



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Second Semester – 2019

Paper: Biology – I

Course Code: BIO-111 / BIO-12116 Part – I (Compulsory) Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

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.

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

- Molecules which play the key role in the transfer of genetic information during protein synthesis are -----
A) DNA
B) RNA
C) Nucleic Acid
D) Lipids
- Separation of homologous chromosomes occurs during -----
A) Prophase
B) Metaphase
C) Anaphase
D) Telophase
- Genomes of viruses are -----
A) DNA
B) RNA
C) either single stranded or double stranded RNA or DNA
D) all of the above
- Chromosomes duplicate during the ----- of cell division.
A) G1 phase
B) G2 phase
C) G0 phase
D) S phase
- Name the RNA molecules which are used to carry genetic information copied from DNA?
A) tRNA
B) mRNA
C) rRNA
D) snRNA
- The enzyme which is used to join the DNA nucleotides is called -----
A) DNA-ligase
B) DNA-helicase
C) DNA-polymerase
D) Topoisomerase
- Chitin is the prominent structural molecule present in the cell wall of -----
A) Plant
B) Animal
C) Bacteria
D) Fungi
- The Protein coat of virus is called as -----
(a). nucleid
(b). capsid
(c). capsomere
(d). Outer envelope
- The bond between Nucleotides of DNA is -----
A) Peptide bond
B) Hydrogen bond
C) Phosphodiester bond
D) Glycosidic bond
- Beta pleated sheets are present in which structure of proteins?
A) Tertiary
B) Primary
C) Secondary
D) Quaternary



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No. 2: Give brief answers of following questions. (10 x 2)

1. What are Plasmids? What is their role in genetic engineering?
2. What are Bacteriophages?
3. How Law of Independent assortment is different from Law of segregation?
4. What are Prions and Viruses?
5. What do you know about crossing over?
6. Give different types of chromosomes on the basis of Centromere.
7. What are amphibious plants? Write down their main characteristics.
8. Differentiate between gene and allele?
9. Define law of thermodynamics with respect to metabolism?
10. Differentiate "autotrophs and heterotrophs".

SECTION: III

- Q. No. 3: How Proteins are formed? Explain the Process. (10)
- Q. No. 4: Describe the composition of DNA with the help of diagram. (5)
- Q. No. 5: Enlist the differences between Prokaryotes and Eukaryotes with examples (5)
- Q. No. 6: Describe the stages of Meiosis with the help of diagram and explain the significance of meiosis in life (10)