

**B.Sc. Examination** *March-2015*  
**Semester - V**

**Paper Name:** Mi-501 – Virology and Genetics  
**Time:** 2:30 Hours

**Paper Code:** 4306  
**Total Marks:** 70

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**Instructions:** (a) Figure to the right indicates total marks of respective question.  
(b) Draw neat, clean and labeled diagram wherever necessary.

- 1.(a) **Discuss: The structure of HIV.** 10  
1.(b) **What are the criteria used for virus classification?** 04

OR

- 1.(a) **Discuss: Virus assay.** 10  
1.(b) **Write a note on: inclusion bodies produced by virus in host tissues.** 04

- 2.(a) **Explain: DNA is a genetic material.** 10  
2.(b) **Explain: Ames Test.** 04

OR

- 2.(a) **Explain: Microlesion type of mutation.** 10  
2.(b) **What are plasmids? Explain R plasmid and F plasmid.** 04

- 3.(a) **Discuss: DNA replication by Fork method.** 10  
3.(b) **Explain: Messelson and Stahl experiment.** 04

OR

- 3.(a) **Discuss: Mismatch & Excision DNA repair mechanisms.** 10  
3.(b) **Explain: The properties of genetic code.** 04

- 4.(a) **Discuss: Purification of Virus.** 10  
4.(b) **Explain: Lysogenic cycle.** 04

OR

- 4.(a) **Discuss: Chemical mutagens.** 10  
4.(b) **Explain: Types of mutants.(any 4)** 04

- 5.(a) **Explain: Translation** 10  
5.(b) **Explain: Rolling circle model for DNA replication** 04

OR

- 5.(a) **Discuss: Plant-plant virus interaction.** 10  
5.(b) **Explain: Physical mutagens.** 04