Reg. No. | | | | | | | | | |

BCS 504

Third Semester M.Sc. Degree Examination, December 2018
BIOCHEMISTRY
Genetics

Time : 3 Hours Max. Marks : 70

PART – A

1. Answer **any ten** of the following questions : **(10×2=20)**

   a) Distinguish between missense and nonsense mutations with examples.

   b) What is a conditional and silent mutation ? Give examples.

   c) What are intergenic and intragenic mutations ?

   d) What is Turner's syndrome ? Write its typical symptoms.

   e) What are transposons ? Give examples.

   f) Write the significance of telomere.

   g) What are pseudo genes ? Explain.

   h) Name some chemical mutagens. How does it initiate mutation ?

   i) What is pleiotropism ? Explain with an example.

   j) What is nonsence mutation ? Give example.

   k) What is Y-chromosome inheritance ?

   l) What is the relationship between genome size and evolutionary complexity ?

PART – B

Answer **any five** questions : **(5×10=50)**

2. a) What is centromere ? Explain its structure and functions.

   b) Explain in detail the classification of mutations with suitable examples. **(4+6=10)**

P.T.O.

3. a) What is Ame's test ? How does it work ? Explain.
   b) Give an account of mitochondrial inheritance with suitable examples. **(5+5=10)**

4. a) Explain linkage and recombination of genes in a chromosome.
   b) Differentiate between the laws of dominance and co-dominance with suitable examples. **(5+5=10)**

5. a) Discuss chromosome mapping by tetrad analysis.
   b) What is chromosome walking used for ? Explain it with RFLP and RAPD. **(5+5=10)**

6. a) Describe Holliday model of recombination.
   b) Which are the different types of physical mutagens ? Explain the process of radiation induced mutation. **(5+5=10)**

7. a) Describe the organization of a bacterial chromosome.
   b) Explain X-linked inheritance with two examples. **(5+5=10)**

8. a) Give an account of cytoplasmic inheritance with suitable examples.
   b) Discuss different types of chromosomal abnormalities with examples. **(5+5=10)**

9. a) Explain the structure and functions of a polytene chromosome.
   b) Discuss polygenic inheritance with an example. **(5+5=10)**

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