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MBN-010-002107

Seat No. _____

P. G. Diploma in Hospital Management (Sem. I) (CBCS) Examination

April / May - 2018

Biostatistics

Faculty Code : 010
Subject Code : 002107

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) Attempt all questions.
(2) Each question carries equal marks.

1 Answer the following questions : (any **seven**) **14**

(1) Write the types of statistical data.

(2) In moderate negative correlation coefficient r lies between _____.

(3) A hypothesis of no difference between statistic of a sample and parameter of a population is called _____.

(4) Pearson's correlation coefficient r = _____.

(5) The rage of regression coefficient is _____.

(6) The _____ is applied when sample size is small.

(7) The regression coefficient b_{yx} = _____.

(8) Write the regression equation of line of X on Y.

(9) Define alternative hypothesis.

2 Answer the following questions : **14**

(a) Define following terms :

(1) Mean

(2) Median

(3) Mode.

(b) Draw the Histogram of the following data :

Reaction mm	8-10	10-12	12-14	14-16	16-18	18-20	20-22
Frequency	24	52	42	48	12	8	14

OR

2 Answer the following questions : **14**

(a) Explain methods of presentation of data.

(b) Erythrocyte sedimentation rates (ESRs) of 11 subjects are 9, 8, 7, 5, 3, 4, 6, 7, 4, 7 and 5. Find median and mode.

3 Answer the following questions : **14**

(a) Find the equation of line of regression of Demand (Y) on Price (X) for the following data.

Price (X)	4	6	9	11	14	16
Demand (Y)	14	12	10	7	5	3

(b) Define correlation and discuss their types.

OR

3 Answer the following questions : **14**

(a) Find correlation coefficient for the following Mathematics score (X) and English score (Y) of five students.

X	40	35	48	50	27
Y	20	25	35	45	35

(b) The intelligence quotient of 10 boys is given below :

IQ	91	83	72	63	52	64	75	60	83	52

Find semi-interquartile range and mean deviation.

4 Answer the following questions : **14**

(a) Draw Scatter diagram of the following data :

Weight (kg)	62	53	73	99	56	45	82
Height (cm)	174	172	165	159	161	168	167

(b) Explain Type - I error and Type - II error.

OR

4 Answer the following questions : **14**

(a) Discuss the uses of the standard error of means in large samples.

(b) The incubation period of 10 polio cases are 25, 26, 15, 28, 26, 22, 20, 19, 13 and 21. Find S.D. and C.V.

5 Answer the following questions : **14**

(a) In a study on growth of children, one group of 100 children had a mean height of 60 cm and SD of 2.5 cm while another group of 150 children had a mean height of 62 cm and SD of 3 cm. Is the difference between the two groups statistically significant?

(b) Index of brightness of 50 boys and 50 girls gave following values :

	Mean	SE
Boys	91.2	5.23
Girls	90.8	4.41

Find 95 % confidence limits of mean index of brightness.

OR

5 Answer the following questions : **14**

(a) Systolic blood pressure of 9 normal individuals who had been recumbent for 5 minutes was taken. Then 2 ml of 0.5% solution of hypotensive drug was given and blood pressure recorded again. Did the injection of drug lower the blood pressure?

Blood pressure Before injection	122	121	120	115	126	130	120	125	128
Blood pressure after injection	120	118	115	110	122	130	116	124	125

(b) Define following terms :

(1) Range

(2) Interquartile range

(3) Mean Deviation.