) EST b) Ter
   c) EPS d) UUP
5. _____ is also known as molecular scissors
   a) Type I restriction endonuclease b) Type II restriction endonuclease
   c) Type III restriction endonuclease d) Type IV restriction endonuclease
6. In the nomenclature of ECoRI, the R denotes to _____
   a) Restriction b) Strain name
   c) Rodriguez d) Randomn
7. Lymph node is an example of
   a) Primary lymphoid orgon b) Secondary lymphoid organ
   c) Native defence d) None of the above
8. Which of the following is required for the removal of cancer cells
   a) B cells b) T cells
   c) NK cells d) APC
9. Which type of cells produce antibodies
   a) B cells b) T cells
   c) NK cells d) APC
10. Transcription takes place in _____ part of the cell
    a) Nucleus b) Cytoplasm
    c) Ribosome d) G.C

Q-2 **Answer accordingly (attempt all)** **08**

1. Promoter sequence controls the function of the gene. State true/false
2. In tryptophan repressor is anti termination repressor. State true/false
3. Start codon used for translation in prokaryotes is guanine. State true/false
4. Translation in prokaryotes produces mRNA. State true/false
5. Type II restriction enzyme, the methylation and restriction sites are in separate subunits. State true/false
6. SmaI is produced from Serratia sps. State true/false
7. Antigens have epitopes. State true/false
8. T cells kill the forign bodies using phagocytosis. State true/false

Q-3 **Short Question (attempt any ten)** **20**

1. Define gene.
2. Define promoter.
3. What do you mean by charging of tRNA.
4. List the proteins involved in initiation of translation.
5. What are restriction enzymes?
6. Give the full form of ECoRI.
7. What are APC?
8. Define antigen.
9. What is opsonization?
10. What is termination of transcription?
11. What are the uses of ter sequence?
12. What is methylation?

Q-4 **Long Question: (attempt any four)** **32**

1. Discuss in detail the lac operon and its structure.
2. Discuss in detail the initiation and elongation of prokaryotic transcription.
3. Discuss the initiation of prokaryotic translation
4. Describe using labeled diagram the elongation and termination of prokaryotic translation
5. Describe restriction modification system
6. Describe various types of restriction endonuclease and their properties
7. Write a note on antigen – antibody interactions.
8. Write a short note on B cells and T cells

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