



End Semester Examination – Nov/Dec – 2016

Code : **14BT3001**
Sub. Name : **APPLIED BIOCHEMISTRY**

Semester : **I (2016-17 odd)**
Duration : **3hrs**
Max. marks : **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	What are the different ways in which glycans can mediate or modulate biological functions?	CO 1	10
	b.	How are glycoproteins classified based on their linkages? Explain the most important functional features of a typical secreted mucin	CO 1	10
(OR)				
2.	a.	Differentiate glycoproteins and proteoglycans. Explain their distinctive functions with examples	CO 1	10
	b.	Carbohydrates serve as informational molecules or the sugar code. Bring out the reasons to explain the above statement	CO 1	10
3.	a.	Elaborate on the role of glycans in biotechnology and pharmaceutical industries.	CO 1	10
	b.	Conceptualize how blood group antigenic epitopes variants are formed with respect to glycan composition.	CO 1	10
(OR)				
4.	a.	What are lectins? How do they mediate cell to cell recognition and adhesion?	CO 1	10
	b.	How do <i>Hemophilus influenza</i> and <i>Helicobacter pylori</i> engage the host cell surface to initiate infection?	CO 1	4
	c.	What are therapeutic glycans?	CO 1	6
5.	a.	The shape of hair is determined by the pattern of disulphide bonds in Keratin. How can curls be introduced ?	CO 2	6
	b.	Explain how the structure of Myoglobin and Hemoglobin help in oxygen binding and diffusion	CO 2	14
(OR)				
6.	a.	What makes collagen a strong tensile protein? Add a note on structure functions relationship	CO 2	10
	b.	Highlight the structural features of muscular proteins.	CO 2	10
7.	a.	The integrity of cell membrane is affected by membrane peroxidation. Explain the mechanism and what is the consequence of peroxidation?	CO 2	10
	b.	With specific examples, illustrate the mechanism of actions of hormones that bind intracellular receptors.	CO 2	10
(OR)				
8.	a.	Define oxidative stress. Potentiate the role of mitochondria in oxidative stress. Add a note on biological consequences.	CO 2	12
	b.	Highlight the principle and applications of ELISA and Spectrometry in enzyme assays.	CO 2	8
<u>Compulsory:</u>				
9.	a.	Natural antioxidants exhibit defensive action against oxidative damage and improve health. Explain with suitable examples.	CO 2	20

ALL THE BEST