KALYANI MAHAVIDYALAYA
CITY CENTRE COMPLEX, KALYANI, NADIA
TEST EXAMINATION 2015
DEPARTMENT OF MICROBIOLOGY
PAPER VII

F.M: 50 **Time: 2 hrs**

(Use separate sheet for different groups)

GROUP A

I. Answer any five: (5X2)

a. What is expression vector?
b. What is phagemid?
c. What do you mean by selectable marker?
d. What is the function of polynucleotide kinase?
e. What is transformation efficiency?
f. What is the difference between insertion and replacement vector?

II. Answer any three: (3X5)

a. Write a short note on development of BT crops.
b. Describe the process of northern blot.
c. Write about two processes of introduction of foreign DNA.
d. What do you mean by shuttle vector? Differenciate between YIp and YRp.

GROUP B

I. Answer any ten questions (10X1)

a. Define corn steep liquor?
b. State properties of industrially useful microorganisms.
c. What is fermentation scale up process?
d. What is bio-transformation?
e. Schematically represent purification of antibiotics.
f. What is the causative agent of Salmonellosis?
g. Name one edible mushroom.
h. What is aflatoxin?
i. What is MAP?
j. What is the importance of cheese ripening?
k. What is GRAS?
l. What is Botox?

II. Answer any three questions (5X3)

a. Define immobilized enzyme. State the procedures for immobilizing enzymes.
b. Explain the significance of adding different precursors during penicillin fermentation.
c. What is the causative agent of Botulism?write a short note on pathogenesis.
d. Distinguish between: a) probiotics and vaccine b) food borne intoxication and food borne infection.

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PAPER VIII

F.M: 50 **Time: 2 hrs**

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GROUP A

. I. Answer ay ten questions: (10X1)

a. How does Nalidixicacid act as an anti microbial agent?
b. What are the factors responsible for skin tissue destruction by dermatophytes?
c. Define herd immunity.
d. What is disease cycle?
e. Which chemical is used for prepairing toxoid?
f. What is antigenic drift?
g. what is Viremia?
h. what is antibiotic assay?
i. define drug toxicity.
j. what are the common sources of epidemics?
k. what is Trismus?

II. Answer any three: (5X3)

a. Briefly write the role of remote sensing for disease forecasting. Differenciate between Bubonic and Pneumonic plague.
b. Distinguish between syndrome and symptoms. How do normal microbiota of human Body differ from transient microbiota?
c. Contrast communicable and contagious disease. How does Cholera toxin act on host (explain only with proper scientific diagram)?
d. What is Ghon complex ? The RBC which lacks Glucose-6-phosphate dehydrogenase enzyme are resistant to Malarial infection – explain. What is the infection location in case of Tinea manuum & Tinea cruris?

GROUP B

I. Answer any ten: (10X1)

a. MHC stands for....
b. What is Immunogen?
c. B cells bind antigen that is .....
d. Antibody binds to an epitope by weak noncovalent interactions(T/F).
e. Class II MHC genes encode glycoproteins expressed primarily on …….
f. The full form of HLA is ….
g. ..... present on trophoblast of placenta and prevent recognition of fetus as foreign
h. CTLs stands for....
i. The Antibody that can cross placenta is IgG(T/F).
j. CDRs stands for.....
k. What is Hypervariable region of Antibody molecule?
l. Class switching allows any given VH domain to associate with the constant region of any isotype (T/F).

m. IgG1 and IgG3 bind with high affinity to Fc receptors on phagocytic cells and thus mediate .....

n. B and T cells recognize different epitopes on the same antigenic molecule. (T/F)

II. Answer any five: (5X2)

a. What is meant by Class Switching of Antibody?
b. Give a difference of Primary Immune Response and Secondary immune Response.
c. How does Tolarence develop?
d. Why MHC Genes are called Haplotype?
e. What is Antigenecity?
f. What is Haptane?
g. How do APC represent the Antigen to T cells?

III. Answer any one: (5X1)

a. Give a description of structure of Antibody Molecule with diagram.
b. How do Cytotoxic T lymphocytes provide us immunity against pathogens?

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PAPER IX

F.M: 50 **Time: 2 hrs**

(Use separate sheet for different groups)

GROUP A

I. Answer all the questions: (4X1)

a. What is VAM?
b. Name one Cyanobacterium which is used as bifertilizer?
c. Write the full form of PGPR.
d. What is phylloplane?

II. Answer any two of the following: (3X2)

a.What is rhizosphere effect?
b.what is Bacteroides?
c. Name two Bacteria that control insects.

III. Disscuss the Steps of Biofertilizers Production. State two Advantages & two dis advantages of foliar Spraying. What are the processes of Nitrogen fixation in Fallow land? State three effect of IAA & GA on plant.
4+2+1+(1.5×2)

III. Write down short notes on (2.5×4)

a) Entomopathogenic fungi
b) Siderophore
c) Mycorrhizal biofertilizer
d) Phosphate Solubilization

GROUP B

I. Answer the following: (2X5)

a. What do you mean by rhizosphere and rhizoplane?
b. Name one microbe each for phosphate utilization and Siderophore production.
c. How *Anabaena azollae* utilized as biofertilizer?
d. What is ecorestoration?
e. What is bioterrorism?

II. Answer the following: (5X2)

a.How bioremediation of heavy metals and hydrocarbons are done from environment?
b.Write a short note on use of VAM in agriculture. Write a name of entomopathogenic fungi.