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**3 SEM TDC ZOO M 3**

**2021**

( March )

**ZOOLOGY**

( Major )

Course : 303

**( Bioinstrumentation and Biostatistics )**

Full Marks : 48

Pass Marks : 14

Time : 2 hours

*The figures in the margin indicate full marks  
for the questions*

1. Fill in the blanks with appropriate word(s) :  $1 \times 5 = 5$

(a) DNA is isolated by \_\_\_\_\_.

(b) \_\_\_\_\_ invented a microscope for viewing colourless and transparent biological materials without staining.

(c) Direct application of absolute alcohol to the tissue for histological study will cause \_\_\_\_\_.

- (d) The probability of occurrence of 'head' of a coin in a single trial is \_\_\_\_\_.
- (e) Square of the deviation taken from the mean is known as \_\_\_\_\_.

2. Give a brief description of the procedure for thin-layer chromatography. 6

3. (a) Distinguish between the following pairs : 4×4=16

(i) Magnification and Resolution power of a microscope

(ii) Mean deviation and Standard deviation

(iii) Scanning electron microscope and Transmission electron microscope

(iv) Random and Non-random sampling

(b) Write on the working principle and application of either spectrophotometer or colorimeter in biological science. 6

4. Write briefly on different components of a compound microscope with diagram. 5+2=7

Or

Write the working principle of a kymograph with a sketch. 5+2=7

5. What is meant by 'good sampling'? What are the precautions taken for a good sampling? What do you mean by sample size and what should be an ideal sample size? 2+3+3=8

Or

What do you mean by correlation analysis? What are the types of correlation? Discuss on the methods of estimation of correlation coefficient. 2+2+4=8

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