Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2018

SUBJECT: PAPER I: GENERAL MICROBIOLOGY AND IMMUNOLOGY

Monday, April 02, 2018

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Long Essays:**

1. Discuss various parameters contributing to bacterial virulence.

(15 marks)

2. What is HLA? Discuss its importance.

(15 marks)

3. **Write short notes:**

3A. Modifications of Grams staining and their implications
3B. Discuss the measures used to control laboratory associated infection
3C. Oxidising chemical disinfectants and their uses
3D. Methods of detection of CMI
3E. Genetic mechanisms of antibiotic resistance
3F. Interleukins
3G. Principle and uses of immunofluorescence
3H. Factors affecting antibiotic sensitivity testing
3I. Alternate complement pathway
3J. Autoimmunity

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2018

SUBJECT: PAPER II: BACTERIOLOGY AND MYCOLOGY

Tuesday, April 03, 2018

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Give a brief overview of glucose non-fermenting Gram negative bacilli commonly encountered in human infections. How do you approach to recovery and identification of these bacteria in the laboratory?

(15 marks)

2. Describe fungal pathogens which may affect central nervous system. Describe briefly the sample collection and processing in the laboratory for different fungal pathogens.

(15 marks)

3. **Write Short Notes on:**

3A. Bacteria causing superficial skin infections
3B. *Helicobacter pylori*
3C. Listeriosis
3D. Neonatal meningitis
3E. Tetanus – pathogenicity and laboratory diagnosis
3F. Actinomycotic mycetoma
3G. Dematiaceous fungus
3H. Oculomycosis
3I. Rapid diagnosis of fungal infections
3J. Candidemia in ICU

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2018

SUBJECT: PAPER III: VIROLOGY AND PARASITOLOGY

Wednesday, April 04, 2018

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Long Essays:**

1. Describe the pathogenesis of HIV infection. During the course of infection, when would you expect the different available test methods to give best results – and why?

(15 marks)

2. Describe the sample collection and laboratory diagnostic methods for intestinal helminthic infections.

(15 marks)

3. **Write Short Notes on:**

3A. Free living amoeba
3B. Cercarial dermatitis
3C. Peripheral blood smear in diagnosis of Malaria
3D. Toxoplasmosis in pregnancy
3E. Parasites leading to bloody diarrhea – laboratory diagnosis
3F. Viral haemorrhagic fevers
3G. Human Prion Diseases
3H. Rota virus vaccine
3I. Oncogenic viruses
3J. Collection and Transportation of specimens for viral culture

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (MICROBIOLOGY) DEGREE EXAMINATION – APRIL 2018

SUBJECT: PAPER IV: APPLIED MICROBIOLOGY & RECENT ADVANCES

Thursday, April 05, 2018

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Discuss Automation in the Microbiology Laboratory.

(15 marks)

2. Discuss the laboratory diagnosis of Parasitic Infections.

(15 marks)

3. **Write Short Notes on:**

3A. Cell culture for viruses
3B. Bacterial Porins
3C. Chromomycosis
3D. Teratogenic viruses
3E. HACEK Group
3F. Candidate vaccines for HIV
3G. Typhoid Vaccines
3H. Non albicans Candida spp
3I. Chemisterilants
3J. Super antigens

(7 marks × 10 = 70 marks)