

FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA

B.Sc. Medical Laboratory Science Degree Programme

Year End Examination, Year 1 -7th Batch - December 2015

Basic Statistics (MLS 1105)



Date: 22nd December 2015

Time: 10.00 am- 12.00 am

Duration: 2 Hours

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Structured Essay Questions - Answer all questions

Question 1

1.1 List two characteristics of a pie chart (20 marks)

a.....

b.....

1.2 List 3 measures of central tendency (30 marks)

a.....

b.....

c.....

1.3 The sample mean of the LDL level of 100 patients with IHD was 130 mg/dL and the standard deviation was 20 mg/dL.

1.3.1 What is the scale of measurement of LDL? (10 marks)

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1.3.2 Calculate the 95% confidence interval for the population mean (40 marks)

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1.3.3. How do you explain the result obtained for the question 1.3.2?

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Question 2

2.1 Explain the following terms

2.1.1 Target population (20 marks)

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2.1.2 Sampling frame (20 marks)

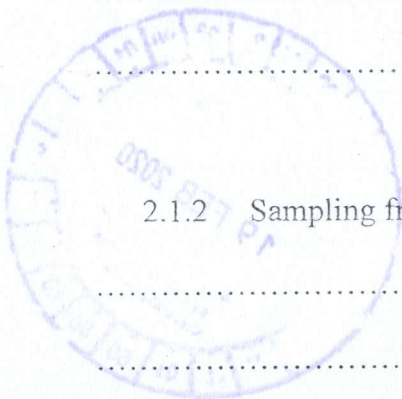
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2.1.3 Purposive sampling (30 marks)

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2.1.4 Systematic sampling (30 marks)

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Question 3

A study was conducted to determine whether there is any association between obesity and diabetes. A random sample of 400 adults was surveyed. Of the total, 100 were obese. Among those obese, 60 were diabetics. Among non-obese, 100 were diabetics.

3.1 State null and alternative hypothesis. (20 marks)

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3.2 Draw a 2x2 table for the above data and calculate expected frequencies (40 marks)

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3.3 Test the hypothesis at 5% significance level (20 marks)

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3.4 What can you conclude from the results? (20 marks)

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4.2.2. What is the independent variable of this equation? (10 marks)

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4.2.3. What is the estimated HDL level of the following individuals? (40 marks)

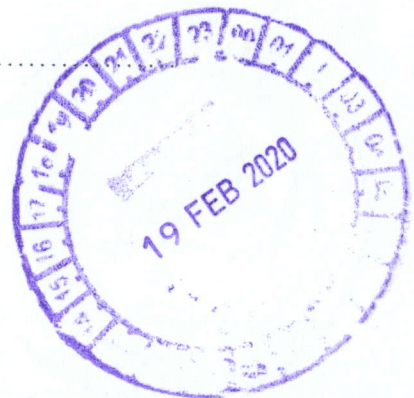
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A person with the age of 30 years

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A woman with the age of 50 years

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