Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

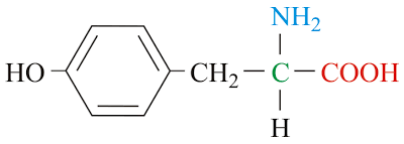
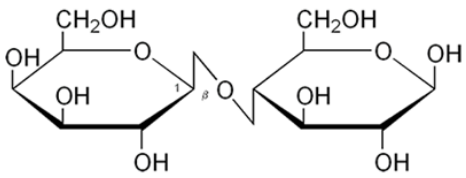
End Semester Examination, December 2022

Course: Nutritional Biochemistry **Semester : I**

Program: MSc N&D **Duration : 3 Hours**

Course Code: HSND7001 **Max. Marks: 100**

Instructions:

S. No.	Section A Short answer questions/ MCQ/T&F (20Qx1.5M= 30 Marks)	Marks	Cos
Q 1	Recall the name of water-soluble vitamins	1.5	CO1
Q 2	Define Enzyme	1.5	CO1
Q 3	Define Lipids	1.5	CO1
Q 4	Identify the given below structure 	1.5	CO1
Q 5	Recognize the given below structure 	1.5	CO1
Q 6	Recall the name of amino acid having sulfur group	1.5	CO1
Q 7	Recall the structure of lauric acid (12:0)	1.5	CO1
Q 8	Recall the site of Electron Transport Chain	1.5	CO1
Q 9	Define Isoelectric point (pI)	1.5	CO1
Q 10	Recall the name of any basic amino acid	1.5	CO1
Q 11	Explain iodine number	1.5	CO2
Q 12	Explain why unsaturated fatty acids liquid and saturated fatty acids are waxy in nature at room temperature	1.5	CO2
Q 13	Describe BMR	1.5	CO2
Q 14	Explain the relationship between chain length of fatty acid and melting point	1.5	CO2
Q 15	Describe the role aldosterone	1.5	CO2
Q 16	Discuss the function of insulin	1.5	CO2
Q 17	Describe function of glucagon	1.5	CO2

Q 18	**Describe the specific dynamic action (SDA)**	**1.5**	**CO2**
Q 19	**Describe Gibbs free energy of activation**	**1.5**	**CO2**
Q 20	**Discuss the functions of parathyroid hormone**	**1.5**	**CO2**
Section B (4Qx5M=20 Marks)			
Q 1	**Recall Transition state theory**	**5**	**CO1**
Q 2	**Describe lactic acid formation from pyruvate**	**5**	**CO2**
Q 3	**Illustrate the mechanism of transport of more than 12 carbon fatty acids from cytosol to mitochondrial matrix**	**5**	**CO3**
Q 4	**Mitochondria is called powerhouse of cell. Support this statement with the help of chemiosmotic theory**	**5**	**CO5**
Section C (2Qx15M=30 Marks)			
Q 1	**Illustrate the mechanism of enzyme action**	**15**	**CO3**
Q 2	**Defend the given below statement: One Glucose molecule converted in two molecules of pyruvate through multistep process and net yield is two ATP per glucose.**	**15**	**CO5**
Section D (2Qx10M=20 Marks)			
Q 1	**Contrast three steps of gluconeogenesis that differ from glycolysis**	**10**	**CO4**
Q 2	**Examine the excretion pathway of excess nitrogen resulting from the breakdown of amino acid in the form of urea molecule inside the cell.**	**10**	**CO4**