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UG/3rd Sem/BIOTE(H)/T/19

2019

B.Sc.

3rd Semester Examination

**BIOTECHNOLOGY
(Honours)**

Paper - C 6-T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer any *five* questions : 2×5=10
- (a) Give two general characteristics of dominant allele. 2
 - (b) What are the genetic significances of meiosis? 2
 - (c) What are the differences between euchromatin and heterochromatin? 2
 - (d) Write the role of telomere. 2

(e) What are the characteristics of *Salmonella* sp. used in Ames test? 2

(f) Who is the discoverer of Barr bodies? What is aneuploidy? 1+1

(g) What do you mean by maternal inheritance? 2

(h) What is crossing over value? What do you mean by out crossing or out breeding? 1+1

2. Answer any *four* questions from the following :

5×4=20

(a) Why is the liver microsomal fraction included in the Ames test for mutagens? Draw the picture of Telophase stage cell (animal cell). 2+3

(b) What do you mean by recessive lethal allele? Give an example. What is site specific recombination? 2+1+2

(c) What is incomplete dominance and semi-dominance? What is chiasma? 2+2+1

(d) Write any two rules of extra nuclear inheritance. Describe fragile X-syndrome. 2+3

(3)

(e) Write down the differences between introns and exons. Write a short note on histone proteins. 2+3

(f) Write the effect of temperature on sex determination. Write the name of two scientists who established beyond doubt the occurrence of crossing over and mention their experimental plants/animals. 2+3

3. Answer any *one* question : 10×1=10

(a) Give two characteristics of each of VNTRs, SINEs, LINEs, Classify Giant chromosome and give example of each. 6+4

(b) State the law of independent assortment and describe the dihybrid cross with checkerboard. 2+8
