Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2020

Course: BSc. Biochemistry **Semester: I**
Program: BSc allied **Time 03 hrs.**
Course Code: I.VR_B_1059 **Max. Marks: 100**

SECTION A

1. **Each Question will carry 5 Marks**
2. **Instruction: Complete the statement / Select the correct answer(s)**

S. No.	**Question**	**CO**
Q 1	a. ……., …… and …… are kinds of Glycosphingolipids b. For a spontaneous reaction ΔG is ……..while for an reaction at equilibrium ΔG is ……	**CO 4** **CO 1**
Q2	……..., ……., ……., ……., …… are five coenzymes of Pyruvate Dehydrogenase complex.	**CO 2**
Q3	a. ……., ……., …… are polysaccharides, of which …… is structural polysaccharide while …… is storage polysaccharide.	**CO 2**
Q5	a. …… and …….. are the enzymes involved in regulation of citric acid cycle. b. I have a protein mixture with three proteins : one is quite large and other two are small and similar sized. I wish to purify the larger protein. Which chromatography will I prefer to use? A) Affinity chromatography B) Gel filtration C) SDS PAGE D) Ion exchange c. Gluconeogenesis is reverse of glycolysis. True/False d. Enzymes are stereospecific. True/False	**CO 3** **CO 3**
Q6	a. Allosteric proteins are characterised by …… curve. ……is an allosteric enzyme. b. Enzymes alters equilibria of reactions. True/ False. c. ……..., ……..., ……. are ways by which enzymes are regulated.	**CO3/5**

SECTION B **1. Each question will carry 10 marks** **2. Instruction: Write short / brief notes**		
Q 7	Draw citric acid cycle and explain its regulation by means of diagram and text.	**CO 2**
Q 8	Derive Line weaver burk equation from Michelis menten equation and draw a plot to show how different they look. OR Derive Eadie hofstee equation from Michaelis menten equation, draw imaginary plot and compare it to line weaver burk plot.	**CO 5**
Q 9	a. Write a note on biological membranes. OR Explain how cholesterol regulates membrane fluidity. b. Name three kinds of Eicosanoids	**CO 4**
Q 10	Write a note on Electron transport chain and its inhibitors OR a note on ATP synthase with a diagram.	**CO 1**
Q 11	Compare and contrast alpha helices and beta sheets. OR a note of kinds of motifs present in proteins.	**CO 3**
Section C **1. Each Question carries 20 Marks.** **2. Instruction: Write long answer.**		
Q12	What are different kinds of enzyme inhibition, give examples. OR Write about types of phospholipids in body with examples and their role OR Explain why citric acid cycle is called amphibolic. OR When one fasts, glucose supply is short. What will be mobilised? Where is it stored? What is the pathway for catabolism called? Which cellular compartment has enzymes for this pathway. Draw a flow chart and explain.	**CO 5/4/2**