

**M. Sc. Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) / Advanced
Diploma in Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) :
SUMMER - 2019**

SUBJECT- BIostatISTICS

Day: Tuesday
Date: 09/04/2019

Time: 10.00 AM TO 1:00 P.M.
Max Marks: 60

S-2019-1464

N.B.:

- 1) Q.1 and Q.5 are **COMPULSORY**
- 2) Solve any **TWO** questions from Q.2, Q.3, Q.4 from Section I and Q.6, Q.7, Q.8 from section II .
- 3) Figures to the right indicate **FULL** marks.
- 4) Answers to both the sections should be written in **SAME** answer books.

SECTION – I

Q.1 Define or Explain the following terms/concepts (**ANY FIVE**): **(10)**

- a) Range
- b) Dependant variable
- c) Scatter Diagram
- d) Growth Curve
- e) Census
- f) Sample
- g) Mode

Q.2 In hospital a patient was treated for malnutrition for four and half months. **(10)**
Calculate r (Coeff. of correlation), b (slope) and c (intercept)

Week no.	1	3	5	7	9	11	13
Body Wt.(Kg)	45	47	47	49	52	53	56

Q.3 Use entries from column A and column B to form meaningful statistical statement and rewrite them. **(10)**

Column A	Column B
Mean, Mode and Median are	Important concept in ANN modeling
Back propagation is an	Simple Random Sampling
If computed value of Ch-sq is greater than table value of Chi-sq	Representing the data so that drawing inference is made simple
One of the most common and simple method of sampling is	Analysis of variance in designed experiments
Bar charts, Line diagrams, Pie charts helps in	We REJECT the null hypothesis
F-test is commonly used in	Finding mathematical relationship between numerical variables
Regression analysis helps researcher in	Measures of Central Tendency
Randomization is a process which gives	Common non linear relationship used in scientific investigations
Exponential, Power and Polynomial are the	Non parametric Tests
Chi-sq test and Man-Whitney test are instances of	Fair chance to every experimental unit to appear in the sample

P.T.O

- Q.4** Write short notes on **(10)**
- a) Fuzzy logic
 - b) Markov Models

SECTION - II

- Q.5** Fruits from three vendors were classified into three grades. Frequencies were as under **(10)**

	Grade A	Grade B	Grade C
Vendor 1	20	20	10
Vendor 2	10	20	20
Vendor 3	15	20	10

Test the association between vendor and Grade of fruit supplied.
Table value of chi-sq at 0.05 prob. and 4df is 9.487

- Q.6** Differentiate between a Paired t-test and unpaired t-test, use real illustrative situations to explain. **(10)**
- Q.7** Define different measures of dispersion and use in scientific investigation. Explain how to compute them. **(10)**
- Q.8** ANOVA is very important in experimentation. Discuss with adequate examples. **(10)**

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