



**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours Part-II Examination, 2021

**MICROBIOLOGY**

**PAPER-V**

**GENETICS AND VIROLOGY**

Full Marks: 70

**ASSIGNMENT**

*The figures in the margin indicate full marks.*

1. Answer any **four** questions from six questions: 15×4 = 60
  - (a) Explain in detail about Baltimore classification of viruses. 15
  - (b) Explain in detail about photoreactivation repair. How acridine orange, nitrous acid act as chemical mutagen? 9+6
  - (c) Describe the process of bacterial conjugation in the following prokaryotic cross with suitable diagram. 7+8
    - (i)  $F^+ \times F^-$
    - (ii)  $Hfr \times F^-$
  - (d) Write in detailed account of lagging strand synthesis with diagram. Write about different types of prokaryotic DNA polymerase mentioning their activities. 9+6
  - (e) Discuss about t-RNA charging. Write about the characteristics of genetic code. 5+10
  - (f) With suitable example describe about gram positive and gram negative bacterial transformation process. 15
  
2. Answer any **one** question from the following: 10×1 = 10
  - (a) Explain the tumor formation in plant by *Agrobacterium tumefaciens*. 10
  - (b) Write short notes on: 5×2 =10
    - (i) Prions
    - (ii) Plaque assay of bacteriophages.

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