

[LI 0216]

FEBRUARY 2016

Sub.Code :2604

**B.Sc. RESPIRATORY THERAPY  
FIRST YEAR  
PAPER IV – BIO STATISTICS AND PHYSICS**

*Q.P. Code: 802604*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Obtain the regression equation of Y on X for the following data.

X(Age)	66	35	56	42	72	36	63	47	55	45
Y (BP)	145	124	147	125	160	118	128	128	150	124

Also estimate the BP of a man whose age is 50 years.

2. What is sampling? Explain the important methods of sampling commonly used?
3. A. Discuss the anatomical structures and its contribution, significance of pulmonary Ventilation.  
B. Identify muscles associated with breathing and their function in pulmonary ventilation at rest and during exercise. Discuss about control of respiration.

**II. Write Notes on:**

**(8 x 5 = 40)**

1. Distinguish between correlation and regression.
2. Explain student's t-test and its application.
3. What are the characteristics of good average?
4. Write notes of Multivariate analysis.
5. Write notes on mann whitney U-test?
6. An IQ test was administered to 5 persons before and after they are trained, the result are given below.

Candidate	I	II	III	IV	V
IQ Before	110	120	123	132	125
IQ After	120	118	125	136	121

7. Ideal gas equation – How do you arrive at it?
8. Hypoxic pulmonary vasoconstriction.

**III. Short Answers on:**

**(10 x 3 = 30)**

1. Name different measures of central values.
2. Define Harmonic mean.
3. Define statistics.
4. Define Standard deviation.
5. What is the need of sampling?
6. Define null and alternative hypothesis.
7. Define correlation and its properties.
8. Anatomical dead space.
9. Avagadro's number.
10. Define shunt and dead space.

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