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Reg. No. :

Code No. : 8560

Sub. Code : HZOM 23

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2013.

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. Data observed or collected directly from first hand experience is called _____
(a) primary data (b) secondary data
(c) comparative data (d) none
2. The collection of all possible results of an experiment is _____
(a) sample space (b) data
(c) variables (d) none

3. The number or range of data in a set that occurs the most frequently is called _____
(a) mode (b) standard deviation
(c) error (d) none
4. A statistical function that described all the possible values that a random variable can take within a range. The statement described _____
(a) probability distribution
(b) mode
(c) error
(d) mean
5. Data collected from a simple random sample can be used to compute the _____
(a) sample mean (b) average
(c) mode (d) error
6. The term which is in connection with samples from identical factors in statistical calculation, is called _____
(a) homogeneity
(b) heterogeneity
(c) standard deviation
(d) none

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7. A _____ is simple number that described that degree of relationship between two variables

- (a) calculation (b) correlation
(c) average (d) none

8. AVOVA means

- (a) Analysis of variation
(b) Analysis of varieties
(c) Analysis of vector
(d) None

9. Internet works by connecting _____

- (a) cell phones
(b) computers
(c) cell phones and computers
(d) all

10. HTML means

- (a) Hyper Text Markup Language
(b) Hypo Text Markup Link
(c) Hyper Text Markup Link
(d) None.

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Illustrate the uses of three dimensional diagram.

Or

(b) Draw a smoothed frequency curve from the following data :

Length of Leaves (cm) : 2-3 3-4 4-5 5-6 6-7 7-8

No. of Leaves : 5 10 25 20 15 5

12. (a) Explain Normal Distribution and its important characteristics.

Or

(b) From the following data find out the median Maize yield in the state of Tamil Nadu.

Maize yield (Kg/ha) : 4000 4800 3200 4100 3900

No. of Districts : 3 6 6 5 8

13. (a) Explain the applications of the *t*-Distribution.

Or

(b) What is a hypothesis? Explain the purpose of hypothesis testing.



14. (a) Explain Karl Pearson's co-efficient of correlation with example.

Or

- (b) Find the linear regression equation of percentage worms (Y) on size of the crop (X) based on the following seven observations.

Size of the crop : 16 15 11 27 39 22 20

Percentage worms : 24 25 34 40 35 20 23

15. (a) Write a note on the types of Computers.

Or

- (b) Explain the applications of Excel and MS Word.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Differentiate Diagrams and Graphs. Explain each of them with suitable example.

Or

- (b) If 40% of a consignment of eggs are bad, estimate the chance that 5 eggs chosen at random contains

- (i) none
- (ii) one and
- (iii) at least one bad egg.

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17. (a) The weight of grape fruit from a large shipment averages 10.00 ounces with a standard deviation of 1.5 ounces. If these weights are normally distributed, what percent of grape fruits do you expect to weigh between 12.00 to 14.00 ounces?

Or

- (b) The following data give the values of glucose (mg) in 100 ml blood of human beings.

120, 119, 105, 88, 92, 125, 100, 105, 97, 95.

Calculate the standard deviation and determine the co-efficient of range.

18. (a) List and explain each step in the nine-step hypothesis testing procedure.

Or

- (b) In a random sample of 100 people it was found that 40 people belong to blood group O. Does this data support the claim that 35% of the people belong to blood group O in that population?

19. (a) An experiment was conducted to compare three methods of packaging a certain foreign food. The criterion was the ascorbic acid content (mg/100 gm) after a specified period of time. The following data were obtained.

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Packaging method

A	B	C
14	11	10
19	18	13
16	15	17
15	14	16
12	13	12

Do these data provide sufficient evidence at the 0.01 level of significance to indicate a difference in packaging methods?

Or

- (b) The following table shows the methyl mercury intake and whole blood mercury values in 10 subjects exposed to methyl through consumption of contaminated fish.

Methyl mercury intake (mg Hg/day) X	Mercury in whole blood (mg/g) Y
180	90
200	120
230	130
410	290
600	310

Methyl mercury intake (mg Hg/day) X Mercury in whole blood (mg/g) Y

550	300
580	175
600	380
250	70
115	100

Calculate Coefficient of correlation.

20. (a) Explain Role of MEDLINE and PUBMED in accessing biological information

Or

- (b) Explain Client Server computing technology.

