Dr. Narender

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION
September 2018
B.Tech. (Bioinformatics): Vth Semester

Course Code: 15B11BI512 MAX. MARKS: 15
Course Name: Computational Genomics
Course Credits: 04 MAX. TIME: 1 Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1. Explain the following terms with a suitable example: (1×5=5)
(i) PSI BLAST (ii) HSPs in BLAST (iii) NGS technologies and applications
(iv) Offset vector in FASTA (v) Personalized genomics for Drug Discovery [CO-1, 2]

Q.2. Discuss all the challenges and perspectives of computational genomics towards life. (2) [CO-1-3]

Q.3. What is fragment assembly? Explain its complications with an example of each. (3) [CO-2]

Q.4. Assemble following fragments to generate a candidate genome. Keep in mind that orientation is unknown to the assembler. Check for length and overlaps in the final output. (3) [CO-2]

ACGT
CGCTGC
CTAGCA
CGTGC

Q.5. Provide a comparative analysis of three genomics types with their respective applications. (2) [CO-1]