

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 -BIOTECH

SEMESTER – III

M.M. - 56

PAPER - BTE-201

SUBJECT- CELL BIOLOGY AND GENETICS

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:- btechbiotechuiet@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)	Glucose transport proteins are example of -----transport.
(ii)	Fluid mosaic model was given by-----.
(iii)	Classify cell signalling.
(iv)	Explain neurotransmitter.
(v)	Give some examples of sex limited inheritance.
(vi)	Keratin is an example of which filament.
(vii)	Blood group system is described by -----.
(viii)	Name three scientists who rediscover Mendel's work.
(ix)	Predict the ratio in test, back cross and linkage.
(x)	What is continuous inheritance?
(xi)	Illustrate consanguineous marriages.
(xii)	Define random genetic drift.
(xiii)	List different types of induced Mutations.
(xiv)	Explain the role of flippase and photolyase.
(xv)	Which Lab honoured and who developed human genome project.

PART-B

2	Illustrate Membrane transport of molecules via different mechanism.	5
3	Explain Lethality concept citing suitable example.	5
4	Give mechanism of photo reactivation of DNA Repair system	5
5	Describe the different types of mapping of genes on chromosomes.	5

PART-C

6	Illustrate the structural components of bio membrane and special features of Fluid Mosaic Model.	10
7	Differentiate between Microtubule and Microfilament. How they differ from intermediary Filaments.	10
8	Explain Mendelian experiment on pea plant. What are the reasons for his success?	10
9	Skin colour in Human being is an example of special type of inheritance. Describe the cross and explain the outcomes	10
10	Explain the concept of Hardy Weinberg principle of population being constant and factors affecting the process.	10
11	Classify Mutation on different basis with suitable examples.	10
12	Justify the transmission of nerve impulse transmission via neuromuscular junction.	10
13	Distinguish between the mechanism regulating muscle contraction and relaxation along with proteins involved.	10