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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION

September 2018

B.Tech. (Bioinformatics): VIIth Semester and PHD

Course Code: 14B1WBI732

MAX. MARKS: 15

Course Name: Computational Systems Biology

Course Credits: 03

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) Regulon (ii) Feedback control (iii) Transcription factors
(iv) Challenges in Computational Systems Biology (v) Stimulon [CO-1-3]
- Q.2. Discuss a living systems and its life based properties. (2)
[CO-1, 3]
- Q.3. What is Hill function? Discuss input function for activator and repressor with various regulatory conditions. (3) [CO-2]
- Q.4. Derive dynamics of gene regulation for a simple transcriptional regulatory network. Utilize simple parameters for the same. (2) [CO-2]
- Q.5. Provide a comparative analysis of GAL regulon and LAC operon for TRNs. (3) [CO-2]