

**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1.**

**III B.Sc Biochemistry**

**Semester : V**

**Title of the paper: Genetics and Molecular Biology**

**Subject Code : CBC5C**

**SECTION-A          2 MARKS**

1. Define dominant.
2. Define recessive.
3. Define Mendels laws.
4. What is Monohybrid experiments?
5. What is Dihybrid experiments?
6. Define Alleles.
7. Define Homozygote.
8. Explain Heterozygote.
9. Define Genotype.
10. Define Phenotype.
11. Explain back cross.
12. Explain test cross.
13. Define hybrid.
14. Define Chromosome.
15. Different shapes of chromosomes.
16. Write the Functions of chromosome.
17. What are the special types of chromosomes.
18. Define Chromonemeta.
19. Define Replication?
20. What is transduction?
21. DNA.
22. Griffith effect?
23. Central dogma?
24. Basic requirements of replication?
25. Define Polymerization.
26. Functions of DNA Polymerase in replication.
27. Leading strand.
28. Lagging strand.
29. Okazaki fragments.
30. Define Replisome.

31. Inhibitors of replication?
32. Define Transcription.
33. Functions of sigma factors?
34. RNA Polymerase.
35. Template.
36. Sense strand.
37. Promoter complex.
38. Transcription bubble.
39. Rho dependent & Rho independent factors?
40. Define splicing.
41. Reverse transcriptase.
42. Explain Holoenzyme & coreenzyme.
43. Define Genetic code?
44. What is triplet codon?
45. Wobble Hypothesis?
46. Define Protein synthesis.
47. What are the cellular materials needed to build a protein molecule?
48. Central dogma of protein synthesis?
49. Define Translation?
50. What are the steps involved protein synthesis?
51. Define Deacylation?
52. Define translocation?
53. Shine Dalgarno sequence.
54. Define mutation?
55. Define transition mutation.
56. Define transversion mutation.
57. Define Mismatch repair mechanism?
58. Define Depurination?

**SECTION-B      5 MARKS**

1. Explain the reason for Mendel's success?
2. What are the characters selected by Mendel?
3. Explain Backcross.
4. Explain Testcross.
5. Briefly explain the monohybrid experiments?
6. Explain the first law of Mendel's.
7. Explain Griffith effect?
8. Explain Meselson & Stahl experiments?
9. Prove DNA as a genetic material

10. What are the enzymes are involved in the replication process?
11. What are the types of replication?
12. Prokaryotic & Eukaryotic ribosomes?
13. Inhibitors of transcription?
14. Explain Reverse Transcription?
15. Detailed about RNA Polymerase.
16. What is deciphering the codon? Explain
17. Post translation modification of protein synthesis?
18. Inhibitors of protein synthesis?
19. Explain elongation of protein synthesis?
20. Explain Gene mutation?
21. Explain Genome mutation?
22. SOS repair mechanism?

**SECTION-C            10 MARKS**

1. Write a note on Mendel's three laws?
2. Explain chromosome structure and its functions?
3. Explain Prokaryotic Replication?
4. Inhibitors of replication?
5. Prokaryotic transcription?
6. Post translation modification?
7. Briefly explain the protein synthesis?
8. Explain the characters of Genetic code?
9. Explain Mutations?
10. Biochemical mechanism of DNA repair?