

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023  
(Second Semester)

Branch – APPLIED MICROBIOLOGY

**VIROLOGY & PARASITOLOGY / APPLIED VIROLOGY**

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 Which of the following individuals discovered viruses?  
(i) John Ellerman (ii) Frederic Twort  
(iii) Martinus Beijerinck (iv) Dimitry Ivonsky
- 2 Which of the following plant virus has DNA in it?  
(i) Cauliflower Mosaic virus (ii) Tobacco Mosaic virus  
(iii) Potato Mosaic virus (iv) Tomato Mosaic virus
- 3 Which of the following is single stranded RNA phage?  
(i) M13 (ii) G viruses (iii) M12 (iv) T-even Phages
- 4 When parasitic protozoa parasitize other protozoan is known as -----?  
(i) Parasitism (ii) Mutualism  
(iii) Hyperparasitism (iv) Hypoparasitism
- 5 Which of the following is the mode of transmission for *Schistosoma mansoni*?  
(i) Mucous (ii) Intestine (iii) Blood (iv) Skin

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Draw the process flow of viral pathogenesis with respect to Orthomyxo virus.  
OR  
b Give the process flow of Viral vaccination development with neat diagram.
- 7 a Write a short note on Brome Mosaic viruses.  
OR  
b Differentiate satellite viruses and Satellite RNA.
- 8 a Write a short note on general classification system of bacteriophages.  
OR  
b Draw the structural organization of bacteriophage with respect to T4 phage.
- 9 a State the infection and presentation status of *Balantidium coli* in human being.  
OR  
b Sketch the life cycle process of infectious and diagnostic stages of Leishmaniasis.
- 10 a Explain the embryonic and developmental stages of Fascioliasis.  
OR  
b Illustrate, How houseflies mediate the diseases causing agents to human from other hosts.

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Apprise the SARS – COVID infections, treatment and other precautions with any case studies.  
OR  
b Discuss in detail on Hepatitis B virus infections, disease development and treatment with any specific case studies.
- 12 a Differentiate the structural and genetic organization of TMV and Pea Mosaic Virus.  
OR  
b Compare the infectious stages of Sub viral pathogens with Viroids with respect to specific components.
- 13 a Illustrate the  $\Phi$ X174 infection and its multiplication in host cell with neat diagram.  
OR  
b Discuss in details about Lamba ( $\lambda$ ) phage infection and life cycle with neat representation.
- 14 a Summarize the structural organization, infection and its multiplication of Cryptosporidium.  
OR  
b Outline the morphology, infection and symptoms of Toxoplasmosis.
- 15 a Elucidate the transmission, infection and life cycle of lung disease causing agent with respect to Paragonimus.  
OR  
b Outline the infection and transmission of tape worm in intestine with neat diagram.

Z-Z-Z

END