Total No. of Questions :5]

SEAT No. : ____

P515

[Total No. of Pages :2

[4917]-118
F.Y.B.Sc.
MICROBIOLOGY
Basic Techniques in Microbiology
(2013 Pattern) (New Course) (Paper - II)

Time : 3 Hours] ***[Max. Marks :80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Draw neat labelled diagrams wherever necessary.***
3) ***Figures to the right indicate full marks.***

Q1) Answer the following. **[16]**

a) Define: Numerical Aperture.

b) Name any two decolorizers used in staining.

c) Fill in the blanks.

i) _____ is used as biological indicator of sterilization.

ii) Membrane filter with _____ pore size is used for sterilization by filtration.

d) Name any two culture collection centres.

e) Define – Growth rate.

f) What is an Oligodynamic action.

g) Define diauxic growth curve.

h) Name two methods of counting of total viable count of bacteria.

Q2) Write short notes on any four. **[16]**

a) Use of autoclave for sterilization.

b) Spherical aberrations.

c) Fixatives.

P.T.O.

d) Role of peptone in media.

e) Chemoautotrophs.

f) Exponential phase.

Q3) Attempt any four of the following: **[16]**

a) what is synchronous culture? Explain any one method of obtaining synchronaus culture.

b) What are extremophiles? Give suitable examples.

c) Explain principle and significance of negative staining.

d) Diagramatically represent principle of dark field microscopy.

e) Write characteristics of an 'Ideal disinfectant'.

f) Comment on use of oil immersion objective.

Q4) Attempt any two of the following: **[16]**

a) What are differential media? Explain any one in detail.

b) Explain mechanism and significance of acid fast staining.

c) Describe different methods of maintainance of bacterial culture.

d) What is phenol coefficent? Explain any one method to determine it.

Q5) Attempt any one of the following: **[16]**

a) Enlist different methods of enumeration of bacteria. Explain any two methods.

b) Explain the principle, construction and working of bright field compound microscopy.