

B.N. BANDODKAR COLLEGE OF SCIENCE, THANE

FIRST TERM-END EXAMINATION OCTOBER 2011

S.Y.BSc.

BIOTECHNOLOGY PAPER- II

Duration 2 hrs

Max Marks-60
Marks

- N.B. 1) All Questions are compulsory.
2) Figures to right indicate full marks.
- Q.1) A) Write a brief note on:-Any three 12
1) Chromosome theory of inheritance
2) Types of Recombination
3) semi-conservative DNA replication
4) Explain in detail the steps involved at the time of initiation of replication.
5) Write a note on Mismatch repair
- B) Explain the following 3
1) Non disjunction
2) Karyotype
3) Function of DNA ligase
- Q2) A) Give a detailed account on :- Any three 12
1) Sex determination in Drosophila and Caenorhabditis .
2) Non disjunction of X chromosome
3) Sex linkage and Cris cross inheritance
4) Mechanism of Recombination
5) Branch Migration
- Q 2) B) Answer in one sentence 3
1) Primary Non disjunction
2) Sex chromosome
3) Homologous recombination
- Q 3) A) Attempt the following : Any two 12
1) Briefly describe the process of replication in prokaryotes with a labeled diagram.
2) Describe the process of replication in eukaryotes.
3) What are the different enzymes used in the process of replication.
- B) State the functions of :- Any three 3
1) DNA gyrase
2) Helicase
3) DNA polymerase I

P.T.O.

- 4) SSBP
- Q 4) A) Write short notes on (Any three) 12
- 1) Philadelphia chromosome
 - 2) Meiotic non-disjunction
 - 3) Structure of chromosome and preparation of karyotype
 - 4) Specialized banding techniques
 - 5) Histone proteins
- Q 4) B) Explain in one or two sentences 3
- 1) Shapes of metaphase chromosomes
 - 2) Reverse mutation with suppressor gene
 - 3) Importance of gene mutation
