B.N.BANDODKAR COLLEGE OF SCIENCE, THANE

PRELIM EXAMINATION FEBRUARY 2011

DAY: MONDAY **T.Y. B.Sc** **MARKS: 100**
DATE: 7/2/11 **TIME: 11.00 am – 2.00pm**

MICROBIOLOGY Paper -II

NB:

1. **Attempt Any Five the questions.**
2. **Illustrate your answers with suitable examples.**
3. **All Questions carry equal marks.**

Q1. Answer the following (Any 4) **20M**

1. Give details of flow cytometry
2. Distinguish between tuberculoid leprosy & lepromatous leprosy.
3. Discuss western blotting.
4. Write a note on emerging diseases.
5. Give details of various systems developed for blood grouping
6. Distinguish between gonorrhoea & syphilis.
7. How would you measure the cell mediated cytotoxicity

Q2. A. Answer in Brief (any 2) **12M**

1. Comment on prophylactic measures & treatment for tuberculosis.
2. Give account of Whooping cough.
3. Diagnostic tests for *Streptococcus pyogenes*.
4. Give prophylaxis of
    a. Tetanus
    b. Enteric fever
    c. Rabies

B. Attempt the following (Any 8) **8M**

1. The toxin that blocks the release of acetycholine at the neuromuscular junction.
2. The food intoxication in which the symptoms are due to a toxin that blocks neurotransmission.
3. Spirally shaped flagellated bacteria that causes acute infective dirrahoea.
4. Name the strain used for preparation of vaccine as immunomodulator for TH-1 cells.
5. Name the protein used for mantoux test.

6. Define negri bodies.
7. Give two examples of heat killed vaccine
8. Organisms related to upper respiratory tract infections.
9. Name the transport medium for *Vibrio cholerae*.
10. Name selective medium for Mycobacterium.

Q3.A. Answer in Brief (any 2) **12M**

1. Quality assessment & quality control play an important part in the management of a clinical microbiology laboratory – Justify.
2. Explain life cycle of malarial parasite along with suitable diagram.
3. Comment on mechanism of action of cell wall inhibitors.
4. Diagnose a case of Gonorrhoea in the laboratory.
5. Describe drug resistance shown by micro organisms & tests for drug selection.

B. Attempt the following (Any 8) **8M**

1. The antibiotic that inhibits the formation & assembly of D – alanine –D – alanine dipeptide.
2. Antifungal drugs.
3. The synthetic drugs that act on DNA gyrase.
4. Name the strain used for preparation of salmonella oral vaccine.
5. Give examples of protein inhibitor antibiotics.
6. Name the new emerging diseases in the world.
7. Name two organisms causing STDs.
8. Name the causative agent of Syphilis.
9. Chloramphenicol inhibits nucleic acid synthesis. – State true or false.
10. GP-42 glycoprotein spike is present on HIV envelope. – State true or false.

Q4.A. Answer in Brief (any 2) **12M**

1. Give compare and contrast between classical and alternate pathway
2. Discuss various mechanisms involved in T cell activation
3. Explain the mechanism of IgE directed cell cytotoxicity and signal mediated cytotoxicity revealed by NK cells
4. Explain B cell activation and development

B. Attempt the following **8M**

1. Give examples of **(Any 4)**
   a. Regulators of lectin pathway
   b. Super-antigens
   c. Th1 Cytokines
   d. T-independent antigens
   e. anaphylatoxins

2. Explain the term: **(Any 4)**
   a. Class switching

b. Negative selection
c. Clonal anergy
d. Germinal centers
e. Co-stimulatory signals.

Q5.A. Answer in Brief (any 2) **12M**

1. write a note on preparation of Monoclonal antibodies and its applications
2. discuss new strategies for vaccine development

OR

Q5.A. Write an essay on types of hypersensitivity

B. Attempt the following **8M**

1. Define: (Any 4)

a. Immune tolerance
b. Adjuvant
c. Allergen
d. Isograft
e. Post zone phenomenon

2. Give significance of: (Any 2)

a. CFT
b. Competitive ELISA
c. Major and minor cross matching

3. Give examples of: (Any 2)

a. Immunodiagnostic teats based on agglutination principle
b. Purified macromolecular vaccine
c. Organ specific autoimmune disease