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**SUBJECT CODE NO:- F-6108**  
**FACULTY OF SCIENCE & TECHNOLOGY**  
**M.Sc. (Sem-IV) (Zoology)**  
**Examinations December/January-2022-23**  
**Methods in Biology-512**

[Time: 3:00 Hours]

[Max.Marks:80]

“Please check whether you have got the right question paper.”

N.B.

1. Part A is compulsory
2. Attempt any five questions from part B
3. Draw neat labeled diagram whenever necessary

**Part – A**

Q.1 Multiple choice questions.

**20**

- 1) Which of the following is not a DNA sequencing method
  - a) Sanger's method
  - b) Edmans's Method
  - c) Maxam-gilbert method
  - d) LMPCR
- 2) Choose the incorrect statement for cDNA libraries
  - a) They represent expressed sequences
  - b) Introns are not represented
  - c) They represent expressed sequences
  - d) They constitute of DNA copies produced from the RNA sequence and usually mRNA
- 3) The instrument used to draw clear magnified sketches of objects under the microscope is
  - a) Light microscope
  - b) camera attached stereomicroscope
  - c) Camera lucida
  - d) compound microscope
- 4) MRI stands for
  - a) Medical Radiometry Instrument
  - b) Magneto-Ray Idometry
  - c) Maximal Radiology Imaging
  - d) Magnetic Resonance
- 5) Which part of the light microscope controls the intensity of light entering the viewing area?
  - a) Condenser
  - b) Fine adjustment screw
  - c) Coarse adjustment screw
  - d) Diaphragm

- 6) ELISA is used to detect viruses where the key reagent is
- RNAse
  - Alkaline phosphate
  - Catalase
  - DNA probe
- 7) Fluorescent in situ hybridization (FISH)
- requires deoxynucleotides
  - is used in physical mapping of genomes
  - requires a DNA polymerase
  - is a cloning technique
- 8) Which part of the body mostly scanned by fMRI?
- Liver
  - Kidneys
  - Brain
  - Heart
- 9) Isolation of genomic DNA follows the same principles as that of obtaining plasmid from E. coli. Which of the following is not included in it?
- Removal of proteins
  - Cell lysis
  - Removal of chromosomal DNA
  - Dissolving plasmid in water
- 10) RFLP is a
- Molecular marker
  - Molecular scissor
  - PCR technique
  - Method of karyotyping

### Part – B

- |     |                                                                      |    |
|-----|----------------------------------------------------------------------|----|
| Q.2 | Write the principle and application of TEM.                          | 12 |
| Q.3 | Give an account on RAPD and AFLP                                     | 12 |
| Q.4 | What is radioisotope? Explain its type used in biology.              | 12 |
| Q.5 | Describe the mechanism of two dimensional electrophoresis            | 12 |
| Q.6 | Explain the use of UV Spectrophotometer for analysis of biomolecules | 12 |
| Q.7 | Write in brief the isolation and purification of RNA                 | 12 |
| Q.8 | Describe the principal and mechanism of western blotting technique   | 12 |