LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTHSEMESTER – APRIL 2017

AZ 5402 - BIOSTATISTICS & BIOPHYSICS

(08 BATCH ONLY)

Date: 02-05-2017   Dept. No.   Max. : 100 Marks
Time: 01:00-04:00

Part-A

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

1. Define primary data.
2. Differentiate bar diagram from histogram.
3. Define standard deviation with formula.
4. Comment on frequency curve and frequency polygon.
5. What is coefficient of variation?
6. Comment on dialysis
7. What is osmosis?
8. Comment on Autoradiography.
9. Comment on X-rays.
10. What is radioactivity?

Part-B

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

11. A tobacco company claims that there is no relationship between smoking and lung ailments. To investigate the claims random sample of 300males in the age groups of 40-50 is given medical test. The observed sample results are tabulated below:

	Lung ailment	No lung ailment
Smokers	24	58
Non-smokers	19	60

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).

12. The following table shows the between one to three hundred rank holders in Group I examination in different places of India. Draw the pie diagram to represent the data.

Ocean	Area (Million sq. km)
Tamilnadu	120
New Delhi	145
Andhra Pradesh	55
Kerala	60

13. Find out the students 't' test for the following data

In the beginning	41	43	38	48	52	40	30	38	42	38
After the month	55	45	42	54	56	44	36	42	43	42

14. Explain simple and facilitated diffusion.
15. Give an account on Geiger Muller counter.
16. What is osmosis? Explain the determination of osmotic pressure by mercury osmometer.

Part-C

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

17. Find out the arithmetic mean, standard deviation and draw the frequency polygon from the following data:

Variables	25-30	30-35	35-40	40-45	45-50	50-55
Frequency	13	8	11	9	16	8

18. Prices of a particular commodity in five years in two cities are given below

Price in city A	25	28	17	25	18
Price in city B	12	18	15	11	12

    Find the correlation coefficient of price of commodity among the city A and City B.

19. Write an essay on centrifugation.

20. What is surface tension? Briefly explain about capillary rise method and Drop weight method.

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