

UNIVERSITY OF RUHUNA  
FACULTY OF MEDICINE



THIRD EXAMINATION FOR MEDICAL DEGREES PART II, 07<sup>th</sup> AUGUST 2003  
COMMUNITY MEDICINE PAPER I

Answer ALL FIVE questions

Answer Part A, Part B, Part C and ~~Part D~~ in SEPARATE books

*Duration: Three Hours*

Part A

1. Explain how the following activities contribute towards promoting community health.
  - 1.1 Home visits by the Public Health Midwife. (40 marks)
  - 1.2 School Medical Inspections (30 marks)
  - 1.3 Notification of communicable diseases. (30 marks)
  
2. 2.1 Describe briefly the following
  - 2.1.1 Health needs of adolescents in Sri Lanka. (25 marks)
  - 2.1.2 The importance of pre-placement examination and record keeping in relation to occupational health. (25 marks)
  
- 2.2 Describe the presentation of anthropometric data in a nutritional assessment of
  - 2.2.1 individuals. (15 marks)
  - 2.2.2 a community. (15 marks)
  
- 2.3 Write notes on the clinical significance of zinc deficiency. (20 marks)

Part B

3. 1 Explain briefly the characteristics of a disease suitable for screening. (30 marks)
  
- 3.2 A screening programme was carried out to identify CA cervix in women aged over 40 years using pap smears. Describe an epidemiological study design to determine the effectivity of the screening programme. (30 marks)
  
- 3.3 A cohort study to find the association of alcohol consumption and myocardial infarction (MI) among a specified population of 59,269 men gave the following results.

Alcohol consumption	No. of cases with MI	MI incidence per 100,000 person years
Yes	209	74.4
No	105	26.0
Total	311	405.2

- 3.3.1 Calculate the cumulative incidence rate. (10 marks)
- 3.3.2 Calculate the relative risk. (10 marks)
- 3.3.3 Explain the epidemiological implications of
  - 3.3.3.1 cumulative incidence rate. (10 marks)
  - 3.3.3.2 relative risk. (10 marks)

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Part C

4. 4.1 Write notes on the following (20 marks)
- 4.1.1 Reproduction rates (20 marks)
  - 4.1.2 Standardized mortality rates (15 marks)
  - 4.1.3 Population doubling time (15 marks)
  - 4.1.4 Replacement level fertility

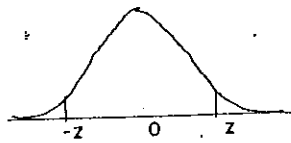
4.2 Describe briefly the health and environment hazards of improper disposal solid wastes. (30 marks)

5. 5.1 Explain the following (20 marks)
- 5.1.1 Standard Error (SE) of a mean. (15 marks)
  - 5.1.2 95% Confidence Interval (95%CI) for a population proportion.

5.2 An investigation was carried out to find out whether a certain rare congenital metabolic disorder had an effect on the age at which the children suffering from that disorder started walking. 20 children with this disorder were followed up to ascertain the age at which they started walking. The mean age at which they started walking was 12.9 months with a standard deviation of 2.5 months. It is known that the mean age at which normal healthy children started walking is 11.5 months.

- 5.2.1 Write the null-hypothesis appropriate for this investigation. (10 marks)
- 5.2.2 Name the statistical test you would choose to test the hypothesis. (5 marks)
- 5.2.3 Explain the reasons for selecting the statistical test mentioned under 5.2.2 (20 marks)
- 5.2.4 Apply the selected statistical test at two sided 0.05 significance level and state your conclusions. (30 marks)

*Areas in two tails of the standard normal curves*



z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
1.5	.134	.131	.129	.126	.124	.121	.119	.116	.114	.112
1.6	.110	.107	.105	.103	.101	.099	.097	.095	.093	.091
1.7	.089	.087	.085	.084	.082	.080	.078	.077	.075	.073
1.8	.072	.070	.069	.067	.066	.064	.063	.061	.060	.059
1.9	.057	.056	.055	.054	.052	.051	.050	.049	.048	.047

*t table*

df	Significance level		
	0.10	0.05	0.02
18	1.734	2.101	2.552
19	1.729	2.093	2.539
20	1.725	2.086	2.528
21	1.721	2.080	2.518