

MANIPAL UNIVERSITY**MD (MICROBIOLOGY) DEGREE EXAMINATION – OCTOBER 2015****SUBJECT: PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY**

Tuesday, October 06, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Draw diagrams wherever necessary.**

✍ **Long Essays:**

1. Define and classify sterilization. Describe in detail sterilization by moist heat. (15 marks)

2. Define and classify hypersensitivity. Discuss in detail type IV hypersensitivity. (15 marks)

3. **Write short notes on:**

3A. Quality control for antibiotic sensitivity testing

3B. Bacterial spore and its applications

3C. Endotoxins and their significance

3D. Conjugation in bacteria and its significance

3E. Anaerobic culture methods

3F. Fluorescence microscopy- principle and applications

3G. Clinical applications of cytokines

3H. Role of complement in health and in disease

3I. Heterophile agglutination tests

3J. Ligase chain reaction

(7 marks × 10 = 70 marks)



MANIPAL UNIVERSITY
MD (MICROBIOLOGY) DEGREE EXAMINATION – OCTOBER 2015
SUBJECT: PAPER II: BACTERIOLOGY AND MYCOLOGY

Wednesday, October 07, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

 **Answer ALL the questions**

 **Long Essays:**

1. A 40 years old patient with fever, jaundice and renal failure of one week duration admitted during monsoon season. Write briefly about the samples collected in this condition and the processing of the samples in the laboratory.

(15 marks)

2. Describe the non-culture methods for fungal diagnosis.

(15 marks)

3. **Write short notes on:**

3A. Re-emergence of Pertussis

3B. Neonatal meningitis

3C. Cat Scratch Disease

3D. Sample collection and processing in Oculomycosis

3E. Mycotoxins

3F. Bacterial exanthematous fever

3G. Sporotrichosis

3H. Laboratory diagnosis of *H. pylori* infection

3I. Legionnaires disease

3J. Fungal sinusitis

(7 marks × 10 = 70 marks)



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MD (MICROBIOLOGY) DEGREE EXAMINATION – OCTOBER 2015

SUBJECT: PAPER III: VIROLOGY AND PARASITOLOGY

Thursday, October 08, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

Answer ALL questions.

Long Essays:

1. Describe the pathogenesis and laboratory diagnosis of Hepatitis B. Write a note on occult Hepatitis B.

(15 marks)

2. Enumerate the parasites affecting CNS. Describe in details the pathogenesis, life cycle and laboratory diagnosis of Granulomatous Meningoencephalitis.

(15 marks)

Write short notes on:

3A. Shell vial culture

3B. Virus infections in post-transplant patients

3C. Robo Viruses

3D. Xenodiagnosis for parasites

3E. Cultivable parasites

3F. Collection and Transportation of specimens for viral culture

3G. PKDL

3H. Fifth disease

3I. Egg counting technique from stool specimen

3J. Babesiosis

(7 marks × 10 = 70 marks)



MANIPAL UNIVERSITY

MD (MICROBIOLOGY) DEGREE EXAMINATION – OCTOBER 2015

SUBJECT: PAPER IV: APPLIED MICROBIOLOGY & RECENT ADVANCES

Friday, October 09, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Describe the production and role of monoclonal antibodies in health industry. (15 marks)

2. Discuss the recent advances in the laboratory diagnosis of Tuberculosis. (15 marks)

3. **Write short notes on:**

3A. Cytokines

3B. *Legionella pneumophila*

3C. CA-MRSA

3D. *Listeria monocytogenes*

3E. Universal precautions against blood borne viral infections

3F. Antiviral agents

3G. Rhinosporidiosis

3H. Role of microscopy in diagnosis of fungal infections

3I. Interferons

3J. Accreditation of Clinical Laboratory

(7 marks × 10 = 70 marks)

