

APRIL 2001

[KD 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I AND
PARASITOLOGY AND ENTOMOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Name the various methods of staining Bacteria. Describe in detail the Ziehl-Neelsons Technique. (25)
 2. Describe the methods of collection and processing of a sample of urine from a patient with urinary tract infection. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Bacterial filters.
 - (b) Ankylostoma Duodenale ova.
 - (c) Enrichment medium.
 - (d) Bacterial flagella.
 - (e) Anaerobic culture.
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APRIL 2003

[KI 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I AND
PARASITOLOGY AND ENTOMOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Define Antigen-Antibody Reaction. Enumerate the various types of Antigen-Antibody reactions. Write briefly about ELISA technique. (25)
 2. Describe the morphology, cultural characters and laboratory diagnosis of Enteric fever pathogens. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Anaerobic culture
 - (b) Cyclops
 - (c) Bacterial spores
 - (d) Autoclave
 - (e) *Ascaris Lumbricoides*.
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AUGUST 2004

[KL 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I, PARASITOLOGY
AND ENTOMOLOGY**

Time : Three hours Maximum : 100 marks

**Sec. A & B : Two hours and Sec. A & B : 80 marks
forty minutes**

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in SAME Answer Book.

Answer Section C in the Answer Sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. (a) Define Antigen–Antibody reaction. (2)
- (b) What is precipitation reaction? (5)
- (c) What are the applications of precipitation reaction in microbiology laboratory? (8)
2. (a) Classify various types of culture media. (3)
- (b) What is anerobic culture. (3)
- (c) Describe the specimen collection, specimen transport for anaerobic culture and various anaerobic culture methods. (9)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :
 - (a) Entamoeba histolytica
 - (b) Cyclops
 - (c) Incubator
 - (d) Blood smear examination for haemoparasites
 - (e) Egg of Enterobius vermicularis
 - (f) Hook worm infection
 - (g) Trichomonas vaginalis
 - (h) Human body louse
 - (i) Female mosquito
 - (j) Stool examination.

FEBRUARY 2005

[KM 878]

Sub. Code : 5019

B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.

Second Year

Paper IV — MICROBIOLOGY — I, PARASITOLOGY
AND ENTOMOLOGY

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and Sec. A & B : 80 marks
forty minutes

Section C : Twenty minutes Section C : 20 marks

Answer Sections A and B in the **SAME** Answer Book.

Answer Section C in the answer sheet provided.

SECTION A — (2 × 15 = 30 marks)

1. Describe the morphology, cultural characters and laboratory diagnosis of bacteria causing acute watery diarrhoea. (15)
2. Mention the malarial parasites. Write briefly about the life cycle of plasmodium falciparum. (15)

SECTION B — (10 × 5 = 50 marks)

3. Write short notes on :
 - (a) Cyclops.
 - (b) Entamoeba Histolytica.
 - (c) Thayer Martin Media.
 - (d) Sand fly.
 - (e) Carriers.
 - (f) Hanging drop preparation.
 - (g) Haemagglutination Reaction.
 - (h) Type IV hypersensitivity.
 - (i) Zoonotic infection.
 - (j) Relapsing fever.

AUGUST 2005

[KN 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I
PARASITOLOGY AND ENTOMOLOGY**

Time : Three hours Maximum : 100 marks

**Sec. A & B : Two hours and Sec. A & B : 80 marks
forty minutes**

Sec. C : Twenty minutes Sec. C : 20 marks

Answer Sections A and B in the SAME Answer Book.

Answer Section C in the Answer Sheet provided.

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

- 1. Define Immunity. Classify immunity write in detail about active immunity. (15)**
- 2. Enumerate intestinal nematodes. Describe the lifecycle pathogenicity and laboratory diagnosis of ascaris lumbricoides. (15)**

SECTION B — (10 × 5 = 50 marks)

- 3. Short notes on :**
 - (a) NIH swab.**
 - (b) Immunoglobulin G**
 - (c) Gram's stain**
 - (d) Cyclops.**
 - (e) Flagella.**
 - (f) Anaphylaxis.**
 - (g) Counter Immune electrophoresis.**
 - (h) Radio Immune Assay.**
 - (i) Transport media**
 - (j) Serum sickness.**

AUGUST 2006

[KP 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I, PARASITOLOGY
AND ENTOMOLOGY**

Time : Three hours Maximum : 100 marks

**Descriptive : Two hours and Descriptive: 80 marks
forty minutes**

Objective : Twenty minutes Objective : 20 marks

Answer ALL questions.

Write essays on :

1. List the species of malarial parasite, write in detail the lifecycle of plasmodium falciparum. Briefly mention the complications produced by plasmodium falciparum. (20)

2. What are the common causative organisms of urinary tract infections? How will you collect the urine and investigate a case of urinary infection in the laboratory? (15)

3. Enlist blood and tissue protozoa. Describe morphology, pathogenicity and laboratory diagnosis of Leishmania donovani. (15)

4. Write short notes : (6 × 5 = 30)

- (a) Microfilaria
 - (b) Agglutination reaction
 - (c) Enriched media
 - (d) Ascariasis
 - (e) Incubator
 - (f) Congenital Toxoplasmosis
-

AUGUST 2007

[KR 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY – I, PARASITOLOGY
AND ENTOMOLOGY**

Time : Three hours Maximum : 100 marks

**Descriptive : Two hours and Descriptive : 80 marks
forty minutes**

Objective : Twenty minutes Objective : 20 marks

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

**(1) List the Antigen – Antibody reactions
invitro. Discuss in detail the agglutination test.**

(5 + 10 = 15)

**(2) Describe the morphology ; life cycle and
laboratory diagnosis of leishmania donovani.**

(3 + 6 + 6 = 15)

II. Short notes :

(10 × 5 = 50)

- (a) Giardia lamblia**
- (b) Egg of enterobius vermicularis**
- (c) Hot air oven**
- (d) Cyclops**
- (e) Triple sugar iron Agar**
- (f) ELISA**
- (g) Serum sickness**
- (h) Immunoglobulin - M**
- (i) Zoonotic diseases**
- (j) Insect vectors.**

August-2008

[KT 878]

Sub. Code : 5019

**B.Sc. (Medical Laboratory Technology) DEGREE
EXAMINATION.**

Second Year

**Paper IV — MICROBIOLOGY — I, PARASITOLOGY
AND ENTOMOLOGY**

Q.P. Code : 725019

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

(1) Describe in detail about the malarial parasites and laboratory diagnosis of malaria. (15)

(2) Name the different types of media. Explain their uses with suitable examples. (15)

II. Write Short notes on : (10 × 5 = 50)

(1) Robert Koch.

(2) Flagella.

(3) Bacterial nutrition.

- (4) Radiation in sterilisation.
- (5) Bacteriophage.
- (6) BCG vaccine.
- (7) Passive agglutination tests.
- (8) Immunoglobulins.
- (9) Coomb's tests.
- (10) Hydatid cyst.

III. Short answer questions. (10 × 2 = 20)

- (1) Name two infections transmitted by housefly.
- (2) Name the vector which transmits Kalaazar. How is it diagnosed?
- (3) Name two infections caused by mosquito.
- (4) Name the infections caused by Reduvid bug and Tsetse fly.
- (5) Name two infections caused by Ticks.
- (6) What is the causative agent of primary amoebic meningo encephalitis?
- (7) Name two coccidian parasites.

(8) Name two laboratory diagnostic methods of diagnosing *Toxoplasma gondii*.

(9) Name the four species of plasmodium.

(10) What is the infection caused by *Balantidium coli*? How is it diagnosed?

August - 2009

[KV 878]

Sub. Code: 5019

B.Sc. (Medical Laboratory Technology) DEGREE EXAMINATION

SECOND YEAR

**Paper IV – MICROBIOLOGY – I, PARASITOLOGY AND
ENTOMOLOGY**

Q.P. Code : 725019

Time : Three hours

Maximum : 100 marks

Answer All questions.

I. Essays : **(2X15=30)**

1. Define antigen antibody reaction and describe briefly agglutination reaction and its application.
2. Mention the various pathogenic helminths and write briefly about the life cycle of *Wuchereria bancrofti*.

II. Write Short Notes on : **(10X5=50)**

1. Immunochromatography.
2. Cutaneous leishmaniasis.
3. Concentration procedure for ova / cyst.
4. Lepromin test.
5. Elek's gel precipitation test.
6. Delayed hypersensitivity.
7. LJ medium.
8. Hot air oven.
9. Vectors.
10. Gram staining.

III. Short Answer Questions: **(10X2=20)**

1. Name two instruments commonly used for sterilization.
2. Name four chemical disinfectants.
3. Name four methods of sterilization.
4. Name two staining methods commonly used in mycology.
5. Name four different types of culture media and give suitable example for each.
6. Name four anaerobic culture methods.
7. What are the different types of bacteria based on oxygen requirement?
8. Name the different types of immunoglobulin and the functions of each.
9. Differentiate active and passive immunity.
10. Expand VDRL and ELISA.

[KX 878]

AUGUST 2010

Sub. Code: 5019

**B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION
SECOND YEAR**

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Essays: (3 x 10 = 30)

1. Describe the structure of Immunoglobulin G (IgG). Write about Immuno fluorescence.
2. Describe the morphology, life cycle and laboratory diagnosis of Hook worm.

II. Write Short Notes on : (10 x 5 = 50)

1. Cysticercosis.
2. Aedes aegypti.
3. House fly.
4. Western blot.
5. Latex agglutination test.
6. Water bath.
7. Radio immuno assay.
8. Cyclops.
9. Robertsons cooked meat medium.
10. Blood culture.

III. Short Answer Questions: (10 x 2 = 20)

1. Lactophenol cotton blue staining.
2. Blood agar medium.
3. M leprae staining.
4. Biological control.
5. Cardio lipin antigen.
6. Black water fever.
7. Amoebic liver abscess.
8. Causative agent of Kala azar.
9. Diagnosis of Enterobias vermicularis
10. Anemia causing parasite.

[KZ 0811]

AUGUST 2011

Sub. Code: 5019

**B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION
SECOND YEAR**

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the different methods of antigen antibody-reaction.
Write about the Principle of ELISA and its Applications.
2. Name the various types of bacterial culture medium and write about the preparation of LJ Medium.
3. Describe the various stages in malaria parasite life cycle.
Write in detail about the life cycle of Plasmodium falciparum.

II. Write notes on:

(8 x 5 = 40)

1. Electron Microscope.
2. Sand fly.
3. Anaerobic culture method.
4. Detection of microfilaria and malarial parasite in blood.
5. Differences between Tick and Flea.
6. Draw and label the parts of Cyclops.
7. Describe various staining method and write in detail about Ziel Nelson Staining.
8. Stool concentration Technique.

III. Short Answers on:

(10 x 3 = 30)

1. Write about chemical sterilization.
2. Name two disease transmitted by ticks.
3. Collection and identification of pathogens in urine sample.
4. Preparation of monoclonal antibody.
5. Coagulase test.
6. Widal Test.
7. Gram's Staining.
8. Distinguish disinfectant and sterilization.
9. Name the types of Microscope.
10. Direct demonstration of M. tuberculosis in sputum.

[LA 0212]

FEBRUARY 2012

Sub. Code: 5016

**B.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION
SECOND YEAR**

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Describe the morphology, cultural characteristics and laboratory diagnosis of bacteria causing urinary tract infection.
2. Name the various types of Microscopes and its principle and an applications.
3. Write in detail about the life cycle of Plasmodium vivax and its laboratory diagnosis.

II. Write notes on:

(8 x 5 = 40)

1. Detection of microfilaria and malarial parasite in blood.
2. Write about Ticks and Fleas.
3. Mode of spread of tuberculosis.
4. Write about antibiotics.
5. Laboratory techniques on stool concentration.
6. Morphology of egg of Trichuris trichura.
7. Cyst of Giardia lamblia.
8. Mode of transmission and laboratory diagnosis of HIV.

III. Short Answers on:

(10 x 3 = 30)

1. Sterilization.
2. Name two diseases transmitted by mosquito.
3. Identification of M.tuberculosis in sputum sample.
4. Preparation of Lowenstein Jensen Media (L J Medium).
5. VDRL.
6. Gram's Staining.
7. Distinguish disinfectant and antiseptic.
8. Draw and label the parts of dark field Microscope.
9. Stages in life cycle of malarial parasite.
10. Laboratory diagnosis of leptospirosis.

[LB 0212]

AUGUST 2012

Sub. Code: 5019

**B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR**

PAPER IV – MICROBIOLOGY-I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time : Three hours

Maximum : 100 marks

(180 Mins) Answer ALL questions in the same order.

I. Elaborate on:

**Pages Time Marks
(Max.)(Max.)(Max.)**

- | | | | |
|--|---|----|----|
| 1. Explain in detail about Hypersensitivity and describe type IV hypersensitivity. | 7 | 20 | 10 |
| 2. Name the various types of Microscopes and write in detail about the principle of Electron microscope. | 7 | 20 | 10 |
| 3. Write about intestinal parasite. Describe the life cycle, pathogenicity and laboratory diagnosis of ascaris lumbricoides. | 7 | 20 | 10 |

II. Write notes on:

- | | | | |
|--|---|----|---|
| 1. Role of Arthropods in the transmission of diseases. | 4 | 10 | 5 |
| 2. Types of mosquito control. | 4 | 10 | 5 |
| 3. Transmission and laboratory diagnosis of leptospirosis. | 4 | 10 | 5 |
| 4. Laboratory diagnosis of HIV. | 4 | 10 | 5 |
| 5. Staining of M. tuberculosis. | 4 | 10 | 5 |
| 6. Toxins. | 4 | 10 | 5 |
| 7. Flagella. | 4 | 10 | 5 |
| 8. Treponema pallidum. | 4 | 10 | 5 |

III. Short Answer on:

- | | | | |
|---------------------------|---|---|---|
| 1. Hanging drop method. | 2 | 4 | 3 |
| 2. Entamoeba Histolytica. | 2 | 4 | 3 |
| 3. Anaerobic culture. | 2 | 4 | 3 |
| 4. Special staining. | 2 | 4 | 3 |
| 5. Sterilization. | 2 | 4 | 3 |
| 6. Enrichment media. | 2 | 4 | 3 |
| 7. House fly. | 2 | 4 | 3 |
| 8. ELISA. | 2 | 4 | 3 |
| 9. Vaccine. | 2 | 4 | 3 |
| 10. H1N1 virus. | 2 | 4 | 3 |

[LC 0212]

FEBRUARY2013

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY-I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time : Three hours

Maximum : 100 marks

I. Elaborate on:

3X10=30

1. Classify hypersensitivity. Explain in detail about the Type-I hypersensitivity.
2. Life cycle, pathogenesis, lab diagnosis of *Entamoeba histolytica*.
3. Classify precipitation reaction and write a note on counter immune-electrophoresis.

II. Write Notes on:

8X5=40

1. Koch postulate.
2. Blood culture.
3. Hookworm infestation
4. Pubic louse
5. Albert's stain
6. Name any 5 Parasites causing anaemia
7. Immunoglobulin G
8. Formaldehyde gas

III. Short Answers on:

10X3=30

1. Ziehl-neelsen's technique
2. Tuberculin skin test
3. Sterilisation of glasswares.
4. Coombs test
5. Sand fly
6. Thin blood film preparation
7. Name any 3 parasitic infections associated with AIDS
8. Preparation of carbol fuchsin.
9. Structure of gram negative cell wall
10. Durham's tube

[LD 0212]

AUGUST 2013

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV –MICROBIOLOGY –I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time: Three hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Morphology , pathogenesis and lab diagnosis of *Vibrio cholerae*.
2. Life cycle , pathogenesis, lab diagnosis of *plasmodium falciparum*.
3. Classify precipitation reaction and write a note on counter immune-electrophoresis.

II WRITE NOTES ON

(8 x 5 = 40)

1. Koch postulate.
2. Bacterial flagella.
3. Lifecycle of roundworm
4. *Microfilaria*
5. Giemsa stain
6. Enrichment media
7. Name any 5 Parasites causing anaemia
8. Immunoglobulin G

III SHORT ANSWERS ON

(10 x 3 = 30)

1. IMVIC reaction
2. Ziehl-neelsen's technique
3. Quellung reaction
4. Iodine mount
5. NIH swab.
6. Coombs test
7. Sand fly
8. Polymerase Chain Reaction (PCR)
9. Thin blood film preparation
10. Name any 3 parasitic infections associated with AIDS

[LE 0212]

FEBRUARY 2014

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV –MICROBIOLOGY –I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time: Three hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. List the parts of a light microscope and explain their functions.
2. Explain the techniques used for Diagnosis of intestinal parasites.
3. Which is the causative agent for typhoid? Explain the pathogenicity and laboratory diagnosis of it..

II. WRITE NOTES ON:

(8 x 5 = 40)

1. Define basic dyes and acid dyes with examples.
2. Immunoglobulin M
3. What are the advantages and disadvantages of phase contrast microscope and dark field microscope.
4. Distinguish between fimbriae and sex pili
5. Write a short note on endospore and give example for each types.
6. Write a brief note on mode of transmission of parasites.
7. Explain the life cycle of Malarial parasite
8. Explain the diagnosis of Giardia lamblia

III. SHORT ANSWERS ON:

(10 x 3 = 30)

1. Define chemotaxis
2. What is sporogenesis and DPA
3. HEPA filter.
4. Name the materials that are sterilized by radiation sterilization.
5. Define intermediate and definitive host.
6. Name the organisms used for Quality control in autoclave and hot air oven
7. Define Pasteurization
8. Give two examples for acid fast parasites.
9. What is Cysticercus?
10. Explain the Freeze-Etching technique

[LF 0212]

AUGUST 2014

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time: Three hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Morphology, pathogenesis and lab diagnosis of staphylococcus aureus.
2. Life cycle, pathogenesis, lab diagnosis of plasmodium falciparum.
3. Classify precipitation reaction and write a note on coomb's test.

II. Write notes on:

(8 x 5 = 40)

1. Koch postulates.
2. Bacterial flagella.
3. Universal biosafety precautions.
4. Microfilaria.
5. Viable count.
6. Viridians group of streptococci.
7. Name any 5 Parasites causing anaemia.
8. Immunoglobulin G.

III. Short answers on:

(10 x 3 = 30)

1. NIH swab.
2. Ziehl-neelsen's technique.
3. Quellung reaction.
4. Iodine mount.
5. IMVIC reaction.
6. Citrate utilization test.
7. Sand fly.
8. Polymerase Chain Reaction (PCR).
9. Thin blood film preparation.
10. Name any 3 parasitic infections associated with AIDS.

[LG 0215]

FEBRUARY 2015

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I, PARASITOLOGY & ENTOMOLOGY

Q.P. Code : 725019

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Define antigen antibody reaction and write a note on Agglutination reaction.
2. Name the members of Enterobacteriaceae and add a note on pathogenesis and lab diagnosis of vibrio cholera.
3. Describe the, lifecycle, pathogenesis and lab diagnosis of Ascaris lumbricoides.

II. Write notes on:

(8 x 5 = 40)

1. WIDAL test.
2. Type IV hypersensitivity reaction.
3. Conventional methods of identification of bacteria.
4. Lab diagnosis of clostridium tetani.
5. Giardia lamblia.
6. Bacterial growth curve.
7. Chemical disinfectants.
8. Lowenstein jensen's medium.

III. Short answers on:

(10 x 3 = 30)

1. Selective media.
2. Potassium tellurate blood agar.
3. Bile solubility test.
4. Bijou bottle.
5. Coagulase test.
6. Tsetse fly.
7. CAMP test.
8. Kovac's reagent.
9. Casoni test.
10. Robertson cooked meat medium.

[LH 0815]

AUGUST 2015

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Define and classify Sterilisation and write in detail about moist heat Sterilisation.
2. Pathogenesis and Lab diagnosis of Plasmodium vivax.
3. Write in detail about Electron Microscope.

II. Write notes on:

(8 x 5 = 40)

1. Gram Staining.
2. Hot air oven.
3. Entamoeba.
4. Differential Media.
5. Widal test.
6. Immunisation schedule.
7. Rideal Walker test.
8. Eggs of Ascaris.

III. Short answers on:

(10 x 3 = 30)

1. Capsulated Bacteria.
2. Gaseous disinfectant.
3. Insect vectors.
4. Pasteurisation.
5. Catalase test.
6. Kochs postulate.
7. Anaerobic Media.
8. Nagleria.
9. HEPA filters.
10. Simple stain.

[LI 0216]

FEBRUARY 2016

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Define and classify sterilisation and write in detail about Dry heat sterilisation.
2. Life cycle of Plasmodium falciparum.
3. Write in detail about fluorescent microscope.

II. Write notes on:

(8 x 5 = 40)

1. Acid fast Staining.
2. Radiation.
3. Giardia.
4. Transport Medium.
5. Lancefield classification.
6. Tetanus toxoid.
7. Chick martin test.
8. Eggs of Ascaris.

III. Short answers on:

(10 x 3 = 30)

1. Flagella.
2. Biological Indicators.
3. Insect vectors.
4. Salmonella typhi.
5. Oxidase test.
6. Anaerobic jar.
7. VDRL.
8. Epitope.
9. Special stain.
10. Tyndallisation.

**B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR**

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: (3 x 10 = 30)

1. Classify Antigen Antibody reaction. Write in detail about Agglutination and its types. Add a note on its clinical application with few examples.
2. What is Bacterial Genetics? Classify Genetics. Write in detail about Bacterial Conjugation.
3. Describe in detail about the life cycle, clinical features and Lab diagnosis of Filarial worms. Add a note on morphological differences of Filarial worms.

II. Write notes on: (8 x 5 = 40)

1. Louis Pasteur.
2. Mycobacterial cell wall.
3. Hot Air Oven.
4. Aerobic culture methods.
5. IgM.
6. *Ascaris lumbricoides*.
7. Stool concentration techniques.
8. Reduviid Bug.

III. Short answers on: (10 x 3 = 30)

1. IMVIC.
2. Antony Van Leuwenhock.
3. Pasturisation.
4. Carpet Method of Antibigram.
5. Transformation.
6. Mutation.
7. Opsonisation.
8. Complement classical pathway.
9. Transovarian cycle.
10. Psetse fly.

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Classify Plasmodium Parasites. Explain in Detail about Life cycle, pathogenesis, Clinical features and Complications of Plasmodium falciparum. Add a note on Lab diagnosis.
2. Classify Sterilisation. Describe in detail about Autoclave. Add a note on types and its clinical application.
3. Classify Antigen and Antibody reaction. Describe in detail about Precipitation and its applications.

II. Write notes on: **(8 x 5 = 40)**

1. Bacterial cell wall.
2. Robert Koch.
3. Indole.
4. Agglutination.
5. Anti microbial sensitivity.
6. MHC.
7. Flagella.
8. Filarial worms.

III. Short answers on: **(10 x 3 = 30)**

1. Complication of Hook worm infestation.
2. Brief life cycle of Dracunculus medinensis and lab investigation.
3. Diene's method of Culture.
4. Transport medium.
5. Enrichment medium.
6. Define Autoimmunity and give few examples.
7. Stokes method.
8. Cross infection.
9. IgM.
10. Aedes egypti.

**B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR
PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY**

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the techniques used for Diagnosis of intestinal parasites.
2. Describe the Morphology, Cultural characters and laboratory diagnosis of bacteria causing acute watery diarrhea.
3. Describe the different methods of antigen antibody-reaction. Write about the Principle of ELISA and its Applications.

II. Write notes on:

(8 x 5 = 40)

1. Morphology and Physiology of Bacteria.
2. Antibiotic Susceptibility testing.
3. Resolution and Magnification of Microscope.
4. Anaerobic culture.
5. Different methods of cultivation of Bacteria.
6. Collection, Transportation and processing of urine sample.
7. Acid fast Staining.
8. Koch postulate.

III. Short answers on:

(10 x 3 = 30)

1. NIH swab.
2. Biological Indicators of Autoclave
3. Insect vectors.
4. TPHA.
5. Oxidase test.
6. Anaerobic jar.
7. Zone of equivalence.
8. Epitope.
9. Capsule.
10. Tyndallisation.

**B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR**

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: (3 x 10 = 30)

1. What are the common causative organisms of urinary tract infection? How will you collect the urine and investigation a case of urinary infection in the laboratory?
2. Explain in detail about Hypersensitivity and describe type IV hypersensitivity.
3. Name the various types of bacterial culture medium and write about the preparation of LJ Medium?

II. Write notes on: (8 x 5 = 40)

1. Sample Rejection criteria for urine, pus and sputum.
2. Sources and modes of transmission of infection in nosocomial infection.
3. Virulence factors of Bacteria.
4. Immunization Schedule.
5. Autoimmune diseases.
6. ELISA.
7. Transport Medium.
8. Exempt Medium.

III. Short answers on: (10 x 3 = 30)

1. Write about chemical sterilization.
2. Name the diseases transmitted by ticks.
3. Preparation of monoclonal antibody.
4. Coagulase test.
5. Widal Test.
6. Gram's Staining.
7. Distinguish disinfectant and sterilization.
8. Name the types of Microscope.
9. Direct demonstration of M. tuberculosis in sputum.
10. Name some Spore forming bacteria.

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write in detail about the life cycle of Plasmodium vivax and its laboratory diagnosis?
2. Define Immunity. Classify immunity write in details about active immunity.
3. Name few of disease that mosquitoes act as a vector. Explain the morphology, Life cycle and pathogenesis and identification of mosquitoes.

II. Write notes on: **(8 x 5 = 40)**

1. Scotch tape test.
2. Types of motility of Bacteria.
3. Secretory antibody.
4. Radiation Sterilization.
5. Transport Medium.
6. Hydatid Cyst.
7. Autoclave.
8. Role of Arthropods in the transmission of diseases.

III. Short answers on: **(10 x 3 = 30)**

1. Thayer Martin media.
2. Zoonotic disease.
3. Relapsing Fever.
4. Serum sickness.
5. Anaphylaxis.
6. Cyclops.
7. Black water fever.
8. Triple sugar Iron Agar.
9. Albert's stain.
10. Universal biosafety precautions.

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Write in detail about fluorescent microscope.
2. Enumerate intestinal nematodes. Describe the lifecycle pathogenicity and lab diagnosis of round worm.
3. Describe the Anaerobic culture methods. Add a note on various methods of isolating organisms in pure culture.

II. Write notes on: **(8 x 5 = 40)**

1. Larva migrans.
2. Hanging drop preparation.
3. Hot air oven.
4. Blood culture.
5. Capsule staining.
6. Universal safety precaution.
7. Viable count.
8. Trophozoite and cyst form of Giardia lamblia.

III. Short answers on: **(10 x 3 = 30)**

1. Structure of Gram negative cell wall.
2. Aedes aegypti.
3. Immunoglobulin A.
4. Precipitation reaction.
5. Pasteurization.
6. Tuberculin skin test.
7. Indole test.
8. ELISA.
9. Coomb's test.
10. Difference between active and passive immunity.

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code: 725019

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Define Antigen and Antibody. Enumerate the Antigen-Antibody reactions. Write a note on opsonization.
2. Name the various methods of staining Bacteria. Describe in detail the Principle and Technique of Gram Stain with examples.
3. Define and classify sterilization. Write in detail about Moist heat sterilization.

II. Write notes on: **(8 x 5 = 40)**

1. Electron Microscope.
2. Robertson cooked meat medium.
3. Elek's Gel precipitation test.
4. Koch's Postulates.
5. Flagella.
6. Thayer Martin medium.
7. Carriers.
8. Western blot.

III. Short answers on: **(10 x 3 = 30)**

1. Quellung reaction.
2. House fly.
3. Coagulase test.
4. Blood agar.
5. What do you mean by bactericidal and bacteriostatic agents? Give examples.
6. HEPA filters.
7. Partially selective medium.
8. Controls used in autoclave.
9. Name the vector which transmits kala-azar? How is it diagnosed?
10. Oxidase test.

B.Sc. MEDICAL LABORATORY TECHNOLOGY**SECOND YEAR****PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY***Q.P. Code: 725019***Time: Three Hours****Maximum: 100 Marks****Answer all questions****I. Elaborate on:****(3 x 10 = 30)**

1. Enumerate intestinal nematodes. Describe the life cycle, pathogenicity and laboratory diagnosis of hook worm.
2. Describe the morphology, pathogenesis and lab diagnosis of *Staphylococcus aureus*.
3. Name the different types of media and explain their uses with suitable examples.

II. Write notes on:**(8 x 5 = 40)**

1. Laboratory diagnosis of malaria.
2. Adjustment of the microscope to see a wet and dry preparation. Give example.
3. Briefly discuss polymerase chain reaction and their applications in clinical practice.
4. Structure and functions of Immunoglobulin G.
5. Electron microscope –principle, types and uses.
6. Bacterial flagella –parts, arrangements and demonstration.
7. Rapid plasma regain test –principle, advantages and disadvantages.
8. Delayed hypersensitivity –pathogenicity, types with examples.

III. Short answers on:**(10 x 3 = 30)**

1. Tube coagulase test-Principle and use.
2. Catalase test.
3. Mention three vector borne diseases.
4. NIH swab.
5. Advantage and disadvantage of an iodine mount.
6. Lacto phenol cotton blue staining.
7. Tyndalisation.
8. What are the different types of bacteria based on oxygen requirement?
9. Name three spore forming bacteria.
10. Koch's postulates.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 5019

(AUGUST 2020 EXAM SESSION)

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR (From 2010-2011 onwards)

PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY

Q.P. Code : 725019

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Enumerate intestinal nematodes. Describe the life cycle, pathogenicity and laboratory diagnosis of round worm.
2. Enumerate the antigen –antibody reactions. Describe briefly the principle, procedure and interpretation of WIDAL test.
3. Define and classify sterilization. Describe in detail about principle, procedure, uses of a hot air oven. Add a note on sterilization control.

II. Write notes on:

(8 x 5 = 40)

1. Laboratory diagnosis of intestinal amoebiasis.
2. Hand hygiene – types, steps and five moments.
3. Central sterile supply department (CSSD) – workflow and processing.
4. Structure and functions of Immunoglobulin M.
5. Fluorescent microscope – principle and uses.
6. Fumigation of operation theatres.
7. Specimen collection and processing of urine sample.
8. Laboratory diagnosis of cholera.

III. Short answers on:

(10 x 3 = 30)

1. Oxidase test - principle and use.
2. Define enrichment media with two examples.
3. Mention three zoonotic parasitic diseases.
4. Entero test and its uses.
5. Inspissation – definition and uses.
6. Heat tolerance test and its uses.
7. Mention three opportunistic parasitic infections in HIV.
8. List out the waste items discarded in blue bin in biomedical waste management.
9. Vaccine for Hepatitis – B.
10. Name three personal protective equipment and their uses.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

FEBRUARY 2022
(AUGUST 2021 EXAM SESSION)

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (From 2010-2011 onwards)
PAPER IV – MICROBIOLOGY – I AND PARASITOLOGY, ENTOMOLOGY
Q.P. Code : 725019

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: **(3 x 10 = 30)**

1. Enumerate intestinal nematodes. Describe the life cycle, pathogenicity and laboratory diagnosis of filariasis.
2. Enumerate the properties and types of microscopes. Describe briefly the principle and applications of dark field microscope with a neat diagram.
3. List out the common staining techniques used in microbiology laboratory. Discuss briefly the principle, procedure and interpretation of special staining techniques.

II. Write notes on: **(8 x 5 = 40)**

1. Rapid diagnostic tests for malaria.
2. Biomedical waste – definition, categories and colour coding for biomedical waste management.
3. Demonstration of capsule.
4. Structure and functions of Immunoglobulin A.
5. Sterilization by radiation and its practical applications.
6. What are culture media? Discuss briefly the Robertson's cooked meat broth.
7. Lawn culture – preparation and uses.
8. Steps for collection of blood for blood culture.

III. Short answers on: **(10 x 3 = 30)**

1. Triple sugar iron test - Principle and uses.
2. Mention three applications of polymerase chain reaction.
3. Mention three congenitally transmitted diseases.
4. Epsilometer or E-test and its uses.
5. What is latex agglutination test? Give an example.
6. Mention three applications of immunofluorescence assay.
7. List out three applications of ELISA.
8. Mention three bile stained eggs.
9. Mention three diseases transmitted by cyclops.
10. Mention three vaccines and their types, schedule and administration.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0922]

SEPTEMBER 2022

Sub. Code: 5019

(FEBRUARY 2022 & AUGUST 2022 EXAM SESSIONS)

B.Sc. MEDICAL LABORATORY TECHNOLOGY

SECOND YEAR (Regulation from 2010-2011)

PAPER IV – MICROBIOLOGY-I & PARASITOLOGY, ENTOMOLOGY

Q.P. Code : 725019

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: **(3 x 10 = 30)**

1. Define Antigen and Antibody. Enumerate the Antigen-Antibody reactions and their uses in laboratory diagnosis with neat diagrams.
2. Name the various methods of staining of Bacteria. Describe in detail the Principle and Technique of Acid fast (Ziehl-Neelsen) staining. Add a note on Revised National Tuberculosis Control Programme (RNTCP) grading for sputum samples.
3. What is Hospital Acquired Infection? What are the sources and modes of transmission of infections and different types of samples collected to identify it?

II. Write notes on: **(8 x 5 = 40)**

1. Electron Microscope.
2. Laboratory diagnosis of Malaria.
3. Transport medium.
4. Universal safety precautions.
5. Autoclave.
6. Stool concentration techniques.
7. Chemical disinfectants.
8. Widal test – principle and interpretation.

III. Short answers on: **(10 x 3 = 30)**

1. Name three diseases transmitted by housefly.
2. Define epidemic, endemic and pandemic.
3. List three uses of ELISA.
4. Name three viruses transmitted from needle prick injuries.
5. Name three anaerobic media.
6. Name three parasites identified by peripheral blood smear examination.
7. Name three bacteria with capsule.
8. Koch postulates.
9. List three uses of Grams stain.
10. Entamoeba histolytica.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0423]

APRIL 2023

Sub. Code: 5019

B.Sc. MEDICAL LABORATORY TECHNOLOGY
SECOND YEAR (Regulations 2010-2011 & 2018-2019 onwards)
PAPER IV – MICROBIOLOGY-I & PARASITOLOGY, ENTOMOLOGY
Q.P. Code: 725019

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: **(3 x 10 = 30)**

1. Define Hospital Acquired Infections. Describe in detail the Standard Precautions.
2. Enumerate Intestinal Nematodes. Describe the Life cycle, Clinical Features and Lab Diagnosis of *Ascaris lumbricoides*.
3. Describe in detail Bacterial Cell. Add a note on Gram's Staining.

II. Write notes on: **(8 x 5 = 40)**

1. Anaerobic Culture methods.
2. Monoclonal Antibodies.
3. Lab diagnosis of *Entamoeba histolytica*.
4. Autoclave.
5. Mechanisms of Autoimmunity.
6. Transduction.
7. Cyclops.
8. Principles and Uses of Dark Field Microscope.

III. Short answers on: **(10 x 3 = 30)**

1. Types of Acquired Immunity with examples.
2. Type I hypersensitivity Reactions with examples.
3. Name three Bile Stained Eggs.
4. Three steps in Polymerase Chain Reaction.
5. Koch's Postulates.
6. Pasteurization.
7. Name three Antigen Presenting Cells.
8. Define – Endemic, Epidemic and Pandemic.
9. Name three infections transmitted by Mosquitoes.
10. Name three Arthropod Borne diseases.
