

M.A./M.Sc. Examination, 2015

**Semester-IV
Anthropology
Paper – XXVIII
(Biostatistics)**

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer Question No. 6 and *any three* from the rest.

1. What is normal distribution? Calculate central tendency and standard deviation of a hypothetical distribution. 3+3+4=10

2. When do we use parametric test? In a clinical trial of antihypertensive drug (Y), the following data on 200 individuals were recorded. Is the drug 'Y' effective in nature?

Groups	Died	Survived
Placebo	20	50
Drug	10	120

2+8=10

3. What is ANOVA? The post load blood sugar and weight of 12 individuals were recorded and given below. Could such differences arise due to chance? 3+7=10

Post load blood sugar: 179, 190, 183, 165, 180, 175, 175, 180, 187, 150, 170, 180
(mg%)

Weight (Kg) : 51, 54, 56.5, 53, 60.5, 60, 64.5, 85.5, 90, 75, 80, 79.5

4. The following table shows the body weight and plasma volume for 8 healthy males:

Body weight (Kg) : 58.0, 70.0, 74.0, 63.5, 62.0, 70.5, 71.0, 66.0 2+6+2=10

Plasma Volume (l) : 2.75, 2.86, 3.37, 2.76, 2.62, 3.49, 3.05, 3.12

(a) Draw a scatter diagram to independence of body weight on plasma volume

(b) Fit a straight line to the data and enter it on the scatter diagram

(c) Was there a significant relationship between plasma volume and body weight

5. What is sampling? Discuss the available sampling techniques in data collection. 2+8=10

6. Write short notes on *any two* of the following: 5+5=10

(a) Logistic regression

(b) Student's 't' test

(c) Centiles

(d) Probability