LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

FOURTH SEMESTER – **APRIL 2023**

UAZ 4603 – BIOPHYSICS AND BIOSTATISTICS

Date: 06-05-2023   Dept. No.   Max. : 100 Marks
Time: 09:00 AM - 12:00 NOON

Part A

Answer ALL the questions   **(10×2=20 Marks)**

1. What is Fick's law?
2. Define osmosis.
3. Comment on turgor pressure.
4. Write down the principles of colorimeter.
5. List out the medical uses of X-rays.
6. Differentiate primary and secondary data.
7. Differentiate bar diagram from histogram.
8. Comment on standard deviation.
9. What is frequency polygon?
10. Define student-t- test.

Part B

Answer any FOUR questions   **(4×10=40 Marks)**

11. Describe types of diffusion.
12. Give an account on Geiger-Muller counter.
13. Describe the medical uses of Ultrasound and LASER.
14. Write notes on qualitative data from quantitative data.
15. Illustrate the different types of tabulation.
16. Describe test of hypothesis.

Part C

Answer any TWO questions   **(2×20=40 Marks)**

17. Explain types and applications of centrifugation.
18. Describe autoradiography.
19. Summarize the different methods of data collection.
20. A tobacco company claims that there is no relationship between smoking and lung ailments. To investigate the claims random sample of 200 males in the age groups of 40-50 is given medical test. The observed sample results are tabulated below:

	Lung ailment	No lung ailment
Smokers	25	64
Non-smokers	12	35

On the basis of this information, can it be concluded that smoking and lung ailments are independent? (at 5% level of significance the value of X^2=3.841 for 1 d.f).

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