

**M.Sc. ZOOLOGY  
FIRST SEMESTER  
BIOINSTRUMENTATION  
MSZ-103**

**SET  
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

**(Objective)**

Marks: 10

*Choose the correct answer from the following:*

**1×10=10**

- How many DNA duplex is obtained from one DNA duplex after 4 cycles of PCR?  
a. 4  
b. 8  
c. 16  
d. 32
- Which of the following is used for the analysis of compositional properties of DNA?  
a. Southern blotting  
b. Northern blotting  
c. PCR  
d. CHEF
- What is used to remove colour from tissues fixed in Zenker's solution?  
a. Alcohol  
b. Lugol's iodine  
c. Tap water  
d. Acetone
- In photometers, the readings of the specimen are initially obtained in the form of which of the following parameters?  
a. Volume  
b. Wavelength  
c. Transmittance  
d. Absorption
- Which technique separates charged particles using electric field?  
a. Hydrolysis  
b. Electrophoresis  
c. Protein synthesis  
d. Protein denaturing
- Polymerase used for PCR is extracted from.....  
a. Escherichia coli  
b. Homo sapiens  
c. Thermus aquaticus  
d. Saccharomyces cerevisiae
- Which membrane is used in blotting?  
a. Agarose  
b. Sucrose  
c. Polythene  
d. Nylon
- Chemicals that react with stain to form precipitates are called as.....  
a. Mordant  
b. Peptidoglycan  
c. Safranin  
d. All of the above
- Sandwich ELISA which is detected in sample is a/an:  
a. Antigen  
b. Antibody  
c. Both A & B  
d. None of the above

10. Which types of molecules are used for labeling the cellular entities in the autoradiography technique?

- a. Glycoproteins
- b. Radioisotopes
- c. Stereoisomers
- d. Enantiomers

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( Descriptive )

Time : 1 hr. 15 mins.

Marks : 25

[ Answer question no.1 & any two (2) from the rest ]

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| 1. Write short note on: ( <i>any one</i> )   | 5  |
| a) Autoradiography   |    |
| b) Agarose Gel Electrophoresis   |    |
| 2. What is a fixative? Write about different types of fixatives with examples.   | 10 |
| 3. What is a blotting technique? Mention different types of blotting technique. Discuss the principle, procedure and application of Southern blotting technique. | 10 |
| 4. What is Beer-Lambert Law? Explain the working principle, procedure and application of Spectrophotometer.  | 10 |
| 5. What is ELISA? What is its Application? Discuss different types of ELISA with suitable diagram.   | 10 |

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