

Roll no.

P-2688

M.D. EXAMINATION, APRIL, 2008

M.D. – MICROBIOLOGY

(Paper - I)

(General Microbiology, Immunology and Parasitology)

Time : 3 hours

Maximum Marks – 100

Note : Attempt all questions.

1. Discuss mechanisms, genetic basis and transfer or spread of antimicrobial resistance. 20 marks
Briefly describe methods of detection of methicillin resistance in staphylococci.
Vancomycin resistance in enterococci and extended spectrum Beta lactamases (ESBLs) in Enterobacteriaceae.
2. Discuss cell mediated immunity (CMI), its role in protection against infections and delayed hypersensitivity. Briefly describe methods of detection of CMI. 20 marks
3. Write short notes on the following : 10 marks each
 - (a) Hospital waste management
 - (b) Role of superantigens in infective diseases
 - (c) Pathogenesis and laboratory diagnosis of extraintestinal – amoebiasis
4. Describe briefly the following : 10 marks each
 - (a) Opportunistic parasitic infections in AIDS
 - (b) Laboratory diagnosis of visceral leishmaniasis
 - (c) Free living amoebae

Roll no.

P-2689

M.D. EXAMINATION, APRIL, 2008

M.D. – MICROBIOLOGY

(Paper - II)

(Systemic Bacteriology, Virology, Mycology including applied Microbiology)

Time : 3 hours

Maximum Marks – 100

Note : Attempt all questions.

1. Discuss the morphology, pathogenesis & current advances in diagnosis and immunoprophylaxis of hepatitis C virus. 25 marks
2. Describe briefly :
 - (a) Non fermenting gram negative bacilli 9 marks
 - (b) Leptospirosis 8 marks
 - (c) Toxins of E. coli. 8 marks
3. Write short notes on :
 - (a) Non albicans candida species 8 marks
 - (b) Penicillium – marneffeii 8 marks
 - (c) Non culture based techniques in diagnosis and epidemiology of fungal infections 9 marks
4. Give a brief account of :
 - (a) Role of microbiology laboratory in control of hospital acquired infections 9 marks
 - (b) Bioterrorism 8 marks
 - (c) Bartonella 8 marks

Roll no.

P-2690

M.D. EXAMINATION, APRIL, 2008

M.D. – MICROBIOLOGY

(Paper – III)

(Recent Advances)

Time : 3 hours

Maximum Marks – 100

Note : Attempt all questions.

1. Discuss drug resistance in HIV and its detection in the laboratory. 25 marks
 2. Write briefly on the following :
 - (a) Nano technology and its applications in Microbiology 7 marks
 - (b) Immuno modulators 8 marks
 - (c) RNTCP and the role of microbiology laboratory 10 marks
 3. Write short notes on : 5 marks each
 - (a) Diagnosis of paediatric HIV infection
 - (b) Hypersensitivity to Fungi
 - (c) Parafungal agents
 - (d) DNA vaccines
 - (e) Recent advances in diagnosis of malaria
 4. Emerging importance of Non Tuberculous Mycobacterium 25 marks
-

Roll No.

P – 17

M. D. EXAMINATION, April/May, 2009

MICROBIOLOGY

Paper First

(General Microbiology and Parasitology)

Time : Three Hours]

[Maximum Marks : 100

Note : All questions are compulsory.

1. What are Superantigens ? Explain their role in the aetiopathogenesis of microbial diseases. 20
2. Discuss the recent advances in the diagnosis, prevention and treatment of leishmaniasis. 20
3. Discuss the role of segregation and proper disinfection in the disposal of hospital waste. 20
4. Write short notes on the following : 10 each
 - (i) Parasitic infections of CNS
 - (ii) Resistance to newer cephalosporins and monobactams
 - (iii) Automated culture system
 - (iv) Opportunistic diarrhoeagenic protozoal parasites

Roll No.

P – 18

M. D. EXAMINATION, April/May, 2009

MICROBIOLOGY

Paper Second

(Systemic Bacteriology and Mycology)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt all questions.

1. Discuss the epidemiology, pathogenesis and laboratory diagnosis of *Helicobacter pylori*. 25
2. Discuss the role of microbiologist in the investigation of an outbreak of salmonella food poisoning. 25
3. Write briefly about the following : 12 each
 - (i) Antifungal susceptibility testing
 - (ii) Blood stream infections due to yeasts
4. Write short notes on the following :
 - (i) *Pneumocystis jiroveci* 7
 - (ii) *Penicillium marneffii* 7
 - (iii) Antibiotic associated diarrhoea 6
 - (iv) Community acquired MPSA infections 6

Roll No.

P - 19

M. D. EXAMINATION, April/May, 2009

MICROBIOLOGY

Paper Third

(Virology and Immunology)

Time : Three Hours]

[Maximum Marks : 100

Note : All questions are compulsory.

1. Discuss the mechanism of regulation of complement activation pathways with mention of clinical entities resulting from the aberration of such regulation. 25
2. Give an outline of virological work-up you would undertake for investigating a case of meningoencephalitis. 25
3. Write short notes on the following : 6 each
 - (i) Rejection reactions the following organ transplantation
 - (ii) Lab diagnosis of HIV infection in a newborn
 - (iii) Post-exposure prophylaxis for Rabies
 - (iv) Replication strategy of herpes viruses
 - (v) Lab. diagnosis of Hepatitis C Virus
4. Write the principle of the following techniques : $2\frac{1}{2}$ each
 - (i) Indirect Immunofluorescence

P. T. O.

- (ii) ELISPOT
- (iii) NASBA
- (iv) Competitive ELISA

5. Explain why

$2\frac{1}{2}$ each

- (i) Salk vaccine is given in multiple doses, despite being a live attenuated vaccine.
- (ii) Yellow fever is not encountered in India.
- (iii) Secondary exposure to Dengue virus is associated with worse prognosis than primary exposure.
- (iv) Acute hepatitis, the following infection with Hepatitis B virus is commoner in adults.

Roll No.

P-20

M. D. EXAMINATION, April/May, 2009

MICROBIOLOGY

Paper Fourth

(Recent Advances of Microbiology)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt all questions.

1. Describe "Syndromic Approach" in the management of genital ulcer(s). 20
2. Discuss recent advances in the laboratory diagnosis of malaria. 20
3. Describe the recent advances in laboratory diagnosis of tuberculosis. 20
4. Write short notes on the following : 10 each
 - (a) Post exposure prophylaxis for HIV
 - (b) Viruses causing human oncogenesis
 - (c) Human Prion diseases
 - (d) Role of Nanotechnology in Microbiology

Lib

PG- Mi-1

POST GRADUATE DEGREE EXAMINATION, APRIL- 2011

MD MICROBIOLOGY

(PAPER ONE)

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

- Q. 1. Write briefly about advances in sterilization technology and validation of sterilization process. (20)
- Q. 2. Describe the theories of antibody formation. Write about the factors that affect production of antibodies. (20)
- Q. 3. Describe briefly: (3 x 10 = 30)
- a. Quality assurance in Microbiology.
 - b. Immune tolerance.
 - c. Mechanism of bacterial adhesion.
- Q. 4. Write short notes on: (5 x 6 = 30)
- a. Preservation of bacteria.
 - b. Cytokines and chemokines.
 - c. In use tests for chemical disinfectants.
 - d. Bacterial toxins.
 - e. Beta – Lactamases.

POST GRADUATE DEGREE EXAMINATION, APRIL- 2011

MD MICROBIOLOGY

(PAPER TWO)

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

- Q. 1. Discuss the recent advances in the pathogenesis, laboratory diagnosis and prevention of helicobacter pylori. (20)
- Q. 2. Discuss the laboratory diagnosis of sexually transmitted bacterial infections. (20)
- Q. 3. Describe briefly: (3 x 10 = 30)
- a. Antifungal susceptibility testing.
 - b. Pathogenesis and laboratory diagnosis of non-albicans candida infections.
 - c. Ventilator associated pneumonia.
- Q. 4. Write short notes on: (5 x 6 = 30)
- a. Sporotrichosis
 - b. Gas gangrene
 - c. Pneumocystis Jiroveci
 - d. XDR- tuberculosis
 - e. Use of microbial agents in biological war fare.

POST GRADUATE DEGREE EXAMINATION, APRIL- 2011

MD MICROBIOLOGY

(PAPER THREE)

VIROLOGY & PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

- Q. 1. Discuss the pathogenesis and laboratory diagnosis of dengue fever. (20)
- Q. 2. Discuss the clinical presentation and laboratory diagnosis of opportunistic parasitic infections associated with HIV/AIDS. (20)
- Q. 3. Describe briefly: (3 x 10 = 30)
- a. Free- living amoebae
 - b. Lab diagnosis of visceral leishmaniasis.
 - c. Post- exposure prophylaxis for HIV.
- Q. 4. Write short notes on: (5 x 6 = 30)
- a. Lab diagnosis of cysticercosis.
 - b. Rapid diagnostic tests for malaria.
 - c. Operative principle of RIBA
 - d. Operative principle of Real-Time PCR
 - e. Mechanism of oncogenesis by Human papilloma virus

POST GRADUATE DEGREE EXAMINATION, APRIL- 2011

MD MICROBIOLOGY

(PAPER FOUR)

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

- Q. 1. Classify arboviruses? Enumerate the currently prevalent arboviruses in India and discuss the epidemiology, pathogenesis and lab diagnosis of Dengue fever. (20)
- Q. 2. Describe quality assurance in a clinical Microbiology laboratory. (20)
- Q. 3. Describe briefly: (3 x 10 = 30)
- a. Recent advances in laboratory diagnosis of tuberculosis.
 - b. Aspergillosis
 - c. Current status of Polio in India.
- Q. 4. Write short notes on: (5 x 6 = 30)
- a. Metallo beta lactamases
 - b. Parasites associated with human cancers
 - c. Diagnosis of paediatric HIV/AIDS
 - d. IRIS
 - e. Leptospirosis

POST GRADUATE EXAMINATION, APRIL- 2012

MD MICROBIOLOGY

(PAPER ONE)

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagnosis.

- Q. 1.** Discuss briefly the role of molecular methods in clinical microbiology. (20)
- Q. 2.** Discuss briefly various energy yielding mechanisms in bacteria. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- a. Bacteriology monitoring of operation theatres.
 - b. Exotoxins associated with Neurotoxicity.
 - c. Uncultivable bacteria.
- Q. 4.** Write short notes on: (5 x 6 = 30)
- a. Quorum sensing
 - b. Bacterial variations
 - c. Immune complex disease
 - d. PBP's and their role in drug resistance
 - e. Subunit Vaccines

POST GRADUATE EXAMINATION, APRIL- 2012

**MD MICROBIOLOGY
(PAPER TWO)**

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagnosis.

- Q. 1.** Define PUO. Enumerate bacterial causes of it. Discuss subacute infective endocarditis. (20)
- Q. 2.** Describe morphological and biological classification of clostridia. Discuss pathogenesis and lab diagnosis of gas gangrene. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- a. Fungal biofilms
 - b. Mycotoxins
 - c. HACEK group bacteria
- Q. 4.** Write short notes on: (5 x 6 = 30)
- a. Nonsporing anaerobes
 - b. *Leptospira interrogans*
 - c. Rhinosporidiosis
 - d. "Id" reaction
 - e. Halophilic vibrios

POST GRADUATE EXAMINATION, APRIL- 2012

MD MICROBIOLOGY
(PAPER THREE)

VIROLOGY & PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

Illustrate with suitable diagnosis.

- Q. 1. Discuss the epidemiology, pathogenesis and laboratory diagnosis of "swine flu" disease. (20)
- Q. 2. Discuss the pathogenesis, clinical presentation and laboratory diagnosis of congenital toxoplasmosis. (20)
- Q. 3. Describe briefly: (3 x 10 = 30)
- Oncogenic viruses
 - Rapid diagnostic tests for malaria
 - Lab diagnosis of Hepatitis C virus infection
- Q. 4. Write short notes on: (5 x 6 = 30)
- Avidity ELISA test in dengue
 - Gold standard test for the diagnosis of cysticercosis
 - HIV vaccines
 - Current status of polio eradication in India
 - Shell vial culture

X

POST GRADUATE EXAMINATION, APRIL- 2012

**MD MICROBIOLOGY
(PAPER FOUR)**

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagnosis.

- Q. 1.** Enumerate microbial causes of genital ulcer in a young male. How will you proceed to establish the aetiological diagnosis of the same in the laboratory? (20)
- Q. 2.** Describe current pattern of drug resistance in Tuberculosis. Briefly mention methods for detecting drug resistance in *Mycobacterium tuberculosis*. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- a. Probiotics in Human health
 - b. Strategies of HIV testing in India
 - c. Anti fungal susceptibility testing
- Q. 4.** Write short notes on: (5 x 6 = 30)
- a. Gamma interferon based assays and their applications
 - b. Bartonella
 - c. MAC ELISA
 - d. Non neural Rabies vaccines
 - e. Quality assurance in Microbiology laboratory

POST GRADUATE EXAMINATION, MAY- 2013

MD MICROBIOLOGY

(PAPER ONE)

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

Illustrate with suitable diagrams.

Q. 1. Discuss the role of bacterial appendages in the pathogenesis of bacterial infections. (20)

Q. 2. Discuss stem cell research and its applications. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

a. Nucleic acid probes and applications

b. Genetic approach in bacterial taxonomy

c. Immunological tolerance

Q. 4. Write short notes on: (5 x 6 = 30)

a. High level disinfection

b. Levels of biohazard containment

c. Rebooting

d. Role of immunomodulators

e. Newer cephalosporins

X

POST GRADUATE EXAMINATION, MAY- 2013

**MD MICROBIOLOGY
(PAPER TWO)**

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

Illustrate with suitable diagrams.

- Q. 1.** Name the various bacterial zoonotic diseases. Discuss in detail the pathogenesis of laboratory diagnosis of one of them. (20)
- Q. 2.** Enumerate various fungi that cause diseases of the respiratory tract. Describe the methods of diagnosis of these diseases. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- Community acquired bacterial pneumonia
 - Cell wall deficient bacteria and their role in human infections.
 - Antifungal susceptibility testing.
- Q. 4.** Write short notes on: (5 x 6 = 30)
- Global scenario of XDR TB and its testing methodology.
 - Immunization against traveller's diarrhoea
 - Non – streptococcal, catalase – negative, gram positive cocci.
 - Potential virulence factors of anaerobic bacteria.
 - Allergic reactions in fungal infections.

POST GRADUATE EXAMINATION, MAY- 2013

MD MICROBIOLOGY

(PAPER THREE)

VIROLOGY & PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions

Illustrate with suitable diagrams.

- Q. 1.** Discuss the pathogenesis and laboratory diagnosis of Hepatitis B virus disease. (20)
- Q. 2.** Discuss the pathogenesis and laboratory diagnosis of lymphatic filariasis. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- Rapid diagnostic tests for Visceral Leishmaniasis.
 - Laboratory diagnosis of Japanese Encephalitis.
 - Influenza A (H₁N₁) virus.
- Q. 4.** Write short notes on: (5 x 6 = 30)
- Rabies vaccines
 - Free- living amoebae
 - Epidemiology of Hepatitis E virus disease
 - Chikungunya fever
 - IgM capture ELISA in Dengue.

X

POST GRADUATE EXAMINATION, MAY- 2013

**MD MICROBIOLOGY
(PAPER FOUR)**

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Notes: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1.** What are the emerging and reemerging infectious diseases in the Indian context? Briefly highlight their epidemiology, pathogenesis and laboratory diagnosis. (20)
- Q. 2.** As a budding young medical microbiologist how will you ensure quality assurance and quality control in a clinical laboratory? (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- Newer technologies for Biomedical waste management.
 - Current status of HIV vaccines.
 - Laboratory methods for detection of metallo beta lactamase production.
- Q. 4.** Write short notes on: (5 x 6 = 30)
- Scrub Typhus
 - Cygenetic diversity of HBV
 - Role of STI/RTI in HIV
 - Spoligotyping and its applications
 - Alternatives to the tuberculin skin tests.

POST GRADUATE EXAMINATION, APRIL/ MAY- 2014

**MD MICROBIOLOGY
(PAPER ONE)**

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Discuss genetic and non genetic mechanism of drug resistance of antibiotics. (20)

Q. 2. Classify auto-immune diseases and describe mechanism of auto-immunisation. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Monochonal antibodies
- b. Severe combined immuno-deficiency disease (SCID).
- c. Major Histocompatibility complex (MHC).

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Clonal selection theory of immune response.
- b. Electron-microscope
- c. Ethylene oxide gas (E.O. gas)
- d. Bacterial cell wall
- e. Tumour immunity

POST GRADUATE EXAMINATION, APRIL/ MAY- 2014

**MD MICROBIOLOGY
(PAPER TWO)**

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1.** Discuss mechanism and management of drug resistant tuberculosis and write briefly about RNTCP. (20)
- Q. 2.** Write in detail the recent advances in the diagnosis of fungal infections. (20)
- Q. 3.** Describe briefly: (3 x 10 = 30)
- a. Infective endocarditis.
 - b. HACEK group bacteria
 - c. Pathogenesis and virulence factors of *Helicobacter pylori*.
- Q. 4.** Write short notes on: (5 x 6 = 30)
- a. Congenital syphilis
 - b. Hybrid vibrios
 - c. Metallo β lactamases
 - d. *Pneumocystis firoveci*
 - e. Opportunistic mycosis

POST GRADUATE EXAMINATION, APRIL/ MAY- 2014

MD MICROBIOLOGY

(PAPER THREE)

VIROLOGY & PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe in detail about opportunistic parasitic infections in HIV patients. (20)

Q. 2. Enumerate Hepatotropic viruses. Write in detail about the laboratory diagnosis and prophylaxis of Hepatitis B viruses. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Marburg and Ebola viruses
- b. Malaria vaccine
- c. Prions

O. 4. Write short notes on: (5 x 6 = 30)

- a. Hanta virus
- b. Babesiosis
- c. Viral infectivity assay
- d. Microfilaria
- e. Structure of Rabies virus

POST GRADUATE EXAMINATION, APRIL/ MAY- 2014

MD MICROBIOLOGY

(PAPER FOUR)

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. What are edible vaccines? Discuss the current status and future of edible vaccines. (20)

Q. 2. What is quality control? Describe various methods adopted for quality control in Microbiology. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Biofilms and their clinical significance
- b. ESBL detection methods
- c. Agents of Bioterrorism

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Maintenance of stock cultures
- b. HACEK group of bacteria
- c. Probiotics
- d. Pneumocystis jiroveci
- e. Categorization of biomedical waste.

POST GRADUATE EXAMINATION, APRIL - 2015

**MD MICROBIOLOGY
(PAPER ONE)**

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe the role of microbiologists in hospital antibiotic policy formulation. (20)

Q. 2. Describe the interaction of B & T lymphocytes in the regulation of immune response. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Mucosal immunity
- b. Complement deficiency diseases
- c. MALDI – TOF - MS

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Biological effects of complement
- b. Gene therapy
- c. Testing of disinfectants
- d. Bacterial capsule
- e. Biofilms

POST GRADUATE EXAMINATION, APRIL - 2015

**MD MICROBIOLOGY
(PAPER TWO)**

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Discuss the investigations undertaken for diagnosing an outbreak of food poisoning. **(20)**

Q. 2. Write briefly on molecular diagnostic methods for invasive fungal infections. **(20)**

Q. 3. Describe briefly: **(3 x 10 = 30)**

- a. Laboratory diagnosis of Leptospira infection.
- b. Scrub typhus
- c. Burkholderia

Q. 4. Write short notes on: **(5 x 6 = 30)**

- a. Recent development in immunoprophylaxis of Pertussis
- b. Nosocomial fungal infection
- c. MRSA
- d. Subcutaneous mycosis
- e. Coagulase negative staphylococci

POST GRADUATE EXAMINATION, APRIL - 2015
MD MICROBIOLOGY
(PAPER THREE)
VIROLOGY AND PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe challenges, current status and prospects of dengue vaccines. (20)

Q. 2. Define eosinophilic meningitis and discuss in brief the parasitic causes of eosinophilic meningitis. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Larva migrans
- b. Laboratory diagnosis of filariasis
- c. Transmissible spongiform encephalopathies in humans.

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Pernicious malaria
- b. Viral haemorrhagic fevers
- c. Congenital toxoplasmosis
- d. Avian influenza A (H7N9) virus.
- e. Human specific immunoglobulins in treatment and or prophylaxis of viral infections

POST GRADUATE EXAMINATION, APRIL - 2015

**MD MICROBIOLOGY
(PAPER FOUR)**

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1.** Discuss hospital acquired infections. Mention in brief the role of the hospital infection control committee. (20)
- Q. 2.** Discuss recent advances in laboratory diagnosis of tuberculosis. Describe newer methods for detection of drug resistance in mycobacterium tuberculosis. (20)
- Q. 3. Describe briefly:** (3 x 10 = 30)
- a. Emerging haemorrhagic viral infection.
 - b. Pandemic influenza
 - c. Fungal rhinosinusitis
- Q. 4. Write short notes on:** (5 x 6 = 30)
- a. Shell vial culture
 - b. Rotavirus vaccine
 - c. Neurocysticercosis
 - d. Rapid tests in Kala azar
 - e. Bacterial vaginosis

POST GRADUATE EXAMINATION, MAY - 2016

**MD MICROBIOLOGY
(PAPER ONE)**

GENERAL BACTERIOLOGY & IMMUNOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Discuss the role of microbiologist in blood bank. (20)

Q. 2. Discuss foetus as a 'GRAFT'. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Techniques and applications of molecular genetics.
- b. Carriers
- c. Steam jacketed autoclave

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Anaerobiosis
- b. Hybridoma
- c. Bacterial spore
- d. Plasmid
- e. Bacterial monitoring of air in hospitals.

X

POST GRADUATE EXAMINATION, MAY - 2016

**MD MICROBIOLOGY
(PAPER TWO)**

SYSTEMIC BACTERIOLOGY & MYCOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1.** Discuss the recent advances in cultivation and identification of anaerobic bacteria of clinical significance. (20)
- Q. 2.** Describe the virulence factors of candida species and their role in human disease. (20)
- Q. 3. Describe briefly:** (3 x 10 = 30)
- a. Mycetoma
 - b. Medically important non-diphtheria corynebacteria.
 - c. Anti fungal susceptibility testing.
- Q. 4. Write short notes on:** (5 x 6 = 30)
- a. Chlamydial genital infections.
 - b. Non-tuberculous mycobacteria.
 - c. *Penicillium marneffi*
 - d. Tick-borne bacterial zoonosis.
 - e. Uropathogenic *Escherichia coli*.

X

POST GRADUATE EXAMINATION, MAY - 2016
MD MICROBIOLOGY
(PAPER THREE)
VIROLOGY AND PARASITOLOGY

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

- Q. 1.** Enumerate the viruses infecting central nervous system. Discuss the pathogenesis, ante mortem laboratory diagnosis and prevention of Rabies in man. (20)
- Q. 2.** Name the parasitic infections of the liver and discuss the pathogenesis and laboratory diagnosis of hydatid cyst disease in man. (20)
- Q. 3. Describe briefly:** (3 x 10 = 30)
- a. Copro culture for nematode larvae
 - b. Viral gastroenteritis
 - c. Newer emerging parasitic diseases
- Q. 4. Write short notes on:** (5 x 6 = 30)
- a. Acanthamoeba
 - b. Biological control of mosquitoes
 - c. Congenital viral infections
 - d. Ebola haemorrhagic fever
 - e. Oncogenic parasites

X

POST GRADUATE EXAMINATION, MAY - 2016

MD MICROBIOLOGY

(PAPER FOUR)

RECENT ADVANCES

[Time allotted: Three hours]

[Max Marks: 100]

Note: Attempt all questions
Illustrate with suitable diagrams.

Q. 1. Describe MALDI-TOF-MS in clinical microbiology. (20)

Q. 2. Give an update on development of HIV vaccine. (20)

Q. 3. Describe briefly: (3 x 10 = 30)

- a. Microarray
- b. Active surveillance cultures
- c. Fecal transplantation

Q. 4. Write short notes on: (5 x 6 = 30)

- a. Oncoparasites
- b. Zika virus
- c. Probiotics in treatment of acute diarrhoea.
- d. Occult HBV infection
- e. Vaccines for JE virus infection

X