B.Sc. (Hons.) Semester IV Examination, 2022
Subject: Biotechnology (Hons.)
Paper: SEC-2(Enzymology)

Time: 2 hrs   **Marks: 40**

Q.1 Answer *any five* from the followings: 2x5=10
   a. What is allosteric enzyme?
   b. What is protease? Cite an example.
   c. What are K_m and V_{max} of an enzyme? Define.
   d. Define binding site and active site of an enzyme.
   e. What is Isoenzyme? Cite an example.
   f. What is multi enzyme complex?
   g. What is ribozyme?
   h. Define apoenzyme and holoenzyme.

Q.2 Answer *any two* from the followings: 5x2=10

   a. Classify the enzyme on the basis of reaction it catalyzes.
   b. Describe the enzyme feedback control.
   c. Mention the significance of activation energy and free energy.
   d. Describe the Line-weaver Burk plot and mention the significance of this line.

Q.3 Answer *any two* from the followings :   10x2=20

   a. Describe the method for protein sequencing (Edman's degradation).
   b. Derive the mathematical expression of Michaelis-Menten equation.
   c. Discuss the effect of pH and temperature on enzyme activity.
   d. Describe the competitive and non competitive enzyme inhibition by citing one example of each category.

OR

B.Sc. Semester-IV (Hons.) Examination-2022
Subject: Biotechnology
Paper: SEC-2(OR)
(Basics of Forensic Science)

Time: 2 Hours   **Full Marks: 40**

Q1. A**nswer** *any five* **from the followings:**   2 x 5=10

   a. What are latent fingerprints? Give one example.   1+1

   b. What is polygraph test?

   c. What are CBI and FBI?

   d. What is post mortem? Write its function.   1+1

   e. What is modus operandi in criminal investigation?

   f. Name two methods for assessing deaths in forensic science?

   g. What is DFSS in India? When it was created?   1+1

   h. What is forensic psychology?

Q2. **Answer** *any two* **from the followings:**   5 x 2=10

   a. Discuss the principle of forensic science.

   b. Write a short note on forensic entomology with suitable examples   4+1

   c. Briefly discuss Narco analysis test for criminal investigation?

   d. Write a short note on forensic science laboratory.

Q3. Answ**er** *any two* **from the followings:**   10 x 2=20

   a. Define and explain the principle of DNA fingerprinting technique? Write its application.

     2+5+3=10

   b. Discuss on various tools and techniques that are used in forensic science.   5+5=10

   c. What is Forensic evidence? Discuss major types of forensic evidences with suitable examples.
     2+8=10

   d. What are injuries? Discuss briefly on various types of injuries and their medico-legal aspects.
     2+4+4+10