

Total No. of Questions : 20]

SEAT No. :

P2089

[Total No. of Pages : 3

[4929]-42

M.Sc. (Semester - IV)

ZOOLOGY

ZY-421: Animal Tissue Culture

ZY-422: Pollution Biology

ZY-423: Marine Biology

ZY-424: Bacterial and Phage Genetics

ZY-425: Medical Entomology

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *Attempt any two sections.*
- 2) *Attempt any two questions from each sections.*
- 3) *All questions carry equal marks.*
- 4) *Answer to the two sections should be written in separate answer books.*

SECTION - I

ZY-421: Animal Tissue Culture

- Q1)** Explain in detail the establishment of primary cell culture and comment on the problems encountered. **[20]**
- Q2)** What is cell line? Explain the establishment of insect cell line and give its importance. **[20]**
- Q3)** What is organ culture? Explain the methods of organ culture and comment on their importance in animal tissue culture. **[20]**
- Q4)** Write short notes on : **[20]**
- a) Karyotyping
 - b) Chemicals used in sterilization
 - c) Inverted microscope
 - d) Cell bank

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SECTION - II

ZY-422: Pollution Biology

- Q5)** Describe pesticide pollution. Explain its sources and effects on non-target animals. [20]
- Q6)** Describe the realms of water and stress their significance as an important component of biosphere. [20]
- Q7)** Describe various factors responsible for soil pollution. [20]
- Q8)** Write short notes on : [20]
- a) Litho sphere
 - b) Effects of air pollution
 - c) Photochemical smog
 - d) Radioactive pollution

SECTION - III

ZY-423: Marine Biology

- Q9)** What is an estuary? Give a detailed account on the types of estuaries. [20]
- Q10)** Describe in detail the components of a sea floor with the help of a flow chart diagram. [20]
- Q11)** Give an account of marine resources with reference to algal, animal and mineral resources. [20]
- Q12)** Write notes on : [20]
- a) Food chain in marine habitat.
 - b) Subdivisions of marine environment
 - c) Littoral zone
 - d) Control measures of biofouling

SECTION - IV

ZY-424: Bacterial and Phage Genetics

- Q13)** Explain in detail the process of bacterial transformation. [20]
- Q14)** Explain morphology, genome and life cycle of T 7 phage. [20]
- Q15)** Explain complementation and complementation groups and add a note on its significance. [20]
- Q16)** Write short notes on : [20]
- a) Hfr strain and its significance
 - b) Three points cross
 - c) RNA phages
 - d) Bacteriophage Mu.

SECTION - V

ZY-425: Medical Entomology

- Q17)** What is veterinary entomology? Explain the role of cat flea and *Hippobosca* in the transmission of diseases. [20]
- Q18)** Define vector. Explain the role of vectors from family psychodidae and muscidae in the transmission of diseases. [20]
- Q19)** Describe the causative agent, pathogenecity and control measures of typhus and Bubonic plague. [20]
- Q20)** Write short notes on :
- a) Dengue fever
 - b) Leishmaniasis
 - c) Rickettsia
 - d) Black flies

