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

**2024**

( 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 :  $1 \times 2 = 2$

(i) What diagram is used to represent correlation?

(ii) Who developed regression analysis?

2. Write short notes on any two of the following :  $3 \times 2 = 6$

- (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 ( $\chi^2$ ) 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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