

MODEL QUESTION PAPER - 2  
BIOLOGY FOR ENGINEERS 21BE45  
MODULE - 1

1. a. What are Bioplastics ? Compare the properties of PHA and PLA. . 10  
b. Write a short note on i lipids as detergents ii Meat analogues 10  
OR
2. a. Discuss the development of vaccine for covid 19 10  
b. What is DNA fingerprinting? Explain the process involved in DNA fingerprinting. 10

MODULE - 2

3. a. With a neat diagram of neuron explain the process of signal transmission 10  
b. Heart is an effective pump. Justify 10  
OR
4. a. What is ECG? Describe the various parts of ECG 10  
b. What are pacemakers? Briefly explain the various kinds of pacemakers 10

MODULE - 3

5. a. Give an account on the structure and functioning of kidneys 10  
b. Write a short note on  
I. Heart Lung machine ii. Muscular dystrophy 10  
OR
6. a. Give an account on the structure and function of the musculoskeletal system in humans 10  
10  
b. What is muscular dystrophy? Briefly discuss the various bioengineering solutions for muscular dystrophy 10

MODULE - 4

7. a. Compare the process of photosynthesis to the functioning of photovoltaic cells. 10  
b. Write short notes on: i. GPS system existing in birds. ii. Shark skin 10  
OR
8. a. Inspiration derived from the mechanism of birds flight led to the discovery of aircraft. Justify 10  
b. Give an account on the various blood substitutes 10

MODULE - 5

9. a. What is Bioimaging? Discuss the process and applications of bioimaging 10  
b. .Discuss the applications of Artificial intelligence in the diagnosis of disease 10  
OR
10. a. What is Biomining? Explain the various processes involved in biomining. 10  
b. Write short notes on: i. Electronic nose ii. Self-healing Bio Concrete. 10