

(7 pages)

Reg. No. :

Code No. : 9426

Sub. Code : HZOM 23

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2015.

Second Semester

Zoology

BIostatistics and Computer Applications

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The graph in which midpoints of class plotted against frequency joined by smooth line is
 - (a) Ogive
 - (b) Frequency curve
 - (c) Frequency polygon
 - (d) Histogram

2. When several unbiased samples are drawn from the same population, the sampling technique is
 - (a) Random sampling
 - (b) Non-random sampling
 - (c) Purposive sampling
 - (d) Non-probability sampling
3. The probability distribution which occurs in continuum of space or time is
 - (a) Normal
 - (b) Binomial
 - (c) Poisson
 - (d) All of these
4. The relative measure of standard deviation is
 - (a) Mean deviation
 - (b) Standard error
 - (c) Coefficient variation
 - (d) Correlation coefficient
5. The ratio between experimental and observed results is represented by
 - (a) F-ratio
 - (b) chi-square
 - (c) t-test
 - (d) r-value
6. WSR rank test was developed by
 - (a) Karl Pearson
 - (b) Frank Wilcoxon
 - (c) Mann and Whitney
 - (d) Kalmogorov

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7. Completely randomised block design experimental design should be used for calculating
- (a) Correlation (b) Chi-square test
(c) ANOVA (d) t-test
8. Scatter diagram tells about
- (a) the relationship of two variables
(b) the nature of relationship between two variables
(c) quantitative measurement
(d) all of these
9. LAN is known as
- (a) Large Area Network
(b) Local Area Network
(c) Level Area Network
(d) Local Wide Area Network
10. High efficiency memory and fastest computer is
- (a) Micro computer
(b) Super computer
(c) Analog computer
(d) Main Frame computer

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 250 words.

11. (a) Draw a histogram for the length frequency of data given below, Find the mode graphically
- | | | | | | |
|-----------------------|-----|-----|-----|------|-------|
| Length of fish (cm) : | 2-4 | 4-6 | 6-8 | 8-10 | 10-12 |
| Number of fishes : | 4 | 16 | 12 | 14 | 8 |

Or

- (b) What are the differences between Bar diagram and histogram?
12. (a) Define the following :
- (i) Range
(ii) Variance
(iii) Standard deviation.

Or

- (b) A bag contains 5 white balls and 3 black balls. Another bag contains 4 white and 6 black balls. If one ball is drawn from each other. Find the probability that
- (i) Both are white
(ii) Both are black.

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[P.T.O.]



13. (a) Write a test procedure for testing the significance of a mean when sample is small.

Or

- (b) Explain the steps involved in the testing hypothesis.

14. (a) The following were pairs of values of the variables X and Y make a scatter diagram.

X: 2 3 5 6 8 9

Y: 6 5 7 8 12 11

Or

- (b) Write down the steps involved in the analysis of variance for one way classification.

15. (a) Describe the organization of computer.

Or

- (b) Explain any two commands commonly used in operating system.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b), each answer should not exceed 250 words.

16. (a) Evaluate the different methods of sampling and comment on their merits and demerits.

Or

- (b) Explain the different forms of representation of data and comment on the advantages.

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17. (a) What is dispersion? Distinguish between mean deviation and standard deviation. Find out the quartile deviation for the following data :

Classes :	Less than 50	50-70	70-90	90-110	110-130	130-150	Above 150
Frequency :	54	100	140	300	230	125	51

Or

- (b) Explain the characteristics and calculation of binomial distribution.

18. (a) What do you mean by statistical hypothesis? Describe in detail the null hypothesis and alternate hypothesis.

Or

- (b) In a dihybrid cross experiment from groups of plants A, B, C and D were produced in the F₂ generation with 882, 313, 287 and 118 plants (9 : 3 : 3 : 1) respectively. Using chi-square test find out whether the result support the theoretical prediction. (Table value for 3 degree of freedom at 5% level of significance is 7.81).

19. (a) Calculate correlation coefficient for the following data recorded on the yield of corn (kg) per plot of 50 sq.m exposed to different qualities of nitrogen.

Amount of N ₂ kg/plot :	20	30	50	90	100
Yield of corn (kg) :	8.45	12.75	10.9	14.8	15.75

Or

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(b) Find out the regression equation of the following data :

X: 13.4 15.1 15.3 16.8 17.5 19.2 21.2

Y: 8.9 10.0 10.1 11.1 11.6 12.6 14.0

20. (a) Explain the importance and usage of e-mail.

Or

(b) Write an essay on the various applications of computer.

