

Roll No.

Total Pages : 3

10306/NH

BS/2110

GENETICS

Paper-IV

Semester-III

Syllabus-(Dec-18)

Time allowed : 3 Hours] [Maximum Marks : 52

Note: The candidates are required to attempt two question each from section A and B carrying 8 marks each and the entire Section C consisting of 10 short answer types questions carrying 2 marks each.

SECTION-A

1. Discuss DNA as genetic material with special reference to Hershey and Chase experiment. 8
2. Name various models of chromosome structure and explains in detail which is most relevant. 8

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3. What is criss-cross inheritance ? Write its main features and explain inheritance of recessive sex-linked trait giving suitable example. 8
4. Explain the mechanism of replication of DNA in prokaryotes. 8

SECTION-B

5. What is genetic code ? Write down its main characteristics. 8
6. What is gene regulations ? Explain it with special reference to Lac-operois. 8
7. What is translation ? Explain its mechanism. 8
8. What is Hardy-Weinberg equilibrium ? Explain various factors which affect this genetic equilibrium. 8

SECTION-C

9. Answer the followings : (Compulsory) 2×10=20
 - (i) Transformation and Transduction.
 - (ii) Downs syndrom

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- (iii) Plasmom and genome
- (iv) Base analogs
- (v) Base modifiers
- (vi) Types of RNA polymerase
- (vii) Repressible operon
- (viii) Post-transcription modification
- (ix) Genetic drift
- (x) Chi-square test.