

MANIPAL UNIVERSITY

SECOND YEAR M. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2013

SUBJECT: VIROLOGY AND PARASITOLOGY
(MICROBIOLOGY & IMMUNOLOGY SPECIALIZATION)

Wednesday, December 18, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

☞ Answer the following questions with the help of neat labeled diagrams wherever necessary.

1. Describe the pathogenesis and laboratory diagnosis of Varicella- Zoster virus.
(10+5 = 15 marks)

2. Describe the life-cycle of the dog tapeworm and comment on the clinical manifestations and complications of the parasite. How do you diagnose the infection in the laboratory?
(5+4+6 = 15 marks)

3. Write briefly on:

3A. Brugia malayii

3B. Oncogenic viruses

3C. Classification of viruses

3D. Cytomegalovirus

3E. Amoebic dysentery

(5×5 = 25 marks)

4. Write short notes on:

4A. Inclusion bodies

4B. Norwalk virus infection

4C. Laboratory diagnosis of Mumps

4D. Heterophile antibodies

4E. Properties of nematode

(3×5 = 15 marks)



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MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2013

SUBJECT: GENERAL BACTERIOLOGY, IMMUNOLOGY AND SYSTEMIC BACTERIOLOGY
(NEW REGULATION)

Thursday, December 19, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer the following questions.**

1. Describe the pathogenesis and laboratory diagnosis of diphtheria. Add a note on its immunoprophylaxis.

(15 marks)

2. Outline the pathway of complement activation. Add a note on its biological effects.

(15 marks)

3. Short essays:

3A. Anaerobic culture methods.

3B. Bacterial growth curve depicting viable count.

3C. Lab diagnosis of urinary tract infections.

3D. Laboratory diagnosis of gasgangrene.

3E. Virulence factors of *Streptococcus pyogenes*.

(7×5 = 35 marks)

4. Short notes:

4A. Demonstration of bacterial motility.

4B. Mantoux test.

4C. Quarternary ammonium compounds.

4D. E – test.

4E. Co agglutination test.

(3×5 = 15 marks)



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MANIPAL UNIVERSITY
SECOND YEAR M. Sc. M.L.T. DEGREE EXAMINATION – MAY 2013
SUBJECT: GENERAL MICROBIOLOGY
(MICROBIOLOGY SPECIALIZATION)

Monday, May 27, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

☞ Answer the following questions with the help of neat labeled diagrams wherever necessary.

1. Describe bacterial conjugation and discuss its significance. (15 marks)

2. Discuss the sources, routes of spread and investigation of nosocomial infections. (15 marks)

3. Write briefly on:

3A. General mechanism of drug resistance in bacteria.

3B. Biosafety cabinets.

3C. Anaerobic culture methods.

3D. Sterilization by filtration.

3E. Working principle and uses of autoclave.

(5×5 = 25 marks)

4. Write briefly on:

4A. Gaseous disinfectants.

4B. Stokes method of antibiotic susceptibility testing.

4C. Presumptive coliform count.

4D. Selective media.

4E. Oxidative fermentative reaction.

(3×5 = 15 marks)



MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – MAY 2013

SUBJECT: CLINICAL BIOCHEMISTRY
(BIOCHEMISTRY SPECIALIZATION)

Monday, May 27, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ Answer all questions.

✍ Draw diagrams wherever necessary.

1. What is the specific gravity of urine? Discuss the chemical analysis of urine.

2. What are the various types of automated analyzers? Add a note on point of care testing.

(15×2 = 30 marks)

3. Write detailed notes on:

3A. Complications of diabetes mellitus.

3B. Stimulation tests for gastric function.

3C. Routine diagnostic tests for renal function.

3D. Safety measures for the chemical hazards.

3E. Tests for role of liver in bilirubin metabolism.

(5×5 = 25 marks)

4. Write brief notes on:

4A. Arterial Blood Gases.

4B. Inhibitors of oxidative phosphorylation.

4C. NBT-PABA test of pancreatic function.

4D. Determination of free HCl in gastric juice.

4E. Blood pH regulation by phosphate buffer.

(3×5 = 15 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – MAY 2013

SUBJECT: METABOLIC REGULATIONS AND IN BORN ERRORS OF METABOLISM
(BIOCHEMISTRY SPECIALIZATION)

Wednesday, May 29, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ Answer all questions.

✍ Draw diagram wherever necessary.

1. How are dietary proteins digested in our body? Discuss about the degradation of amino acids into Urea.

(15 marks)

2. What are the digestive enzymes of carbohydrates? Explain aerobic and anaerobic glycolysis and its regulation.

(15 marks)

3. Write short notes on the following:

3A. Vitamin C.

3B. Significance of sodium.

3C. Isoenzymes and their clinical significance.

3D. Oxidation of fatty acid.

3E. Mechanism of action of peptide hormones.

(5×5 = 25 marks)

4. Write brief notes on the following:

4A. Riboflavin

4B. Selenium

4C. Significance of Michaelis Menten Equation

4D. Nucleotides

4E. Biologically important products from glycine.

(3×5 = 15 marks)



MANIPAL UNIVERSITY**SECOND YEAR M. Sc. M.L.T. DEGREE EXAMINATION – MAY 2013****SUBJECT: SYSTEMATIC BACTERIOLOGY AND MYCOLOGY
(MICROBIOLOGY SPECIALIZATION)**

Wednesday, May 29, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ **Answer the following questions with the help of neat labeled diagrams wherever necessary.**

1. Explain the pathogenesis and laboratory diagnosis of Mycobacterium tuberculosis. Add a note on tuberculin test.

(15 marks)

2. Give a detailed account of subcutaneous mycoses.

(15 marks)

3. Write briefly on:

3A. Chlamydia causing eye infections and its laboratory diagnosis.

3B. Laboratory diagnosis of brucella.

3C. Clinical manifestations and laboratory diagnosis of sporotrichosis.

3D. Laboratory tests for MRSA.

3E. Pneumocystis jiroveci.

(5×5 = 25 marks)

4. Write short notes on:

4A. Morphological classification of fungus.

4B. Otomycosis.

4C. Rocky mountain spotted fever.

4D. Shigella sonii.

4E. CAMP test.

(3×5 = 15 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M.Sc. M.L.T. DEGREE EXAMINATION – MAY 2013

**SUBJECT: APPLIED BIOCHEMISTRY
(BIOCHEMISTRY SPECIALIZATION)**

Friday, May 31, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ **Answer all Questions.**

✍ **Draw diagrams wherever necessary.**

1. Discuss acid-base imbalance.

(15 marks)

2. Write in detail about house hold chemicals.

(15 marks)

3. **Write detailed notes on:**

3A. Organophosphate poisoning

3B. Prions

3C. Ceruloplasmin

3D. Haemoglobinopathy

3E. Dehydration

(5×5 = 25 marks)

4. **Write short notes on:**

4A. Nicotine

4B. Barbiturates

4C. Schilling test

4D. Fantu's test

4E. CJD

(3×5 = 15 marks)



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MANIPAL UNIVERSITY

SECOND YEAR M. Sc. M.L.T. DEGREE EXAMINATION – MAY 2013

SUBJECT: VIROLOGY AND PARASITOLOGY
(MICROBIOLOGY SPECIALIZATION)

Friday, May 31, 2013

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 70

✍ Answer the following questions with the help of neat labeled diagrams wherever necessary.

1. Describe the pathogenesis and laboratory diagnosis of the virus causing glandular fever.

(10+5 = 15 marks)

2. List the species of the parasites causing malaria, classify based on the clinical course of infection. What is black water fever? Comment on the pathogenesis and laboratory diagnosis of black water fever.

(4+3+8 = 15 marks)

3. Write briefly on:

3A. Microfilaria.

3B. Lentiviruses.

3C. Structure of the icosahedral nucleocapsid with an example.

3D. Seromarkers in Hepatitis B carriers.

3E. Laboratory diagnosis of pinworm infection.

(5×5 = 25 marks)

4. Write short notes on:

4A. Congenital cytomegalovirus infection.

4B. Surface receptors of HIV.

4C. Paragonimiasis.

4D. Laboratory diagnosis of genital HSV infection.

4E. Properties of class trematoda.

(3×5 = 15 marks)

