Mention plant virus shapes with an example for each shape?

 Fill thefollowing blank with the appropriate words.

1. Protein forms a protective --------------- around the nucleic acid in a virus. Individual protein subunits are called as ---------.
2. There are two types of plant virus transmission ----------and----------------.
3. Nematode vectors transmit viruses by feeding on --------- of infected plants for example--------------.
4. In plant virus taxonomy, last word of a species is ---------, and the suffix (ending) for a family, it is ----------.
5. Rate of Systemic Movement in plant virus depend on 1- ---------- 2------------.

 Explain the insects have important roles for virus transmission

 A- Why only a small portion (1–30%) of seeds derived from virus-infected plants able to

 Transmit the virus?

 B- Write the methods plant virus movements?

: **Numerate the following.**

1. basic properties of viruses. 1-2-3
2. Types of plant viral nucleic acid.
3. Characteristic of mycoplasma.
4. viral protein function

  ***a- Mention the plant virus characteristics***

 ***b- Write Criteria that do appear to distinguish all viruses from all cells.***

**:a- Define the following.**

 **1-capsid 2- Chlamydia 3-stylet- borne viruses 4-inclusion body 5- cross protection**

**Numerate the following**

1-Families of viroid with example 2-plant virus shape3- Methods of plant virus control 4-five plant virus symptoms'  a- **write true or false for each sentence below.**

1. Serological procedures are based on the interaction between proteins (termed the antigen) in the pathogen with antibody raised against them in a vertebrate.
2. Plasmids are autonomous extra chromosomal genetic elements found in many kinds of bacteria. They consist of closed circular DNA
3. Viroid symptoms are stunting, mottling, leaf distortion and blight.
4. Viruses move long distances through the plant vascular tissue such as phloem, plasmodesmata and xylem
5. Viruses generally cannot be viewed and detected by the methods used for other pathogens. Cell inclusions consisting of virus particles, however, are visible by naked eyes.

**b- explain plant virus seed transmission**

**1*-what is the virus purified and purpose for purification***

 ***2- Which criteria are used for plant virus classification?***

1. The three major characteristic of Chlamydiae are………
2. Viruses cause disease not by consuming cells or killing them with toxins, but by……….

 3- There are several criteria that do not distinguish all viruses from all cell .only three

1. Enumerate basic properties of viruses. 1-2-3
2. Each plant virus consists of at least a ----------- and a ---------. and some of them contain --------- or membrane lipids..
3. Plant viruses come in different ---------------------and -----------------------. Nearly half of them are --------------------------and almost as many are -------------------.
4. The methods plant virus movements are.
5. Did proteins of virus important component for viruses ,why
6. Correct the below sentences
7. Protein forms a protective coat (capsomer) around the nucleic acid in a virus. Plant

viruses have different kind of protein. Individual protein subunits are called as capsids.

 b- Nematode vectors transmit viruses by feeding on leaves of infected plants and then

 moving in to roots of healthy plants.

10- Explain the insects have important roles for virus transmission .