



Department of Biosciences and Bioengineering
Indian Institute of Technology Guwahati
Guwahati 781039 Assam, India

Course: BT-616 Molecular Virology (Quiz)
Total marks-20

Date: 25/03/2025
Total time: 60mins

(All carry equal marks)

1. Scientists discovered that the influenza virus has shown antimalarial activity. Considering the biology of the Malaria parasite towards the RBC, discuss the hypothesis of the antimalarial activity of the influenza virus. How do we prove it experimentally?
2. Non-structural protein of the Japanese encephalitis virus is known to migrate to the nucleus and modulate the expression of the hexokinase gene. How can this phenomenon affect the infected host, and how can we prove this phenomenon experimentally?
3. Discuss the ribosome heterogeneity using a rabies virus transcript. How to prove it using an experimental tools.
4. A) How to prove the copy choice phenomenon in HIV experimentally.
B) How can we make a Rous sarcoma virus non-oncogenic?
5. A) Why can the hepatitis B virus (HBV) RT enzyme not cleave the complete viral RNA inside the capsid?
B) How can the HBV genome be proven to be gapped?