

GOVERNMENT AUTONOMOUS COLLEGE, ROURKELA

DEPARTMENT OF BIOTECHNOLOGY

QUESTION BANK

PAPER- C5

TITLE: MOLECULAR BIOLOGY

1. Fill in the blanks:

1. _____ is the unit of inheritance.
2. In Prokaryotes, helicase enzyme is also known as _____.
3. _____ is the unit of replication.
4. Proof- reading activity is seen in _____.
5. Histone acetylase and chromatin remodelling complexes are recruited to specific regions of chromatin by _____.
6. Protein involve in Dna replication termination _____.
7. Small nucleolar RNAs used to process and chemically modified rRNAs are called _____.
8. Beating of cilia is regulated by _____.
9. _____ chemicals is a DNA intercalator.
10. An antibiotic that resembles the 3' end of a charged tRNA molecule is _____.

2. Very short questions:

- a. Which enzyme is responsible for proof- reading?
- b. Which enzyme is responsible for DNA replication?
- c. What is nucleosome?
- d. What is Gene?
- e. What is Primosome?
- f. What is replisome?
- g. What is fidelity of replication?

3. Short answer questions:

- a. What is bi-directional replication?
- b. What is DNA damage?
- c. What is semi conservative mode of replication?
- d. What is the role of sigma factor?
- e. What is promoter?

- f. What is homologous recombination?
- g. What is C- value paradox?
- h. What is Genome?
- i. What is post translational modification?
- j. What is Genetic code?

4. Long answer questions:

- a. Describe the DNA structure.
- b. Describe the DNA replication in Prokaryotes.
- c. Describe the process of translation in Prokaryotes.
- d. Describe the process of transcription in Prokaryotes.
- e. Describe the regulation of gene expression in Prokaryotes.
- f. Describe the operon concept.
- g. Describe the DNA replication in Eukaryotes.