# M.Sc. (Ag.) Examination, 2016
## Semester-III
## Subject: Plant Protection
## Course No.: PPC-504
### Plant Virology

**Time: Three Hours** **Full Marks: 50**

*Questions are of value as indicated in the margin*

**Answer *any five* questions**

1. What are the external and internal symptoms caused by plant virus? What is the inclusion body in virus infected plant and how does it help to detect plant viruses. 5+5=10

2. Differentiate between (any four): 2.5×4=10
   a) Viroids and satellite virus
   b) Geminivirus and Reovirus
   c) Local and systemic virus infection
   d) Nepo and Netu viruses
   e) Short distance and long distance plant virus movement

3. What is the mode of transmission of plant viruses? Write the difference between non-persistent and persistent mode of virus transmission. Explain bimodal and dependent transmission with examples. 2+3+5=10

4. Enumerate different advanced techniques for detection of plant viruses. Explain the virus vector relationship in membracids and fungi vectors. 4+6=10

5. What are the composition of plant viruses? Give two examples from each of the icosahedral, rod, helical, bacilliform and enveloped virus particle. 5+5=10

6. Define virus. Write in brief about the origin of plant viruses. What are the bases of plant virus classification and name some important taxons with examples. 2+3+5=10

7. Write a brief note on the architecture of RNA plant viruses with suitable examples. 10

8. Write short notes (any four): 2.5×4=10
   a) Genetically modified (GM) crop in relation to plant virus disease resistance.
   b) Design a strategy for controlling insect borne viral diseases in crop plants.
   c) M.W. Beijerinck
   d) Prions
   e) Bacteriophages
   f) Management of plant viruses based on cultural practices.

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