

SECOND M.B.B.S. DEGREE EXAMINATION
Revised (Non-Semester) Regulations
Paper I – GENERAL MICROBIOLOGY, IMMUNOLOGY
AND SYSTEMIC BACTERIOLOGY
Q. P. Code : 524061

Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions : **(2 x 15 = 30)**

1. Define and classify sterilization. Write about sterilization by moist heat.
2. Mention the bacterial agents causing meningitis.
Discuss the pathogenesis and laboratory diagnosis of acute pyogenic meningitis caused by any one of them.

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

1. Atypical mycobacteria.
2. Tests for toxin production of coryne bacterium diphtheria.
3. Bacterial Virulence.
4. Gonorrhoea.
5. Immunoglobulin G.
6. Biological functions of complement.
7. Bacterial Capsule.
8. Widal test.
9. Type III Hypersensitivity.
10. Non suppurative complications of streptococci.

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

1. Name four pigments produced Bacteria.
2. Diagram of Immunoglobulin M.
3. Give four examples of enriched media.
4. Name two zoonotic bacterial diseases.
5. Tube coagulase test.
6. Name four specific serologic tests for syphilis.
7. Four differences between exotoxin and endotoxin.
8. Two liquid media to grow Mycobacteria.
9. Sattelitism.
10. Urease test.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions : **(2 x 15 = 30)**

1. Describe the morphology of the bacterial cell with the help of a neat diagram and mention the function of various appendages.
2. Name the bacteria causing sexually transmitted disease.
Discuss the laboratory diagnosis of syphilis.

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

1. Hot air oven.
2. Nocardia.
3. Non-sporing Anaerobic infection.
4. Passive immunity.
5. Mycoplasma (lab diagnosis).
6. Louis pasteur.
7. Active immunity.
8. E1 – Tor vibrios.
9. Graft versus host reactions
10. Helicobacter pylori.

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

1. Negative staining.
2. Give two examples for transport media.
3. Arthus phenomenon.
4. Nagler's reaction.
5. Cold sterilization.
6. Two uses of HLA Typing.
7. Oxidase test.
8. Name the three special species of Brucella.
9. Mantoux test.
10. X and V factors.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions : **(2 x 15 = 30)**

1. Define and classify sterilization.
Write in detail about chemical methods of sterilization.
2. Name the bacterial agents causing pyrexia of unknown origin.
Write the pathogenesis and lab diagnosis of enteric fever.

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

1. Flagella.
2. Transduction.
3. Acquired immunity.
4. Monoclonal antibodies.
5. Coagulase test.
6. Elek's gel precipitation test.
7. VDRL test.
8. Autoclave.
9. Lepromin test.
10. Weil felix test.

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

1. Pasteurisation.
2. Koch's postulates.
3. Name four selective media.
4. Plasmids.
5. Name four mechanisms of auto immunity.
6. Neufeld quelling phenomenon.
7. M¹ fadyean's reaction.
8. Name four clostridia causing gas gangrene.
9. Stalactite growth.
10. Runyons classification of atypical mycobacteria.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Essay Questions :

(2 x 15 = 30)

1. Define and classify hypersensitivity reactions.
Describe type I hypersensitivity.
2. Describe the pathogenesis, laboratory diagnosis and prophylaxis of cholera.

II. Write Short notes on :

(10 x 5 = 50)

1. Halophilic vibrio.
2. Bacterial capsule.
3. Hot air oven.
4. Conjugation.
5. Malignant pustule.
6. IgE.
7. Adjuvant.
8. Bacterial growth curve.
9. Tric agent.
10. Widal test.

III. Short Answer Questions :

(10 x 2 = 20)

1. Satellitism.
2. Milk ring test.
3. Enriched media.
4. Nagler's reaction.
5. Classification of atypical mycobacteria.
6. Hapten.
7. Name four methods of dry heat sterilization.
8. Name three anaerobic media.
9. Mention three properties of exotoxin.
10. Four organisms causing nosocomial infection.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions :

(2 x 15 = 30)

1. Define and classify Antigen Antibody reactions.
Discuss Agglutination tests with clinical examples.
2. Enumerate sexually transmitted bacteria.
Discuss Pathogenesis and laboratory diagnosis of Syphilis.

II. Write Short notes on :

(10 x 5 = 50)

1. Capsule.
2. T cells and B cells.
3. Mutation.
4. Extra chromosomal genetic elements.
5. Mechanism of Autoimmunity.
6. Nosocomal infections.
7. Type IV Hypersensitivity.
8. Laboratory diagnosis of pulmonary tuberculosis.
9. Toxigenicity tests for coryne bacterium diphtheria.
10. Differences between Alpha haemolytic streptococci and pneumococci.

III. Short Answer Questions :

(10 x 2 = 20)

1. Name four bacteria causing food poison.
2. Inspissation.
3. Super Antigens.
4. Name four Anaerobic methods of cultivation.
5. C – Reactive protein.
6. Hot Air Oven.
7. Sterilization of operation theatre.
8. Graft versus host reaction.
9. Name four live bacterial vaccines.
10. Uses of Gram stain.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions :

(2 x 15 = 30)

1. Define sterilization and disinfection.
Discuss the methods of sterilization by moist heat with suitable examples.
2. Enumerate the bacteria causing diarrhoea.
Discuss the morphology, cultural characteristics, pathogenecity and laboratory diagnosis of *Vibrio cholera*.

II. Write Short notes on :

(10 x 5 = 50)

1. Fimbriae.
2. Immuno fluorescence methods.
3. Sources of human infection.
4. Cytokines.
5. Distinguishing factors of T and B lymphocytes.
6. Biochemical tests to identify mycobacterium.
7. Human Leukocyte Antigen (HLA).
8. Toxins and virulence factors of streptococci.
9. Enterotoxigenic *Escherichia Coli* (ETEC).
10. *Listeria monocytogens*.

III. Short Answer Questions :

(10 x 2 = 20)

1. Name four anaerobic bacteria.
2. Name four chemical methods of sterilization.
3. Enrichment media.
4. Features of transferable drug resistance.
5. Diagram of Immunoglobulin.
6. Name four combined (T & B cell) immunodeficiency disorders.
7. Name four non-organ specific auto immune disorders.
8. Louis Pasteur.
9. Etiology of non-gonococcal (non-specific) urethritis.
10. Mention the various types of hypersensitivity reactions.

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Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions.
Draw Suitable diagrams wherever necessary

I. Essay Questions : **(2 x 15 = 30)**

1. Enumerate Hypersensitivity reactions and discuss in detail about Type 4 Hyper sensitivity reaction and add a note on Shwartzman reaction.
2. Discuss in detail about the etiology, pathogenesis, Lab diagnosis of Bordetella pertussis.

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

1. Major Histocompatibility complex.
2. Toxins of Clostridium perfringens.
3. Scrub typhus fever.
4. Abnormal Immunoglobulins.
5. Electron Microscopy.
6. Immunological tolerance.
7. Hemolytic disease of the New born.
8. Relapsing fever.
9. Transposable genetic elements
10. Anaerobic culture methods.

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

1. Name two Heterophile Antigen – Antibody reaction.
2. Enumerate four Liquid culture media for the cultivation of Mycobacterium tuberculosis.
3. Stalactite growth.
4. Name four Disorders of Phagocytosis.
5. Name two Adjuvants.
6. Name four determinants of Antigenicity.
7. Name four types of Mutation.
8. Name four different types of diarrheagenic Escherichia coli.
9. Satellitism.
10. Voges-Proskauer test.

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Revised (Non-Semester) Regulations
Paper I – GENERAL MICROBIOLOGY, IMMUNOLOGY
AND SYSTEMIC BACTERIOLOGY
Q. P. Code : 524061

Time : 180 Minutes

Maximum: 40 Marks

Answer **ALL** questions in the same order.
Draw Suitable diagrams wherever necessary

I. Elaborate on :

1. Define and classify hypersensitivity.
Discuss the mechanisms of anaphylaxis (10 x 1 = 10)
2. Name the bacterial agents causing pyrexia of unknown origin.
Write the pathogenesis and laboratory diagnosis of acute pyogenic meningitis caused by any one of them. (5 x 1 = 5)

II. Write notes on :

(10 x 1.5 = 15)

1. Anaerobic culture methods
2. Staphylococcal virulence factors
3. Malignant pustule
4. Bacterial flagella
5. Polymerase chain reaction
6. Bacterial growth curve
7. ElTor vibrios
8. Rickettsiae
9. Helicobacter pylori
10. Gaseous disinfectants

III. Short Answers on :

(10 x 1 = 10)

1. Name two transport media
2. Mention two uses of darkground microscope
3. Give two examples for agglutination tests
4. Give one example for passive artificial immunity
5. List two pathogenic Clostridial species
6. Name the serological tests for diagnosing enteric fever
7. Name the bacterium which causes malignant pustule
8. Name two specific tests for confirming the diagnosis of syphilis.
9. Name the transmitting agent for plague
10. Name the animal model used for the growth of Mycobacterium leprae

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Q. P. Code : 524061

Time : 180 Minutes**Maximum: 40 Marks**

Answer **ALL** questions.
 Draw Suitable diagrams wherever necessary

I. Elaborate on:

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

1. Define and describe the properties of an Ideal Disinfectant .Enumerate the various Disinfecting agents and their applications.
2. Classify Enterobacteriaceae. Write the pathogenesis, diseases caused and the lab diagnosis of Salmonella typhii infections.

16 30 10

8 20 5

II. Write notes on:

- | | | | |
|--|---|---|-----|
| 1. Bacterial growth curve. | 3 | 8 | 1.5 |
| 2. Mutations. | 3 | 8 | 1.5 |
| 3. Nucleic acid probes. | 3 | 8 | 1.5 |
| 4. Mechanisms of antibiotic resistance. | 3 | 8 | 1.5 |
| 5. Innate immunity. | 3 | 8 | 1.5 |
| 6. Immunoglobulin M. | 3 | 8 | 1.5 |
| 7. T. lymphocytes. | 3 | 8 | 1.5 |
| 8. Erythroblastosis fetalis. | 3 | 8 | 1.5 |
| 9. Non suppurative Streptococcal diseases. | 3 | 8 | 1.5 |
| 10. Lab diagnosis of Leptospirosis. | 3 | 8 | 1.5 |

III. Short Answers on:

- | | | | |
|--|---|---|---|
| 1. Name two selective media for V.cholera. | 2 | 5 | 1 |
| 2. Mention the virulence factors of N.meningitidis. | 2 | 5 | 1 |
| 3. Dosage schedule of Diptheria vaccine. | 2 | 5 | 1 |
| 4. Mention the bacterial spore used in biological warfare. | 2 | 5 | 1 |
| 5. Name two Gram Negative Anaerobic bacilli. | 2 | 5 | 1 |
| 6. IMVIC test. | 2 | 5 | 1 |
| 7. Mention three stages of Plague. | 2 | 5 | 1 |
| 8. Name four non Cholera Vibrios. | 2 | 5 | 1 |
| 9. Mention the components of Pentavalent Vaccine. | 2 | 5 | 1 |
| 10. Name the HACEK group of bacteria. | 2 | 5 | 1 |

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Paper I – GENERAL MICROBIOLOGY, IMMUNOLOGY
AND SYSTEMIC BACTERIOLOGY

Q. P. Code : 524061

Time : 180 Minutes

Maximum: 100 Marks

Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:

(2 x 15 = 30)

1. Write in detail about the physiology of bacteria.
2. Name the bacterial agents causing sexually transmitted diseases.
Write the pathogenesis and laboratory diagnosis of syphilis.

II. Write notes on :

(10 x 5 = 50)

1. Monoclonal antibodies.
2. Passive agglutination test.
3. Tumour antigens.
4. Western blot test.
5. Herd immunity.
6. Group B streptococci.
7. Anaerobic vaginosis.
8. Melioidosis.
9. Non agglutinating vibrios.
10. Legionellosis.

III. Short Answers on:

(10 x 2 = 20)

1. Name two selective media.
2. Give two examples for precipitation tests.
3. Name two bacterial live attenuated vaccines.
4. Name two bacteria having peritrichate flagella.
5. Name two bacteria producing exotoxins.
6. Name two bacteria transmitted through rodents.
7. Name two specimens from sterile sites.
8. Define plasmids.
9. Metchnikoff.
10. Name two tests to assess the function of phagocyte.

SECOND M.B.B.S. DEGREE EXAMINATION
Paper III – GENERAL MICROBIOLOGY, IMMUNOLOGY
AND SYSTEMIC BACTERIOLOGY

Q. P. Code : 524061

Time : 180 Minutes

Maximum: 40 Marks

Answer ALL questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:

(2 x 7.5 = 15)

1. Describe the Laboratory diagnosis of Pulmonary Tuberculosis
2. Discuss briefly on Immunofluorescence.

II. Write notes on:

(10 x 1.5 = 15)

1. Negative staining – principle & uses.
2. Moist heat sterilisation.
3. Transduction – Mechanism & types
4. Monoclonal antibodies – principle, technique and applications.
5. Special characters of Staphylococcus aureus
6. Differences between Pneumococcus & Streptococcus viridans
7. Differences between classical and elTor vibrios.
8. Weils disease – Laboratory diagnosis
9. Type III Hypersensitivity.
10. Immunosurveillance – possible mechanisms.

III. Short Answers on:

(10 x 1 = 10)

1. Name the three steps in Polymerase chain reaction.
2. Name two activators of alternate complement pathway.
3. What is isograft?
4. Name two coagulase negative Staphylococci infecting man.
5. Name two primary agents causing purulent bacterial meningitis.
6. Name two toxins produced by Clostridium tetani.
7. Name the Indole negative Proteus species.
8. Name the popular selective medium for Vibrio cholerae.
9. Name two bacteria exhibiting pleomorphism.
10. Name the blocking antibodies in chronic Brucellosis.

SECOND YEAR MBBS DEGREE EXAMINATION
Paper III – GENERAL MICROBIOLOGY, IMMUNOLOGY AND
SYSTEMIC BACTERIOLOGY

Q. P. Code: 524061

Time : 180 Minutes

Maximum: 40 Marks

Answer **ALL** questions.

Draw Suitable diagrams wherever necessary

I. Elaborate on:

(2 x 7.5 = 15)

1. Describe the Laboratory diagnosis of Enteric fever.
2. Define anaphylaxis. Describe the mediators and pathogenesis of anaphylaxis.

II. Write Notes on:

(10 x 1.5 = 15)

1. Quellung reaction – technique and uses.
2. Anaerobic culture methods.
3. Bacterial zoonotic diseases.
4. Systemic autoimmune diseases.
5. Unique characters of Enterococcus.
6. McFadyean's reaction.
7. Photochromogens and Scotochromogens.
8. Lyme disease – clinical features & Lab diagnosis.
9. Weil felix test.
10. Theories of Immune response.

III. Short Answers on:

(10 x 1 = 10)

1. Name two capsulated bacteria.
2. Name two enriched media.
3. Name two enzymes used in ELISA test.
4. Name the types of Coagulase test.
5. Name the selective medium for Gonococcus.
6. What is pseudohemoptysis?
7. Name the exotoxin producing Shigella species.
8. Name any two pigments produced by Pseudomonas.
9. Name the clinical forms of Actinomycosis in man.
10. Name the Immunoglobulin crossing the placenta.

SECOND YEAR M.B.B.S DEGREE EXAMINATION
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SYSTEMIC BACTERIOLOGY
Q. P. Code: 524061

Time: Three Hours

Maximum: 40 Marks

Answer ALL questions in the same order.

I. Elaborate on:

(2 x 7.5 = 15)

1. Discuss the Laboratory diagnosis of Syphilis
2. Define Sterilization. Discuss the methods of sterilization by Heat.

II. Write Notes on:

(10 x 1.5 = 15)

1. Bacterial Growth curve
2. Transport Media
3. Plasmids
4. Active immunity
5. Coombs test
6. Allograft Rejection
7. Agglutination reaction
8. Mechanisms of autoimmunity
9. Bacillary dysentery
10. Satellitism.

III. Short Answers on:

(10 x 1 = 10)

1. What is milk ring test? Give the use of this test.
2. Name four bacterial zoonotic infections.
3. Name four bacteria that cause food poisoning
4. Name four autoimmune disorders
5. What are the cells involved in phagocytosis?
6. What is Bile solubility test? Describe its principle.
7. Mantoux test.
8. What is the causative agent of relapsing fever? What are the two types?
9. What are the diseases caused by mycoplasma?
10. Describe Neill-Mooser reaction.

[LG 540]

FEBRUARY 2015

Sub.Code :4061

**SECOND YEAR M.B.B.S. DEGREE EXAMINATION
PAPER III – GENERAL MICROBIOLOGY, IMMUNOLOGY AND
SYSTEMIC BACTERIOLOGY**

Q.P. Code: 524061

Time: Three hours

Maximum : 40 Marks

Answer All Questions

I. Elaborate on:

(1 x 10 = 10)

1. Classify *Leptospira*. Write in detail about laboratory diagnosis and Leptospirosis.

II. Write notes on:

(4 x 5 = 20)

1. Laboratory diagnosis of Tetanus
2. Types of Flagella
3. Electron Microscope
4. Sterilization by Radiation

III. Short answers on:

(5 x 2 = 10)

1. Selective Media
2. PCR
3. Laboratory diagnosis of Infection caused by *Streptococcus pyogens*
4. Non - Gonococcal Urethritis (NGU)
5. Louis Pasteur

[LH 540]

AUGUST 2015

Sub. Code: 4061

SECOND M.B.B.S. DEGREE EXAMINATION
PAPER III – GENERAL MICROBIOLOGY, IMMUNOLOGY
AND SYSTEMIC BACTERIOLOGY

Q.P. Code: 524061

Time : Three Hours

Maximum : 40 marks

Answer ALL questions

I. Elaborate:

(1 x 10 = 10)

1. Describe the epidemiology, pathogenesis, laboratory diagnosis and prevention of cholera.

II. Write notes on :

(4 x 5 = 20)

1. Conjugation.
2. RNTCP.
3. Types of diarrheagenic *Escherichia coli*.
4. Tumor antigens.

III. Short answers on :

(5 x 2 = 10)

1. Define agglutination and precipitation.
2. Immunoglobulins that are able to fix complement.
3. Characteristics of the secondary immune response.
4. Biological controls for assessing dry heat and moist heat sterilization.
5. Morphology of *B. anthracis*.

[LI 540]

FEBRUARY 2016

Sub. Code: 4061

SECOND YEAR M.B.B.S. DEGREE EXAMINATION
PAPER III – GENERAL MICROBIOLOGY, IMMUNOLOGY AND
SYSTEMIC BACTERIOLOGY

Q.P. Code : 524061

Time : Three Hours

Maximum : 40 Marks

Answer ALL questions

I. Elaborate on:

(1 x 10 = 10)

1. Define Complement. Write about alternative C pathway and add a note on biological effects of complement and genetic deficiencies of complement components.

II. Write notes on:

(4 x 5 = 20)

1. Various mechanisms by which Escherichia Coli produce Diarrhea.
2. Fluorescent Microscope – Uses and Principles.
3. Sterilization by Filtration methods.
4. Difference between Cell wall of Gram Positive and Gram Negative bacteria.

III. Short answers on:

(5 x 2 = 10)

1. Robert Koch.
2. Methods of Anaerobic culture.
3. Haptens.
4. Enriched Media.
5. DNA Probes.

[LJ 540]

AUGUST 2016

Sub.Code:4061

**SECOND YEAR M.B.B.S. DEGREE EXAMINATION
PAPER III – GENERAL MICROBIOLOGY, IMMUNOLOGY &
SYSTEMIC BACTERIOLOGY**

Q.P. Code: 524061

Time: Three hours

Maximum: 40 Marks

Answer All Questions

I. Elaborate on:

(1 x 10 = 10)

1. Classify Rickettsiaceae. Write in detail about morphology, cultivation, antigenic structure, pathogenesis and lab diagnosis of typhus fever

II. Write notes on:

(4 x 5 = 20)

1. Chemical disinfectants.
2. Structure and function of B cells.
3. Type IV hypersensitivity.
4. Virulence factors of staphylococcus aureus.

III. Short answers on:

(5 x 2 = 10)

1. Graft versus host reaction
2. Bacterial growth curve
3. Satellitism
4. Enrichment media
5. PCR
