N-56086

M. Sc. (Part-II) Examination
April / May - 2003
Zoology : Paper-VI (Special)
1 - Molecular Cell Biology, Cytogenetics & Biotechnology
2 - Molecular Endocrinology & Reproductive Physiology

Time: 3 Hours] [Total Marks: 100

1 - Molecular Cell Biology, Cytogenetics & Biotechnology

NB: All questions carry equal marks.
All questions are compulsory.
Illustrate your answers with neat diagrams wherever necessary

1. Write a detailed account on: a). Histone and non histone proteins
   b). Banding techniques and their significance

   OR

1. Write a detailed account on: a). Chromosomal aberrations
   b). Chromosomes and evolution

2. Describe: a). Role of Restriction enzyme type II in DNA modification
   b). Initiation and progression of DNA replication in eukaryotes

   OR

2. Describe: a). Regulation of Gene expression at the level of transcription
   b). Structure of interrupted genes

3. Write notes on: a). Modified PCR techniques
   b). RFLP analysis

   OR

3. Write notes on: a). Applications of biotechnology in medicine
   b). Isolation of genes coding for specific proteins

   b). Methods of gene transfer

   OR

4. Describe: a). Oncogenes and cancer
   b). Macrophages

5. Write short notes on Any three of the following:
   a). Synthesis inhibitor
   b). Heterochromatin
   c). Cloning
   d). Pleuripotent stem cells
   e). Transpotent elements
   f). Viruses and cancer

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NB: All questions carry equal marks. All questions are compulsory. Illustrate your answers with neat diagrams wherever necessary

1. Describe: a). Development of gonads  
   b). Role of Y chromosome in sex determination

   OR

1. Describe: a). Spermatogenesis  
   b). Structure and function of Leydig cells

2. Describe: a). Folliculogenesis  
   b). Ovulation and its control

   OR

   b). Placental hormones

3. Write notes on: a). Ultrastructure of epididymis  
   b). Axoneme of sperm

   OR

3. Write notes on: a). Cryopreservation of sperm  
   b). Accessory sex glands

   b). IVF and ET

   OR

   b). Vasectomy and its types

5. Write short notes on Any three of the following:

   a). Ultrasound and its applications  
   b). Hybridoma technology  
   c). Menstrual cycle  
   d). Primary lymphoid organs  
   e). Pampiniform plexus  
   f). Mammary gland