

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION MAY 2019
(First Semester)

Branch - BIOTECHNOLOGY

MOLECULAR GENETICS

Time: Three Hours

Maximum: 75 Marks

Answer ALL questions

ALL questions carry EQUAL marks

(2 + 5+ 8)

- 1 a What is C-value paradox?
b Comment on the forms and properties of DNA.
c Elucidate the salient features of the DNA of the power house of the cell.
OR
d What is a telomere?
e Describe briefly about chromosome banding,
f Explain in detail about epigenetic effects.
- 2 a What is methylation?
b Describe in detail about chromatin remodeling.
c Narrate the process and applications of histone acetylation and deacetylation.
OR
d What is a replicon?
e Comment on DNA polymerase, its types and role,
f Explain in detail about the process of DNA replication.
- 3 a What is Recon?
b Narrate about the enzymes involved in recombination.
c Explain briefly about Holliday model of recombination.
OR
d What is Rec A?
e Illustrate about Excision repair mechanism,
f Explain in detail about recombinant repair mechanism.
- 4 a What is a transposon?
b Write about the characteristics of retroposons.
c Describe briefly about transposable elements in yeast.
OR
d What is a TATA box?
e Write short notes on Micro RNA.
f Explain in detail about RNA splicing.
- 5 a What is poly adenylation?
b Write short notes on Mobility shift assay.
c Describe in detail about post translational modifications.
OR
d Define protooncogene.
e Describe briefly about BRCA genes and their role in tumor,
f Discuss the role of oncogenes and protooncogenes in cancer.