1. Pkr activity shuts down: (1)
   a) cap recognition
   b) translational elongation
   c) translational termination
   d) translational initiation
   e) GTP binding by eIF2α

2. Bacteriophage have ________ virion morphologies (1)
   a) helical
   b) icosahedral
   c) filamentous
   d) all of the above

3. Why is phage therapy so attractive? (1)
   a) antibiotic resistant bacteria
   b) It has been well tested on humans
   c) It is more specific than antibiotics
   d) It not harmful to non-bacterial cells
   e) It is cheaper than antibiotics

4. What is the normal % of infectious particles for HIV-1 (1)
   a) 100%
   b) 10%
   c) 5%
   d) 1%
   e) 0.1%

5. Describe one technique used with lentiviral vectors to reduce the risk of infecting the incorrect cell. (2)

6. Why is ATP hydrolysis not needed during T4- phage tail contraction? (2)

7. Describe one advantage and one disadvantage to making viral proteins from a polyprotein. (2)