

**M. Sc. Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) / Advanced
Diploma in Bioinformatics Sem.-I (C.B.C.S.) (2013 Course) :
WINTER - 2018
SUBJECT: BIOSTATISTICS**

Day: Wednesday
Date: 31/10/2018

W-2018-1255

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

N.B.:

- 1) **Q.1 and Q.5** are **COMPULSORY**.
- 2) Solve **ANY TWO** from **Q.2,Q.3,Q.4**, from Section I and **Q.6,Q.7,Q.8** from section II
- 3) Figures to right indicate **FULL** marks.
- 4) Both the section to be written in **SEPARATE** answer books.

SECTION -I

Q.1 a) List various methods of sampling strategies in surveys. **(05)**

b) In a medical camp 20% of the people were treated for common EYE problems, 35% were treated for NOSE related problems and rest were treated for THROAT relate problems. Draw properly labeled PIE Chart **(05)**

Q.2 Define or Explain **any FIVE** the following terms/concepts: **(10)**

- a) Range
- b) Dependent Variable
- c) Scatter diagram
- d) Growth curve
- e) Census
- f) Sample
- g) Mode

Q.3 In a 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.4 Draw Network diagrams of different ANN Models,with proper labels. **(10)**

P.T.O.

SECTION –II

Q.5 Test association between Opinion and background of patients, using the feedback collected at a Hospital, regarding quality of services. **(10)**

	Good	Fair	Poor
Rural	20	20	10
Semi-urban	10	20	20
Urban	15	20	10

Table value of Chi-sq at 0.05 prob and 4df is 9.487

Q.6 When do you use the following tests? State clear instances. **(10)**
t-test (dependant) , t-test (paired), Chi-sq test, F- test, Man Whitney -U-Test

Q.7 Relationship between age (in months) and body weight of infants were found to have the following equations at the different geographic locations. Results are based on date of first four months after birth. **(10)**

	Mumbai	Jalandhar
Intercept (a)	2.5	3.0
Slope	0.52	0.63
Correlation coefficient	0.875	0.93

- a) Write the linear regression equation clearly in proper notation.
- b) What was the weight at birth in each case and which city showed the best weight?
- c) Predict the weight of infants after 5 months for each city and compare.
- d) Which city shows maximum dispersion (variation) amongst the three?

Q.8 ANOVA is very in experimentation. Discuss with adequate examples. **(10)**

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