

### **B.Sc. DEGREE EXAMINATION, NOVEMBER 2023**

### **Fifth Semester**

### Microbiology and Clinical Lab Technology

# CLINICAL BACTERIOLOGY

#### (CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A $(10 \times 2 = 20)$ 

- 1. Define Normal flora
- 2. Define Diphtheria toxin
- 3. H antigen
- 4. Haemolytic uridic syndrome
- 5. Tetanus toxoid
- 6. Give the example of Neurotoxin producing organism?
- 7. Write a Selective medium for *M.tuberculosis*
- 8. Syphilis
- 9. Walking pneumonia
- 10. NAAT

**Part B** (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain Clinical Bacteriology.

Or

- (b) Write an essay about *Streptococcusphogens*.
- 12. (a) Give a detail about Vibrio cholera.

 $\mathbf{Or}$ 

- (b) Write down the disease caused by *Salmonella typhi* in detail.
- 13. (a) Write down the diagnosis and Laboratory treatment of *Heamophilus infulenzae*.

Or

- (b) Give a short note on gas gangrene.
- 14. (a) Treponema pallidum explain its characteristic, pathogenicity, diagnosis and treatment.

Or

- (b) Explain in detail about *Mycobacterium tuberculosis*.
- 15. (a) Give a detail about *Mycoplasma*.

Or

(b) Write about the *Chlamydiae trachomatis*.

 $\mathbf{2}$ 

**Part C**  $(3 \times 10 = 30)$ 

Answer any **three** questions.

- 16. Write a detail on characteristics, epidemiology, pathogenicity, laboratory diagnosis and treatment of *Corynebacterium diphtheria*.
- 17. Give an account on epidemiology, pathogenicity, laboratory diagnosis and treatment *Neisseria* gonorrhoeae.
- 18. Describe the disease caused by *Clostridium tetani*.
- 19. Discuss in brief the Pathogenesis of <u>M.lepreae</u> and mention the diagnostics methods.
- 20. Elaborate the infection caused by Mycoplasma.

3



# **B.Sc. DEGREE EXAMINATION, NOVEMBER 2023**

# **Fifth Semester**

# Microbiology and Clinical Lab Technology

### VIROLOGY

## (CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A  $(10 \times 2 = 20)$ 

- 1. Envelope
- 2. ICTV
- 3. Burst Size
- 4. Mosaic pattern
- 5. Mono culture
- 6. Inclusion bodies
- 7. Plaque assay
- 8. Haemagglutination
- 9. Flavivirus
- 10. Prions

**Part B** (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write an account on viral capsids with suitable example.

Or

- (b) Draw and explain about structure of Influenza virus.
- 12. (a) Illustrate in brief about various stages involved in lysogenic life cycle of bacteriophages.

Or

- (b) Add a note on the Life cycle of CMV.
- 13. (a) How could you cultivate viruses in embryonated eggs?

Or

- (b) What do you mean by cytopathic effect?
- 14. (a) Discuss in brief about end point dilution assay.

Or

- (b) Why we need to measure viral enzyme activity?
- 15. (a) Discuss in short about pathogenesis and treatment of rabbies virus.

Or

(b) Give an account on treatment and prevention of AIDS.

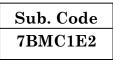
 $\mathbf{2}$ 

**Part C** (3 × 10 = 30)

Answer any **three** questions.

- 16. Briefly explain about any one viral classification.
- 17. Critically comment on structure and life cycle of TH bacteriophage.
- 18. Narrate in detail the importance of viral cultivation in Laboratory animals.
- 19. Describe in detail about working principle and applications of Election microscope.
- 20. State out the causative agent, symptoms, pathogenesis and prevention of Hepatitis B virus.

3



### **B.Sc. DEGREE EXAMINATION, NOVEMBER 2023**

### Fifth Semester

Microbiology and Clinical Lab Technology

# **Elective - MOLECULAR BASED DIAGNOSTICS**

#### (CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A  $(10 \times 2 = 20)$ 

- 1. Taq DNA polymerase
- 2. Define RT PCR
- 3. RNA
- 4. Autoradiography
- 5. Dot blotting
- 6. Primer
- 7. DNA sequencing
- 8. Microarray
- 9. <u>Mycobacterium tuberculosis</u>
- 10. Malaria Vaccine

#### Part B

 $(5 \times 5 = 25)$ 

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain in brief the RT - PCR.

Or

- (b) Summarize the applications of PCR.
- 12. (a) Give an account on plasmid DNA isolation.

 $\mathbf{Or}$ 

- (b) Explain Autoradiography.
- 13. (a) Give a short note on Next generation sequencing.

Or

- (b) Analyze the role of primer walking.
- 14. (a) List out the types of microarray.

 $\mathbf{Or}$ 

- (b) Write in brief about fluorescence insitu hybridization.
- 15. (a) Discuss in short the cystic fibrosis.

Or

(b) Infer the diagnosis of sickle cell anemia.

**Part C**  $(3 \times 10 = 30)$ 

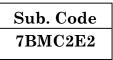
Answer any three questions.

- 16. Elaborate the types of polymerase chain Reaction.
- 17. Discuss the principle and application of southern blotting.

2

- 18. Illustrate Maxam and Gillbert technique for DNA Sequencing.
- 19. Explain the molecular based diagnostic technique of RAPD.
- 20. Write in detail the diagnosis of Tuberculosis.

3



### **B.Sc DEGREE EXAMINATION, NOVEMBER 2023**

### **Fifth Semester**

# Microbiology and Clinical Lab Technology

# **Elective: HAEMATOLOGY**

### (CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A $(10 \times 2 = 20)$ 

- 1. RBC
- 2. Leucopoiesis
- 3. Intrinsic pathway
- 4. Coagulation factor
- 5. Prothrombin time
- 6. FDP
- 7. PCV
- 8. Folic acid
- 9. Sickle anemia
- 10. Trypanosomiasis

# **Part B** (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

 (a) Give a brief note on Haemopoietic system of the body.

Or

- (b) Write short note on anticoagulants.
- 12. (a) Explain the coagulation factor.

Or

- (b) Comment on Extrinsic pathway.
- 13. (a) Describe the activated partial thromboplastin time.

Or

- (b) Explain the coagulation tests and its uses.
- 14. (a) Give a note on Folic acid.

Or

- (b) Describe ESR analysis.
- 15. (a) Explain Heinz body preparation.

#### Or

(b) Give a note on Lupus Erythematosus cell preparation.

2	F-0359

7

### **Part C** $(3 \times 10 = 30)$

Answer any **three** questions.

- 16. Give a detailed note on composition of blood and its functions.
- 17. Describe the intrinsic pathway of blood.
- 18. Describe the basic test required for bleeding disorders.
- 19. Give a brief account on the types of anaemia.
- 20. Explain the principle, procedure and diagnostic test for Malaria.

3