## FACULTY OF MEDICINE, UNIVERSITY OF RUHUNA



## B.Sc. Medical Laboratory Science Degree Programme

Year End Examination, Year 1 –7<sup>th</sup> Batch - December 2015 Basic Statistics (MLS 1105)

Date: 22<sup>nd</sup> December 2015

Time: 10.00 am- 12.00 am

Duration: 2 Hours



## Structured Essay Questions - Answer all questions

Questi	on1
	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
	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)
	1.3.2 Calculate the 95% confidence interval for the population mean (40 marks)
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	O FEB TOTAL
	198

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

2.1.3	Purposive sampling (30 marks)
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)
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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19 FEB 2010	1
3.4 What can you conclude from the results? (20 marks)	
	36

Question 4
4.1 Briefly describe the term correlation coefficient (40 marks)
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遊
12 The regression equation of the term of
4.2 The regression equation of the two variables HDL level (mg/dL) and age of a group of patients are given below.
HDL = 60 - 0.5(Age)
(96)
4.2.1. What is the dependent variable in this equation? (10 marks)

4.2.2. What	is the independ	dent variable of	this equation? (1	0 marks)	
4.2.3. What	is the estimated	d HDL level of	the following ind	ividuals? (40 n	narks)
A person v	with the age of	30 years			
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A woman v	with the age of	50 years			
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