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

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, November 2021

Course: Chemistry of life process and bioactive compounds **Semester: III**
Program: MSc Chemistry **Time : 10.00AM-1.00PM**
Course Code: CHEM8025P **Max. Marks: 100**

Instructions: Read the instructions given below carefully:

1. All questions are compulsory.
2. Write all the answers in white A4 sheet
3. Mention your Name, Roll No and SAP ID on top of your answer sheet. At the end of answer sheet put your signature.

SECTION A
(Scan and upload)

Instructions: Each question will carry 4 marks

Q 1	Classify pheromones on the basis of their functions and discuss the general mechanism of pheromone action.	**4**	**CO3**
Q 2	What is the general structure of pyrethroids? What happens when it is subjected to exposure to air and sunlight?	**4**	**CO3**
Q 3	Explain various types of antifeedants with examples.	**4**	**CO3**
Q 4	Write a short note on anti JH agents.	**4**	**CO3**
Q 5	Express the flow of Kreb's cycle schematically.	**4**	**CO2**
	SECTION B **(Scan and upload)** **Instructions: Each question will carry 10 marks**		
Q 5	a. Write the name of hormone released from following organs in the body and also specify their functions: Pituitary (anterior), thyroid and pancreas. b. Draw the structures of following hormones: Oestrone and aldosterone.	**10**	**CO3**
Q 6	Classify vitamins on the basis of solubility. Give one example with structure of each category.	**10**	**CO3**
Q 7	Express the biosynthesis of adenosine monophosphate with the help of reaction sequence only.	**10**	**CO2**
Q 8	How is ammonia formed in the body? Why is it necessary to remove ammonia from physiological pathway? Give any two methods for its removal from body. **OR** Discuss the role of urea cycle in the removal of ammonia from body.	**10**	**CO2**

	SECTION C **(Scan and upload)** **Instructions: Each question will carry 20 marks**		
Q 9	a. Convert pyruvic acid to palmitic acid with all the steps involved in the reaction. b. Discuss the significance of phosphate pentose pathway with required reactions.	**10+10**	**CO2**
Q 10	a. Differentiate high energy and low energy phosphates with two examples of each type. Classify high energy compounds. b. Differentiate saturated and unsaturated fatty acids with one example of each. c. Illustrate the mechanism of chymotrypsin functioning in a schematic way. **OR** a. Write notes on Flavin nucleotides and pantothenic acid. b. What is ketogenesis? Discuss any one possible pathway for obtaining ketone bodies. c. Draw the structures of chymotrypsin and carboxypeptidase.	**10+5+ 5**	**CO1, CO2, CO2**