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6 SEM TDC DSE BOT (CBCS) 4 (H)

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(May)

BOTANY

(Discipline Specific Elective)

(For Honours)

Paper : DSE-4

(**Biostatistics**)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. (a) Choose the correct answer of the following : 1×3=3

(i) Means of two samples are compared by

- (1) *t*-test
- (2) chi-square test
- (3) correlation

(2)

(ii) Data can be represented in percentage by

- (1) frequency polygon
- (2) ogive
- (3) pie diagram

(iii) Which of the following is an example of random sampling?

- (1) Cluster sampling
- (2) Quota sampling
- (3) Purposive sampling

(b) Answer the following : 1×2=2

(i) What diagram is used to represent correlation?

(ii) Who developed regression analysis?

2. Write short notes on any *two* of the following : 3×2=6

- (a) Variables
- (b) Mean deviation
- (c) Range

(3)

3. Write explanatory notes on any *three* of the following : $5 \times 3 = 15$

(a) Definition, merits and demerits of quartile deviation

(b) Null hypothesis and alternative hypothesis

(c) Degrees of freedom in statistics

(d) Correlation coefficient

(e) t-test and its applications

4. Compare any *two* of the following pairs : $5 \times 2 = 10$

(a) Correlation and Regression

(b) Standard deviation and Standard error

(c) Primary data and Secondary data

5. What is sampling? Describe different random and non-random sampling techniques in statistics. $1 + 3 + 3 = 7$

Or

What is meant by classification and tabulation of data? Describe how data are classified in different categories. $2 + 5 = 7$

6. What is chi-square test? Calculate the chi-square (χ^2) value of the given data obtained from a dihybrid cross of pea plants in a field experiment :

2+8=10

Yellow and round seed : 555

Yellow and shrunken seed : 185

Green and round seed : 195

Green and shrunken seed : 65

Or

Write explanatory notes on the following :

5×2=10

(a) Regression analysis and its applications

(b) Merits, demerits and applications of geometric mean

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