



# हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh  
(Established under Central Universities (Amendment) Act 2009)

शैक्षणिक खण्ड, शाहपुर, जिला कांगड़ा, हिमाचल प्रदेश - 176206

Academic Block, Shahpur, Distt. Kangra (HP) - 176206

Website: [www.cuhimachal.ac.in](http://www.cuhimachal.ac.in)

END-Term Examinations, June-2023

## CENTRE FOR COMPUTATIONAL BIOLOGY AND BIOINFORMATICS

Course: M.Sc. Bioinformatics Subject: Computational Genomics and Proteomics

Semester: 2<sup>nd</sup>

Course Code: BIN466

Maximum Marks: 60

Credit: 2

Time: 2 H: 00 M

### 1. Section -A (All Questions are COMPULSORY)

(10 X 1 = 10 M)

#### Q1). ANSWER ALL THE FOLLOWING QUESTIONS

- I. Define Protein folding?
- II. Define Genomics?
- III. Proteomics refers to the study of \_\_\_\_\_.  
(a) Set of proteins in a specific region of the cell (b) Biomolecules  
(c) Set of proteins (d) The entire set of expressed proteins in the cell
- IV. In OMIM the asterisk (\*) before an entry number indicates \_\_\_\_\_.
- V. Which of the following is not correct about the Coils and Loops?  
a) They are irregular structures b) They are regular structures  
c) If the connecting regions are completely irregular, they belong to random coils  
d) The loops are often characterized by sharp turns or hairpin-like structures
- VI. Which of the following is not a form of RNA?  
a) tRNA b) rRNA c) mRNA d) qRNA
- VII. The peptide formation involves two amino acids covalently joined together between carboxyl group of one amino acid and the amino group of another **True** (or) **False**?
- VIII. Which of the given statements is incorrect?  
a) Proteins may be clustered into families on the basis of either sequence or structural Similarity  
b) Proteins often comprise separate domains c) Proteins are modular  
d) The number of protein sequences that are available is insufficient to determine that domain shuffling occurs in evolution
- IX). Difference between the synonymous and non-synonymous mutations
- X). NusG have how many functional known subunits  
(a) 1 (b) 2 (c) 3 (d) 4

सफल लो



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## Section -B(Attempt any FOUR Question)

(4 X 5 = 20 M)

Q2). Write a short notes on DNA-protein interactions during the transcription?

Q3). Differences between the Prokaryotic and Eukaryotic transcription?

Q4). Discuss briefly about the m-RNA processing in the Prokaryotes

Q5). Write about mRNA Splicing

Q6). Write about the role of t-RNA in protein synthesis

Q7). Discuss the role of Ribosomes in protein synthesis

## Section - C (Attempt any FOUR Question)

(4 X 7.5 = 30 M)

Q8). Discuss briefly about the Post-Translation modification?

Q9). What is mean by transcription and write briefly about Eukaryotic transcription steps?

Q10). Write briefly about the any methods Eukaryotic m-RNA processing.

Q11). Discuss briefly about the OMIM

Q12). What is meant by genome mapping and discuss different methods

Q13). Write briefly about the one peptide finger printing database