University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

TIME – 3 Hrs 15 Min

THEORY EXAMINATION – FEB 2021	
B.TECH - Biotechnology	**SEMESTER – III**

M.M. - 56

PAPER - BT-205

SUBJECT- Biochemistry

INSTRUCTIONS TO BE FOLLOWED

- **Allotted time for examination is 3 hours 15 minutes that includes time for downloading the question paper, writing answers, scanning of answer sheets and E-mailing the PDF files to the designated Email ID.**
- **For all B Tech. Biotechnology Students, the Email ID is:- reappearbt@kuk.ac.in**
- **The candidates will be required to attempt 75% of the question paper (maximum) by choosing to their any best questions accumulating 56 marks.**
- **The PDF files should be saved as Roll No. and Subject Code. Proper attention should be given while sending the email and in the subject line, the Roll Number and Subject Code should be mentioned.**
- **Maximum Page Limit should be 20 (Twenty) for attempting the question paper on A4 sheets which could be downloaded and printed from the sample sheets given in the Kurukshetra University Examination guidelines.**
- **Over-attemptation should be avoided.**
- **Handwriting should be neat and clean and diagrams should be clear and contrasted.**
- **The candidate should not write their Mobile No. otherwise Unfair Means Case will be made.**
- **While attempting the paper, the candidate will use blue/black pen only.**
- **Before attempting the paper, the candidate will ensure that he/she has downloaded the correct question paper. No complaint for attempting wrong question paper by the candidate will be entertained.**
- **Candidate must ensure that he/she has put his/her signature on each page of the answer sheet used by him/her. Answer sheet without the signature of the candidate will not be evaluated.**

PART-A

Q. No. – 1 Answer the following questions. 15x1=15

(i)	Enlist two applications of Biochemistry.
(ii)	What is the role of activation energy in enzyme catalysis?
(iii)	Name amino acid which cause maximum hindrance in protein folding.
(iv)	Write down average molecular weight of amino acid residue.
(v)	Draw the structure of simplest carbohydrate molecule.
(vi)	Enlist two non-essential amino acids.
(vii)	What is iodine number and acid value?
(viii)	Draw the structure of uridine triphosphate.
(ix)	Enlist the example of one cofactor.
(x)	Draw the structure of sucrose.
(xi)	Define ketogenesis.
(xii)	What are ketone bodies? Give examples.
(xiii)	What is oxidative phosphorylation?
(xiv)	Draw the structure of urea.
(xv)	Enlist two inhibitors of electron transport chain.

PART-B

2	Briefly describe the forces stabilizing protein structure and shape.	5
3	Classify lipids on the basis of their chemical composition and biological role.	5
4	Explain the mechanism through which cell maintain blood glucose level.	5
5	Briefly describe the urea cycle.	5

PART-C

6	Classify proteins based upon their biological roles.	10
7	Distinguish between homo, hetero and mucopolysachharides, giving one example of each.	10
8	Develop the expression for the Michalis-Menten equation.	10
9	Classify enzymes as per enzyme commission norms.	10
10	Analyse the pentose phosphate pathway.	10
11	Illustrate the process of biosynthesis of saturated fatty acids.	10
12	Explain the catalytic mechanism of transamination reaction.	10
13	Illustrate the process of oxidative phosphorylation.	10