K21P 0766

Reg. No. : .....

Name : .....

Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/Imp.) Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG2C05 : Immunology

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in 2 or 3 sentences. **Each** question carries 1 mark.

1. Rheumatoid factor.
2. Macrophages.
3. Immunological tolerance.
4. Importance of MHC proteins.
5. Antigen processing cells.
6. Super antigens.
7. Molecular mimicry.
8. Tumor necrosis factor.
9. NK cells.
10. Haptens.

(10×1=10)

SECTION – B

Write note on or discuss **any four** of the following. **Each** question carries 5 marks.

11. Types of immunity.
12. Antigen processing and presentation.

P.T.O.

13. ELISA.

14. Western blotting.

15. Immunologic basis of graft rejection.

16. Immune responses in cancer. **(4×5=20)**

SECTION – C

Write an essay on **any one** of the following. The question carries **10** marks.

17. Discuss the principles of vaccine technology.

18. Describe the different types of hypersensitivity reactions. **(1×10=10)**

K21P 0767

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Name : .....

II Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/ Imp.) Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG2C06 : Molecular Biology

Time : 3 Hours

Max. Marks : 40

SECTION – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark : **(10×1=10)**

1. Heterochromatin.
2. SSB.
3. Point mutation.
4. Fluorescent labelled cDNA.
5. Attenuation.
6. LANE.
7. Base excision repair.
8. Ribozyme.
9. Specialised sigma factor.
10. Telomere.

SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks. **(4×5=20)**

11. Genetic code.
12. RNA polymerases.

P.T.O.

13. Whole Genome Analysis.

14. Synthesis and functions of tRNA.

15. Elongation Factors.

16. Polyadenylation.

SECTION – C

Write an essay on **any one** of the following. The question carries **10** marks. **(1×10=10)**

17. Types of mutation.

18. Trp operon functioning and regulation.

K21P 0768

Reg. No. : .....

Name : .....

II Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/ Imp.) Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG2C07 : Genetics

Time : 3 Hours Max. Marks : 40

SECTION – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark.

1. Polygenic inheritance
2. Sex influenced traits
3. Three point test crosses
4. Complimentary gene interaction
5. Klinfelter's syndrome
6. Prader villie syndrome
7. Penetrance and expressivity
8. Allopolyploid
9. Founder effect
10. Pedigree.

(10×1=10)

SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks.

11. Briefly explain the different dominance modification through allelic interactions.
12. What are the different types of structural aberrations of chromosomes ?

P.T.O.

13. What are the Mendelian laws of inheritance ?

14. What are the different types of transposons ?

15. Briefly explain generalized and specialized transduction of bacteriophages.

16. What are the different sex determination mechanisms in plants ? **(4×5=20)**

SECTION – C

Write an essay on **any one** of the following. The question carries **10** marks.

17. What are the different types of extra chromosomal inheritance mechanisms ?

18. What are the factors affecting HW equilibrium ? Briefly depict mathematically the effect of self pollination on allele and genotype frequencies in a population following HW equilibrium. **(1×10=10)**

K21P 0769

Reg. No. : .....

Name : .....

II Semester M.Sc. Degree (CBSS – Reg./Suppl. (Including Mercy Chance)/ Imp.) Examination, April 2021
(2014 Admission Onwards)
BIOTECHNOLOGY
BTG2 E01 : Enzymology

Time : 3 Hours Max. Marks : 40

SECTION – A

Write about **each** of the following in **2** or **3** sentences. **Each** question carries **1** mark. **(10×1=10)**

1. How do you calculate specific activity ? Mention its importance.
2. What are isoenzymes ? Give an example.
3. Define the term enzyme therapy.
4. What is an apoenzyme ?
5. What is the 'unit' of enzyme activity ?
6. How will you check the purity of the enzyme after isolation ?
7. Describe ping-pong mechanism.
8. Distinguish between multienzyme complexes and multifunctional enzymes.
9. What are the bonds commonly formed between active site residues and substrate ?
10. What is meant by 'general' acid-base catalysis ?

P.T.O.

SECTION – B

Write notes on or discuss **any four** of the following. **Each** question carries **5** marks. **(4×5=20)**

11. What is the role of coenzyme in enzyme catalysis ?
12. Write a note on enzyme kinetic plots.
13. Discuss about different methods of enzyme immobilization. Mention two major advantages of enzyme immobilization.
14. Discuss in detail the effect of substrate and enzyme concentrations on enzyme activity.
15. Write a note on metal ion catalysis with a suitable example.
16. Discuss about the classification of nomenclature of enzymes, as suggested by enzyme commission.

SECTION – C

Write an essay on **any one** of the following. The question carries **10** marks. **(1×10=10)**

17. Describe different modes of enzyme regulation.
18. Enzyme inhibitors are valuable drugs. Comment with suitable examples.
