

COURSE CODE: 10B11BT611

MAX. MARKS: 15

COURSE NAME: Comparative and Functional 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. Attempt all parts of a question together.*

1. What is the genome size of *Sachharomyces cerevisiae* and how many genes the organism contains? (2) CO II
2. Draw a complete structure of a gene indicating important signal such as start- stop signal, splicing sites etc? (2) COI
3. What is Central Dogma? Also describe the process that allows a gene to have isoforms (more than one transcript type), give example (3) COI
4. Genome or transcripts sequencing have rapidly added biological information to any system, Next generation sequencing has been the important tool in adding information. In this context bring out salient points that allow advantages/disadvantages of Next generation sequencing (Pyrosequencing & solid phase ILLUMINA sequencing) over the Sanger sequencing methods? (3) CO1&COII
5. What is pyrosequencing, how it works? Discuss the mechanism of pyrosequencing methods, enzymes (name of organism) and application of it? (5) COI