FINAL EXAM
DECEMBER 2010

NATIONAL BOARD OF EXAMINATIONS

MICROBIOLOGY

PAPER – I

Time : 3 hours
Max. Marks : 100

MICRO/D/10/18/I

Attempt all questions in order.
Each question carries 10 marks

Write short notes on:

1. Laboratory diagnosis of Helicobacter pylori infection.
2. Non-venereal treponematosis.
3. Major virulence factors of Bordetella pertussis.
4. Gram negative anaerobic bacilli: their classification and importance.
5. List the genus and species of organisms included in the Acronym "HACEK" and the major diseases they cause. What are the characteristics of "HACEK"?
6. Phenotypic and genotypic methods for detection of MRSA.
7. Laboratory diagnosis of bubonic plague.
8. Laboratory diagnosis of cryptococcal meningitis.
9. Etiology and laboratory diagnosis of otomycosis.
10. Clinical manifestation and laboratory diagnosis of mucocutaneous candidiasis.

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PAPER – II

Time : 3 hours
Max. Marks : 100

MICRO/D/10/18/II

Attempt all questions in order.
Each question carries 10 marks

1. Enumerate the somatic nematodes. Briefly write on occult filariasis.
2. Enumerate the cestodes infecting man on basis of adult and larval stages. Give the laboratory diagnosis of hydatid disease.
3. Define recrudence and relapse in malaria. Briefly describe QBC and its advantage over microscopy.
4. Write about the transmission and laboratory diagnosis of Toxoplasma gondii infection.
5. Enumerate and outline the various stool concentration techniques.
6. What are oncogenes? How do they originate in normal cell? Name the oncogenic viruses and the type of cancers they cause.
7. Briefly write on the properties, pathogenesis and laboratory diagnosis of Hepatitis E Virus.
8. Write on the transmission, aetiopathogenesis and laboratory diagnosis of Chikungunya.
9. Write on the aetiopathogenesis, epidemiology and laboratory diagnosis of Avian flu.
10. What are inclusion bodies? How are they useful in identifying viral infections?

MICROBIOLOGY

PAPER – III

Time : 3 hours
Max. Marks : 100

MICRO/D/10/18/III

Attempt all questions in order.
Each question carries 10 marks

1. Define "Community Acquired Pneumonia". List the common causes. What will be your approach to laboratory diagnosis?
2. Enumerate and describe the Air Sampling method used for operation theatres.
3. What is the principle, methods and clinical application of pulsed-field gel electrophoresis in clinical Microbiology?
4. Enumerate the biological safety cabinets used in Microbiology Lab and write about their principles and uses.
5. List the suppurative and non-suppurative manifestations of Streptococcus pyogenes. Describe the laboratory diagnosis of acute rheumatic fever.
6. Enumerate the parasites causing anemia. Describe the role of thick and thin stained blood film examination in the laboratory diagnosis of malaria.
7. Enumerate the different methods used for testing disinfectants. Describe In-Use Test.
8. What is PUO? Enumerate the organisms causing PUO and outline briefly the laboratory diagnosis of any one of them.
9. Define an epidemic. Enumerate the steps in investigation and control of outbreaks to be followed by a Microbiologist.
10. Write briefly on Post Exposure Prophylaxis (PEP) in HIV.

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PAPER – IV

Time : 3 hours **MICRO/D/10/18/IV**
Max. Marks : 100

Attempt all questions in order.
Each question carries 10 marks

1. Briefly write on Louis Pasteur and his contribution to Microbiology.
2. Define bacterial fimbriae. Describe their types and properties.
3. What are monoclonal antibodies? Describe briefly the technique of hybridoma production. What are the applications of monoclonal antibody?
4. What are superantigens? Describe their role in immunity. Name four such antigens.
5. What is Antibody Dependent Cell Mediated Cytotoxicity? Describe the clinical conditions in which ADCC may be involved.
6. Write briefly on microarray analysis with its advantages and limitations. Give its clinical application in diagnostic Microbiology.
7. Define complement. Briefly write on the immunological and biological activities of complement components.
8. Enumerate the methods used in characterizing strains involved in an outbreak. Write in brief the principle with one example of bacteria for which it can be used.
9. What are toll like receptors? Write about their role in innate immunity.
10. Write briefly about the different methods used for preservation of microbial culture.