



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program : Third Semester – 2020

Paper: Botany-III (Cell Biology, Genetics and Evolution)

Course Code: BOT-201/21300Part – I (Compulsory)

Time: 15Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Attempt this Paper on this Question Sheet only.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

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Signature of Supdt.:

Q.1. Encircle the right answer cutting and overwriting is not allowed. (10x1=10)

I. _____ are building block of nucleic acids.

- A) Amino acids B) Sugar C) Phosphoric acid D) Nucleotides

II. Nucleolus are involved in the synthesis of

- A) mRNA B) rRNA C) tRNA D) DNA Polymerase

III. Amino acids are joined together by which bond

- A) Glycosidic linkage B) Peptide bond C) Dipeptide bond D) Posphodiester bond

IV. Lysosomes are derived from which organelle

- A) Golgi Apparatus B) Endoplasmic Reticulum C) Mitochondria D) Nucleolus

V. RNA stands for

- A) Deoxyribonucleic acid B) Ribonucleic acid C) Riboflavin nucleic acid D) Ribosomal nucleic acid

- VI. Which of the following nitrogenous base is called as purine**
A) G B) C C) T D) U
- VII. Lac operon contains how many metabolic genes**
A) 2 B) 3 C) 4 D) 5
- VIII. Chromatin consists of**
A) DNA only B) Protein only C) DNA + Protein D) Protein + RNA
- IX. Glyoxisomes are particularly present in which part (organ) of the plants**
A) Seeds B) Leaves C) Stems D) Roots
- X. Conjugation between bacteria is connected by**
A) Viruses B) Pilli C) Vectors D) Plasmids



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Roll No.

Paper: Botany-III (Cell Biology, Genetics and Evolution)
Course Code: BOT-201/21300 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers of the following:

(10x2=20)

- I. Describe Physio-chemical nature of the plasma membrane
- II. Draw a structure of a nucleotide.
- III. What is transformation
- IV. Write a note on Starch.
- V. How conjugation is involved in Bacterial DNA recombination.
- VI. What are Base analogue.
- VII. Differentiate between Plasmid and Episomes
- VIII. What are Hfr Strains?
- IX. What is reciprocal Translocation?
- X. How the phenomenon of tautomerism cause mutation,

Answer the following questions.

(3x10=30)

Q.3. (a) What is the role of histone in DNA packaging? (05)

(b) Describe Mendel's Law of inheritance. (05)

Q.4.(a) Describe the types of chromosomes on the basis of the position of centromere (05)

(b) How generalized transduction is different from specialized transduction (05)

Q.5. (a) What are mutagens? How radiations can cause mutation. (05)

(b) Differentiate between Induced and Spontaneous Mutations (05)