UNIVERSITY OF RUHUNA – FACULTY OF MEDICINE
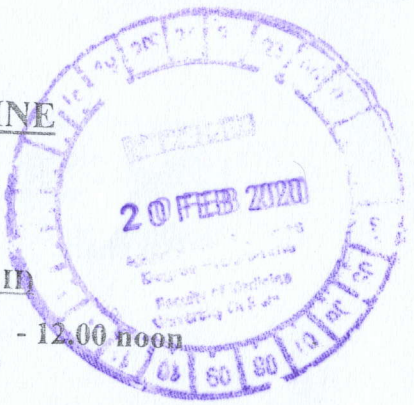
MEDICAL LABORATORY SCIENCE DEGREE PROGRAMME

Year End Examination - Year 2 - 7th Batch

STATISTICS & RESEARCH METHODOLOGY MLS 2102 (Theory II)

Date: 15th March 2017

Time: 10.00 a.m. - 12.00 noon

INDEX NO:..

(37)

Structured Essay Questions - Answer all questions

1

1.1 Explain briefly why statistics is important in Medical Laboratory Sciences.

(40 marks)

1.2 Explain briefly the following. (60 marks)

Bar charts

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Variability

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Descriptive statistics

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Correlation coefficient

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2. A study was conducted to determine whether there is any association between growth retardation and hemoglobin level of infants. A random sample of 400 infants was selected from the Galle district. Of the total, 100 children had Hb < 15 (g/dL) and among them 40 had some form of growth retardation. Among other infants (n= 300) 50 had some form of growth retardation.

2.1 State null and alternative hypotheses.

(20 marks)

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2.2 Draw a 2 × 2 table for the above data and calculate expected frequencies

(20 marks)

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2.3 Test the hypothesis at 5% significance level

(40 marks)

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2.4 What can you conclude from the results?

(20 marks)

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3. Write a short note on literature review highlighting the purposes of literature review.

(100 marks)

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4. A study was conducted to evaluate the usefulness of blood glucose measurement using dried capillary blood spots on filter paper. The results were compared with blood glucose level measured using venous blood. The following figure illustrates the relationship.
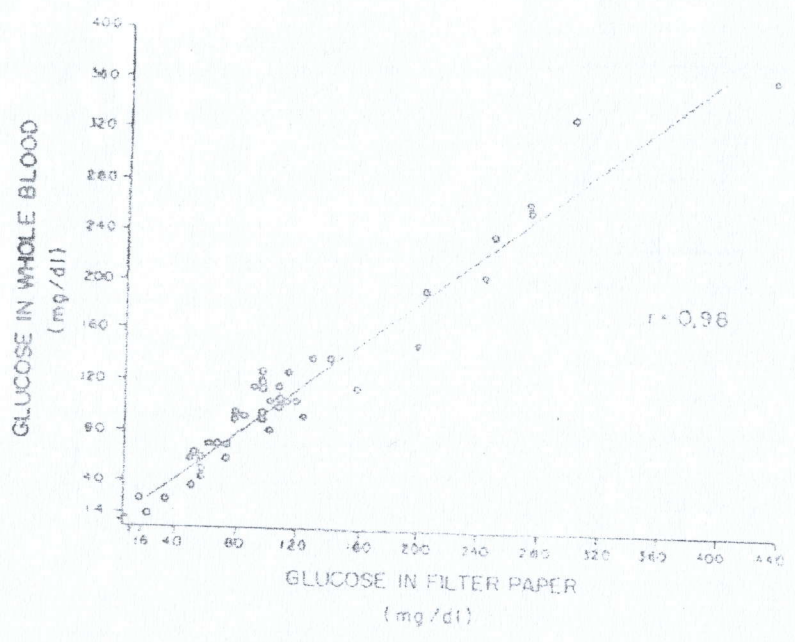
4.1 What are the variables used in this study?

(20 marks)

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4.2 Describe the relationship between the variables. (30 marks)

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4.3 It is found that correlation coefficient (r) is significantly different from zero.

4.3.1   What is the test that should be used to come to the above conclusion?

(20 marks)

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4.3.2 How do you interpret the results shown in the figure? (30 marks)

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