



**HDO-010-002107**

Seat No. \_\_\_\_\_

**Post Graduate Diploma in Hospital Management  
(Sem. I) (CBCS) Examination**

**November / December – 2017**

**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 formula for Pearson's correlation coefficient.
- (2) Regression coefficient lies between \_\_\_\_\_.
- (3) The t-test is applied when sample size is \_\_\_\_\_.
- (4) What are the types of statistical data?
- (5) In moderate positive correlation coefficient  $r$  lies between\_\_\_\_\_.
- (6) Define null hypothesis.
- (7) Define alternative hypothesis.
- (8) The regression coefficient  $b_{yx} =$  \_\_\_\_\_.
- (9) Write the regression equation of line of Y on X.

**2 Answer the following questions : 14**

(a) Draw the Histogram of the following data :

Blood Pressure :	70 - 75	75 - 80	80 - 85	85 - 90	90 - 95	95 - 100
No. of males :	6	18	46	17	6	2

(b) Explain methods of presentation of data.

**OR**

2 Answer the following questions : 14

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

Price ( $X$ )	3	5	7	10	11	12
Demand ( $Y$ )	15	13	11	9	8	4

- (b) Define following terms :

- (1) Mean
- (2) Median
- (3) Mode.

3 Answer the following questions : 14

- (a) Erythrocyte sedimentation rates (ESRs) of 7 subjects are 7, 5, 3, 4, 6, 4 and 5. Find mean, median and mode.
- (b) Discuss types of Correlation.

**OR**

3 Answer the following questions : 14

- (a) Find the cumulative frequency and draw Ogive.

Weight of Children (kg)	60 – 61	61 – 62	62 – 63	63 – 64	64 – 65	65 – 66	66 – 67
No. of Children ( $f$ )	10	20	45	50	60	40	15

- (b) Find semi-interquartile range and mean deviation of the following data.

Height (cm)	165	172	188	168	152
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4 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) Explain Type-I error and Type-II error.

**OR**

4 Answer the following questions : 14

- (a) 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.
- (b) Systolic Blood pressure of 566 males was taken. Mean blood pressure was found to be 128 mm and SD 13.05 mm. Find 95 % confidence limits of Blood pressure.

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) Define following terms :
- (1) Range
  - (2) Interquartile range
  - (3) Mean Deviation.

OR

5 Answer the following questions : 14

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