

Seat No. _____

Enrollment No. _____

THE CHARUTAR VIDYA MANDAL UNIVERSITY
BACHELOR OF PHYSIOTHERAPY – SEMESTER 3
APRIL 2026 (REGULAR) EXAMINATION

Course Title: Microbiology

Course Code: BPT- 117

Total Printed Pages: 04

Date: 08/04/2026

Time: 10:00 AM To 01:00 PM

Maximum Marks: 80

Instructions:

1. There are total 4 Questions given in this paper.
2. All the answer should be written in the answer book.
3. Marks on the right side suggest the total marks of that question.
4. Draw the figure where necessary.

Q.1. Multiple Choice Questions: (MCQs) (15 × 1 = 15)

1. Which term refers to a disease constantly present in worldwide?
 - a) Epidemic
 - b) Pandemic
 - c) Endemic
 - d) Sporadic
2. Which disinfectant is most widely used in swimming pools?
 - a) Chlorine
 - b) Phenol
 - c) Alcohol
 - d) Iodine
3. Which of the following antibody can cross placenta?
 - a) IgG
 - b) IgM
 - c) IgA
 - d) IgE
4. A patient shows allergic reaction to pollen. This is an example of:
 - a) Type I hypersensitivity
 - b) Type II hypersensitivity
 - c) Type III hypersensitivity
 - d) Type IV hypersensitivity

5. A 40-year-old male presents with persistent cough, hemoptysis, weight loss, and night sweats. Sputum smear shows acid-fast bacilli. Which staining technique is used to identify this organism?
- Gram's staining
 - Zeil- Neelson Staining
 - Albert staining
 - India Ink staining
6. Which of the following organism is responsible for tetanus?
- M.tuberculosis
 - S.aureus
 - Clostridium tetani
 - Clostridium perfringens
7. Viruses require which of the following for replication?
- Culture media
 - Oxygen
 - Living host cell
 - Enzymes in water
8. KOH mount is used for the detection of _____.
- Virus
 - Bacteria
 - Protozoa
 - Fungi
9. Which is the most common source of hospital-acquired infections?
- Air
 - Healthcare worker's hand
 - Water
 - Food
10. Why midstream urine is collected?
- To increase volume
 - To preserve color
 - To avoid contamination
 - To reduce odor

11. Which method is more suitable for sterilizing heat-sensitive materials?

- a) Autoclaving
- b) Boiling
- c) Hot air oven
- d) Filtration

12. A 12-year-old child presents with itchy, circular, red lesions on the arm with clear center and raised margins. The child has a history of playing with stray animals. What is the most likely diagnosis?

- a) Candidiasis
- b) Ringworm (Tinea Corporis)
- c) Psoriasis
- d) Eczema

13. Which media is used in antimicrobial susceptibility test ?

- a) Nutrient agar
- b) EMB agar
- c) Muller Hilton agar
- d) MacConkey's agar

14. A patient with HIV develops tuberculosis due to weakened immunity. This type of infection is known as _____.

- a) Opportunistic infection
- b) Primary infection
- c) Nosocomial infection
- d) Zoonotic infection

15. Which is the intermediate host of malaria parasite?

- a) Human
- b) Mosquito
- c) Pig
- d) Cattle

Q. 2. Short answers (5 out of 7) (Answer not exceeding 50 words) (5 × 2 = 10)

- a. Define Normal Flora and name any two organisms which are present in human body as normal flora.
- b. What are the morphological characters of *Helicobacter pylori*?
- c. What is Dimorphic Fungi? Give any two examples of dimorphic fungi.
- d. Draw and label the structure of enveloped virus.
- e. What are the risk factors associated with Rheumatic Heart Diseases?
- f. Define Innate and Adaptive Immunity.
- g. What is sterilization? Give different techniques of sterilization used in microbiology.

Q. 3. Short Notes (5 out of 6) (Answer not exceeding 150 words) (5 × 5 = 25)

- a. Give the principle, working and uses of autoclave.
- b. Explain Hypersensitivity I and II in detail.
- c. Explain the classification of viruses on the basis of their host.
- d. Define Mycology and describe classification of Fungi.
- e. Write the symptoms, transmission, potential complication and treatment of Hepatitis-B.
- f. Explain Antimicrobial Susceptibility test in detail.

Q. 4. Essay (3 out of 4) (3 × 10 = 30)

- a. Give the any four differences between Gram positive and Gram negative bacteria. Explain the Bacterial growth curve with appropriate diagram in detail.
- b. Define Antibody with its labeled structure. Explain any three types of antibody in detail.
- c. Draw and label the life cycle of malaria parasite and give the causative agent, symptoms, laboratory diagnosis and treatment of malaria.
- d. Explain the general laboratory diagnosis of fungal diseases and discuss its application in identifying and confirming fungal infections in patients.