

VTU Question – June 2024

Biology for Engineers – BBOK407

Module 1			M	L	C
Q.1	a	Discuss the various components of Eukaryotic Cells	10	L3	CO1
	b	Identify the applications for Stem Cells	5	L2	CO1
	c	Explain the functions of Vitamins	5	L2	CO1
or					
Q.2	a	Compare prokaryotic and eukaryotic Cells	10	L3	CO1
	b	Explain the properties of Carbohydrates	5	L2	CO1
	c	Explain the Function of Lipids	5	L2	CO1
Module 2					
Q.3	a	Highlight the properties of cellulose, justify cellulose as effective water filter	10	L3	CO1
	b	Explain the working and development of DNA Vaccine by taking suitable example	10	L2	CO1
or					
Q.4	a	What are bioplastics? Justify the use of PHA as bioplastic mentioning its properties and applications	10	L3	CO1
	b	Discuss the following I. Meat analog of proteins II. Lipids as cleaning agents	10	L2	CO1
Module 3					
Q.5	a	What is EEG? Discuss the type of brain activities detected with EEG. Write any three applications.	10	L3	CO2
	b	What are pace makers? Explain the basic diagram and construction of pace makers.	10	L2	CO2
or					
Q.6	a	Justify Lungs as Purification System	10	L3	CO2
	b	Explain the architecture of Rod and Cone Cells with suitable diagram	10	L2	CO2
Module 4					
Q.7	a	What is Ultrasonography? Explain the use and working principle.	10	L2	CO3
	b	What is Lotus leaf effect? Explain the mechanism and application of Superhydrophobic Effect.	10	L2	CO3
Or					
Q.8	a	The structure and design of Kingfisher beak leads to the design of Bullet Train. Explain.	10	L2	CO3
	b	Explain the working and application of Bionic Leaf Technology.	10	L2	CO3
Module 5					
Q.9	a	Explain the use of Electrical Tongue in Food Science	10	L2	CO4
	b	Explain the advantages and limitations of Artificial intelligence in Disease Diagnosis	10	L2	CO4
or					
Q.10	a	Explain the bioengineering solutions for muscular dystrophy and osteoporosis	10	L2	CO4
	b	Explain most commonly used Bioprinting Techniques	10	L2	CO4