

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1990

Date : 17th September, 1990

Time: 2.00p.m. - 5.00 p.m.

Answer all five questions.

1. The following data were available for 1988 for a health unit area

Estimated midyear population	100,000	
Number of live births	2,500	
Number of maternal deaths	10	
Number of infant deaths	300	(of which 150 were due to diarrhea)
Number of infant deaths in the first month of life	160	

1.1 Calculate and comment briefly on the relevant rates for the area
(50 marks)

1.2 Outline a program for improving the health situation in the area
(50 marks)

2. Discuss the usefulness of

2.1 The child-health development record in the prevention of malnutrition in pre-school children
(50 marks)

2.2 An occupational history in a 45 year old male presenting with chronic cough.
(50marks)

3. The following data are taken from a study done to investigate the relationship between serum cholesterol and Ischaemic Heart Disease
A total of 255 persons were studied, of whom 55 had Ischaemic Heart Disease and 140 had high serum cholesterol levels. Of the 200 controls 100 had high serum cholesterol levels.

3.1 What type of study was done - (20 marks)

3.2 Present the above data in a 2x2 table - (40 marks)

3.3 Name the statistical test/s you would use to decide whether there is a relationship between Ischaemic Heart Disease and serum cholesterol levels
(20 marks)

4. List the preventive and control measures taken in
- 4.1 Japanese encephalitis (25 marks)
 - 4.2 Dengue Haemorrhagic fever (25 marks)
 - 4.3 Filariasis (25 marks)
 - 4.4 HIV infection (AIDS) (25 marks)
5. Write notes on,
- 5.1 The certificate of cause of death (25 marks)
 - 5.2 The value of family planning in improving maternal health (25 marks)
 - 5.3 The rate of natural increase in Sri Lanka (25 marks)
 - 5.4 The difference between the incidence and prevalence of a disease (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1992

Date: 15th September, 1992

Time- 2.00 p.m.- 5.00 p.m.

Answer all five questions.

1. In 1971, Sri Lanka had an estimated midyear population of 12,600,000. Of this population 2,700,000 were females 15-49 years of age and of them 1,800,000 were married.
During this same year 195,000 males and 185,000 females were born alive there were 97,000 deaths of which 16,000 were under one year of age. Of these deaths under one year of age, 60% were in the first 4 weeks of life and of the deaths in the first 4 weeks of life, 40% were in the first week.

Calculate all possible fertility and mortality rates. (100 marks)
2.
 - 2.1 Define perinatal mortality rate. (10 marks)
 - 2.2 What measures could be taken to reduce the perinatal mortality rate in Sri Lanka. (90 marks)
3. Describe how you would conduct a study to determine the level of cross-infection (nosocomial infections) in a pediatric ward with 100 patients and with an average duration of three days stay in hospital. (100 marks)
4. Write notes on the following,
 - 4.1 'Chi Square' test of significance. (35 marks)
 - 4.2 Role of carriers in the transmission of disease. (30 marks)
 - 4.3 Incidence and prevalence of a disease. (35 marks)
5. In a study to assess the validity of a urine test in the diagnosis of diabetes mellitus the following results were obtained. 200 subjects had the post prandial blood sugar (PPBS) levels done 15 of whom had blood glucose levels of >10.0 mmol/l (i.e. diabetes mellitus). Of them, 10 subjects gave a positive urine test. Another 15 subjects who had blood PPBS levels less than 10.0 mmol/l too gave a positive urine test.
 - 5.1 What information could be derived from this data? (60 marks)
 - 5.2 How useful would this test be as a screening test for diabetes mellitus. Discuss giving reasons. (40 marks)

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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1993

Date: 15th September, 1993

Time : 2.00 p.m. - 5.00 p.m.

Answer all five questions.

1. List the information that can be obtained from the Child Health Development Record (CHDR) regarding the health status of the child. (50 marks)

Discuss the usefulness of the growth chart as an educational tool. (50marks)

2. When an Enzyme Linked Immunosorbent Assay (ELISA) for HIV antibodies was carried out in 200 patients, with AIDS, 194 of them were found to be positive. When the test was carried out in 600 healthy people, the test was positive in 12 individuals.

2.1. Write the 2 x 2 table. (30 marks)

2.2. Calculate the sensitivity and specificity of the test (40 marks)

2.3. Comment on the usefulness of the test for screening of blood donors. (30 marks)

3. Outline the current strategies used in Sri Lanka for,

3.1. The control of malaria (25 marks)

3.2. Eradication of Poliomyelitis (25 marks)

3.3. Elimination of neonatal tetanus (25 marks)

3.4. Control of Japanese encephalitis (25 marks)

4. The following information was obtained from the registers of a midwife whose area has a population of 4,000 and a birth rate of 25 per 1000 population:

No. of pregnant women under care - 50

No. of infants under care - 75

New acceptors of family planning for
the previous year - 20

Total no. of eligible families - 300

How would you assess the performance of the midwife using this information ? (100 marks)

5. Comment on the following statements:
- 5.1. The mortality rate for measles in Sri Lanka is only 1.5 per million populations, hence there is no need for a national measles immunization program (35 marks)
 - 5.2. In a given year, the crude death rate for Sri Lanka was 7/1000 population while that for England was 12/1000 population. Therefore, the health services of Sri Lanka are better than in England. (35 marks)
 - 5.3. Pneumonia is a serious cause of absenteeism in the workforce compared to common cold as indicated by the fact that those who contracted pneumonia absent themselves for 10 days while those with common cold take leave only for 2 days. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1994

Date:- 20th September, 1994

Time: 2.00 -5.00 p.m.

Answer all Five questions.

1.
 - 1.1 What is epidemiological surveillance? (20 marks)
 - 1.2 List the registers, returns and charts used by the following health Personnel for surveillance and control of notifiable diseases:
 - i. Medical Officer of Health. (20 marks)
 - ii. Public Health Inspector. (20 marks)
 - 1.3 Describe their usefulness. (50 marks)

2. The estimated mid-year Population in a health unit is 60,000 for 1993. The following information is available in this area for the same year:

Married women of reproductive age - 8400.

Female births - 612
Male births - 588
Total deaths - 360
Total infant deaths - 20
Infant deaths in the first 4 weeks of life - 12
Infant deaths in the first week of life - 4
Infant deaths due to diarrhoeal diseases - 8
 - 2.1 Calculate all possible fertility and mortality rates. (60 marks)
 - 2.2 Based on the above rates, what observations can you make on the child health services in the area. (40 marks)

3.
 - 3.1 What is a maternal death? (10 marks)
 - 3.2 List four leading causes of maternal deaths in Sri Lanka. (20 marks)
 - 3.3 Describe briefly activities carried for prevention of maternal deaths in Sri Lanka. (70 marks)

4. Discuss briefly:
 - 4.1 The prevention HIV infection/AIDS. (50 marks)
 - 4.2 Emerging health problems related to increasing life expectancy at birth. (50 marks)

5. Write notes on,
 - 5.1 The usefulness of Hepatitis B Vaccine. (25 marks)
 - 5.2 Chemoprophylaxis for malaria. (25 marks)
 - 5.3 Criteria of a good screening test. (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1995

Date - 12th September, 1995

Time - 2.00 - 5.00 p.m.

Answer all Five questions

1.
 - 1.1 List the strategies identified for the eradication of poliomyelitis in Sri Lanka. (15 marks)
 - 1.2 What are "National Immunization Days" (NID)? (15 marks)
 - 1.3 Describe in detail the procedure for conducting "National Immunization Days" (NID)? (70 marks)
2. Discuss the responsibilities of the Public Health Inspector in respect of environmental health. (100 marks)
3.
 - 3.1 List the common nutritional deficiency diseases in Sri Lanka (10 marks)
 - 3.2 Outline the methods used to assess the nutritional status of preschool children. (50 marks)
 - 3.3 List the intervention adopted for the prevention of protein energy malnutrition in preschool children. (40 marks)
4. Write notes on,
 - 4.1 Fertility rates (30 marks)
 - 4.2 Life expectancy at birth (20 marks)
 - 4.3 Measures of variation (30 marks)
 - 4.4 Relative Risk (20 marks)
5. A study was carried out to assess the relationship between hypertension and ischaemic heart disease of a total of 250 persons included in this study, 100 had ischaemic heart disease and 75 had hypertension. Among those with ischaemic heart diseases 60 were hypertensive.
 - 5.1 What is the type of study that has been done? (20 marks)
 - 5.2 Present the above data in a 2x2 table (20 marks)
 - 5.3 What statistical test/tests would you perform determine whether there is a relationship between ischaemic heart disease and hypertension? (20 marks)
 - 5.4 List the usefulness and, limitations of this type of study. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1996

Date: - 10th September, 1996

Time :- 1.30 p.m. - 4.30 p.m.

Answer all Five questions.

1.

1.1. How would you classify water-related diseases. Give examples
(50 marks)

1.2. Describe the control measures in respect of one of the diseases
(50 marks)

2.

2.1. List the common nutritional deficiency diseases in Sri Lanka
(30 marks)

2.2. Discuss the usefulness of the Child Health Development Record in the prevention of undernutrition in pre-school children
(70 marks)

3. Write short notes on,

3.1. Net Reproductive Rate (NRR) (30 marks)

3.2. Maternal mortality (40 marks)

3.3. Chemoprophylaxis for malaria (30 marks)

4.

4.1. List the factors responsible for the emergence of Non-communicable diseases as a major health problem in Sri Lanka
(50 marks)

4.2. Describe briefly the preventive measures you would recommend for the control of the three common cancers seen in Sri Lanka.
(50 marks)

5.

5.1. The mean diastolic blood pressure of a random sample of 64 adult males drawn from a population of 1000 adult males was 80mm Hg with a standard deviation of 16mm Hg ($SE = SD/\sqrt{n}$) calculate the 95% confidence Interval for the mean diastolic blood pressure for the 1000 adult male population
(30 marks)

5.2. Post prandial blood glucose levels were measured in 200 subjects. Of the 200 subjects 15 were found to be diabetic (blood glucose level $>^* 10.0$ m.mol/l).

When the urine of the 15 diabetics were tested, only 10 gave a positive urine test for diabetes. Another 15 subjects who were not diabetic (blood glucose level < 10.0 m.mol/l) also gave a positive urine test for diabetic.

(a) Using the above data draw a 2 x 2 table

(b) Calculate the Sensitivity

Specificity

Positive predictive value of the urine test in detecting diabetes mellitus.

(70 marks)

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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1997

Date: 17th September, 1997

Time: 2.00 p.m.-5.00 p.m.

Answer all Five questions.

1.

- 1.1 What is a maternal death? (10 marks)
1.2 Describe in detail how a maternal death should be investigated. (90 marks)

2.

- 2.1 A screening test was conducted to identify persons with any type of visual disability.

The results are as follows:

Screening test	Visual Disability	
	Present	Absent
Positive	800	1680
Negative	90	22700

Calculate the following:

- 2.1.1 Sensitivity and specificity of the test (30 marks)
2.1.2 Positive predictive value of the test (20 marks)
- 2.2 Death rates from ischaemic heart disease (IHD) for smokers and non-smokers aged over 35 years are given in the following table:

Smoking	Death rates for IHD (1000 persons per year)
Yes	0.94
No	0.08

Calculate the following:

- 2.2.1 The relative risk of smokers versus non-smokers. (25 marks)
2.2.2 The attributable risk of smoking versus non-smoking (25 marks)

3.

3.1 Describe the features of congenital rubella syndrome. (15 marks)

3.2 Discuss the objectives, strategies and implementation of the rubella immunization program in Sri Lanka. (85 marks)

4.

Describe the adverse effects on health of improper disposal of refuse and human excreta. (100 marks)

5.

You are required to carry out a study on notification of notifiable disease in a provincial hospital to identify any shortcomings.

5.1 Describe how you would collect data for this study. (40 marks)

5.2 How would you analyse your data? (35 marks)

5.3 Describe how your findings can be useful in improving notification of notifiable diseases. (25 marks)

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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1998

Date: 16th September, 1998

Time: 2.00 p.m. - 5.00 p.m.

Answer all five questions.

1. Demographers claim that the Sri Lankan population is fast aging.
 - 1.1 Explain the above statement (20 marks)
 - 1.2 What are the health and Socioeconomic implications to the country due to the aging of the population. (40 marks)
 - 1.3 Suggest measures to address the above problems effectively.(40 marks)

2. Discuss the following statements. Begin by defining or explaining the underlined terms.
 - 2.1 The infant mortality rate together with its components (the neonatal mortality rate and the post-neonatal mortality rate) is an indicator of the socioeconomic status and the efficacy of Maternal and Child health Care in a community. (35 marks)
 - 2.2 It is important to know the incidence rate, the prevalence rate and the case fatality rate in the management and control of tuberculosis in a community (35 marks)
 - 2.3 In determining the average income of a community it is better to determine the mediam rather than the mean income. (30 marks)

3. Discuss the roles of the following officers in reducing the incidence of typhoid in a district.
 - 3.1 House officers/Medical officers of medical institutions (20 marks)
 - 3.2 General Practitioners. (20 marks)
 - 3.3 Divisional Directors of Health Services/Medical officers of Health. (20 marks)
 - 3.4 Public Health Inspectors (20 marks)
 - 3.5 Regional Epidemiologist.. (20 marks)

4. Discuss briefly where health services have failed in the following situations.
 - 4.1 A 36 year old mother in her 5th pregnancy dies of a postpartum hemorrhage at a district hospital. (25 marks)
 - 4.2 A four-year -old child who has been previously immunized presents with suspected whooping cough. (25 marks)
 - 4.3 A man of 23 years dying of rabies. (25 marks)
 - 4.4 An outbreak of food poisoning originating from an eating house (25marks)

5.
 - 5.1 Discuss the rationale for establishing Well Women Clinics in Sri Lanka. (40 marks)
 - 5.2 List the services provided at these clinics. (60 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
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MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 1999

Date :- 15th September, 1999

Time :- 2.00 p.m.-5.00 p.m.

Answer all five questions.

Part A and Part B should be answered in separate books.

PART A

1.

Discuss the following statements:

- 1.1. Indoor morbidity statistics can be used to calculate incidence rates. (25 marks)
- 1.2. Low birth weight rates are incidence rates rather than prevalence rates. (25 marks)
- 1.3. The p-value denotes the probability of the null hypothesis being true. (25 marks)
- 1.4. Occupational health is not a priority for Sri Lanka as the mortality due to occupational diseases is low. (25 marks)

2. The suicide rate in Sri Lanka is one of the highest in the world.

- 2.1. What are the age groups that are most affected? (10 marks)
- 2.2. List the probable causes. (30 marks)
- 2.3. Describe the measures that you advocate to reduce suicides. (60 marks)

PART B

3. How can a District Medical Officer contribute towards the following activities?

- 3.1. Reduction in the incidence of typhoid fever in the community (35 marks)
- 3.2. Strengthening of the Family Planning Program (30 marks)
- 3.3. Prevention of repeated admissions of children with diarrhoeal diseases to hospital. (35 marks)

4. Middle East migrant workers are significant source of foreign exchange earnings for Sri Lanka.
- 4.1. List the possible health problems that women are likely to face in the host countries (15 marks)
 - 4.2. How can these problems be minimized (15 marks)
 - 4.3. List the adverse health implications on their families in Sri Lanka. (20 marks)
 - 4.4. List the agencies that could help these families to cope with their problems (20 marks)
 - 4.5. Indicate how these agencies could help the families (30 marks)
5. The infant mortality rate, which was 263 per 1000 live births in 1935, has declined to 16.9 per 1000 live births in 1996. Discuss the factors, which may have contributed to this decline (100 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSC (COMMUNITY MEDICINE) QUALIFYING EXAMINATION
SEPTEMBER, 2000

Date: 12th September, 2000

Time : 2.00 p.m. - 5.00 p.m.

Answer all five questions.

Part A and Part B should be answered in separate books.

PART A

1.
 - 1.1. What is "prenatal mortality"? (15 marks)
 - 1.2. What are the common causes of prenatal mortality? (15 marks)
 - 1.3. Describe the routine activities carried out in Sri Lanka to reduce prenatal mortality? (70 marks)

2.
 - 2.1. Describe the current immunization schedule of the EPI (Expanded Program on Immunization) program in Sri Lanka (30 marks)
 - 2.2. What are the possible adverse effects following these immunizations? (30 marks)
 - 2.3. What precautions would you take as a supervising officer to prevent such adverse effects? (40 marks)

PART B

3. Write short notes on,
 - 3.1. Post partum contraception in Sri Lanka. (25 marks)
 - 3.2. Early Childhood Care and Development. (ECCD) (25 marks)
 - 3.3. Health needs of adolescents in Sri Lanka. (25 marks)
 - 3.4. Hand wasting (25 marks)

4. Discuss critically,
 - 4.1. Eradication of Rabies in Sri Lanka (50 marks)
 - 4.2. Growth monitoring and promotion (50 marks)

5.
 - 5.1. Explain the term "Risk factor " (20 marks)
 - 5.2. Outline all the steps in an epidemiological study designed to identify risk factors for home accidents among pre-school children. (80 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION -
SEPTEMBER, 2001

Date :- 11th September, 2001

Time :- 1.00 p.m. - 4.00 p.m.

Answer all five questions

Part A and B should be answered in separate books.

PART A

1. 1.1. Describe 'safe infection practices' in relation to the immunization programme in Sri Lanka. (50 marks)

- 1.2. Describe the implications of 'induced abortions' in relation to Women's health in Sri Lanka. (50 marks)

2. Write notes on :-
 - 2.1. Directly observed treatment short course (DOTS) (25 marks)
 - 2.2. 'One day treatment' in Filariasis (25 marks)
 - 2.3. Current status of the Leprosy Programme in Sri Lanka (25 marks)
 - 2.4. Chemotherapy in Malaria (25 marks)

PART B

3. Discuss the following :-
 - 3.1. Scholl health clubs (30 marks)
 - 3.2. 'Well woman clinic' programme (30 marks)
 - 3.3. Growth monitoring (40 marks)

4. A study was conducted to determine the association between oral cancer and betel chewing. Two hundred cases and 200 controls were included in the study. Seventy five subjects among the study group and 25 among the

control group gave a history of betel chewing.

- 4.1. What is the study design ? (10 marks)
- 4.2. Present the above data in a 2 x 2 table (20 marks)
- 4.3. Calculate the Odds Ratio (20 marks)
- 4.4. What inference can you draw from the above results ? (20 marks)
- 4.5. Describe the advantages and disadvantages of this study (30 marks)

5. Write notes on the following :-

- 5.1. Standard error of the mean (25 marks)
- 5.2. Measures of central tendency (25 marks)
- 5.3. Levels of prevention (25 marks)
- 5.4. Life expectancy at birth (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION -
SEPTEMBER, 2002

Date :- 19th September, 2002

Time : - 1.30 p.m. – 4.30 p.m.

Answer all five questions.

Part A and B should be answered in separate books.

PART A

1. Write short notes on -

- 1.1. Measures of central tendency (25 marks)
- 1.2. Incidence and prevalence (25 marks)
- 1.3. Standard error of the mean (25 marks)
- 1.4. Validity of a screening test (25 marks)

2. An outbreak of food poisoning occurs in a group of workers in a Garment Factory. The following table summarizes data obtained from 200 workers who were at the Factory for that shift.

**Data obtained from 200 workers who attended the particular shift
of work**

	Ill	Not ill	Total
Ate sandwich	90	30	120
Did not eat sandwich	20	60	80
Total	110	90	200

- 2.1. What is the probability that a worker becomes ill after eating .
Sandwich ? (10 marks)
- 2.2. What is the probability that a worker becomes ill if no sandwich
is eaten ? (10 marks)
- 2.3. What is the probability that a worker does not become ill after
eating sandwich ? (10 marks)

- 2.4. What is the probability that a worker who attended the party became ill ? (10 marks)
- 2.5. What is the probability that a worker with food poisoning ate Sandwich ? (10 marks)
- 2.6. What is the probability that a worker who attended the party did not eat sandwich ? (10 marks)
- 2.7. What is the ratio of probabilities obtained in 2.1. and 2.2. ? Interpret its meaning. (15 marks)
- 2.8. List activities that can be taken to prevent the occurrence of food poisoning in this type of a working environment. (25 marks)

PART B

3. The incidence of non-communicable diseases are increasing in Sri Lanka.
- 3.1. List the possible reasons for this. (25 marks)
- 3.2. What are the common non-communicable diseases seen in Sri Lanka. (25 marks)
- 3.3. What preventive measures would you recommend to bring down the incidence of type II diabetes. (50 marks)
4. . 4.1. What are the health hazards associated with improper disposal of solid waste ? (50 marks)
- 4.2. Describe the solid waste disposal methods suitable for rural areas of Sri Lanka. (50 marks)
5. Discuss critically
- 5.1. Control of Dengue Fever/Dengue haemorrhagic fever in Sri Lanka. (50 marks)
- 5.2. Routine activities carried out in Sri Lanka to reduce the maternal mortality. (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION -
SEPTEMBER, 2003

Date :- 18th September, 2003

Time :- 1.30 p.m. - 4.30 p.m.

Answer all five questions.

Answer each question in a separate book.

1. The maternal deaths per 10,000 live births for selected districts for 1996 is given below.

District	Maternal deaths per 10,000 live births
Mannar	9.7
Kilinochchi	14.3
Ampara	9.7
Nuwara Eliya	4.7
Badulla	5.2
Batticaloa	5.1
Gampaha	2.1
Colombo	0.2
Monaragala	0.0
Galle	1.6
Sri Lanka	4.7

Discuss possible reasons for the wide variations in maternal mortality between the districts. (100 marks)

- 2.
- 2.1. Define prevention of disease (20 marks)
- 2.2. Write short notes on the following -
- 2.2.a. Primary prevention of malaria (40 marks)
- 2.2.b. Secondary prevention of diabetes mellitus (40 marks)
- 3.
- 3.1. What are the objectives of the school health programme in Sri Lanka ? (20 marks)

3.2. Discuss its main deficiencies (40 marks)

3.3. Suggest measures to overcome such deficiencies (40 marks)

4. The morbidity, mortality and case fatality rates for diarrhoeal diseases for the years 1980, 1990 and 2000 (based on data from hospitals) are given below:-

Year	Morbidity rate (per 100,000 pop)	Mortality rate (per 100,000 pop)	Case fatality rate (%)
1980	960	10.4	1.0
1990	840	03.0	0.4
2000	750	01.0	0.1

4.1. Define and describe the usefulness of case fatality rate. (25 marks)

4.2. Describe what you can observe in the above rates. (25 marks)

4.3. List the possible reason(s) for the changes in the above rates. (25 marks)

4.4. What are your recommendations to further improve the situation ? (25 marks)

5. Comment on the following statements :-

5.1. Vaccination against polio can be discontinued as no new cases have been reported over the past 10 years. (25 marks)

5.2. When compared to doctors, civil engineers have a greater impact on the health of communities. (25 marks)

5.3. Only females need to be vaccinated against rubella, as the objective of rubella vaccination is to prevent congenital rubella syndrome. (25 marks)

5.4. Those who can afford should be made to pay for health services provided by the government. (25 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION -
SEPTEMBER, 2004

Date: - 16th September 2004

Time :- 1.30 p.m. - 4.30 p.m.

Answer all five questions.

Answer each question in a separate book.

PART A

1. Discuss the following:
 - 1.1 Activities carried out at Well Woman Clinics (25 marks)
 - 1.2 Use of the Child Health Development Record in growth monitoring (25 marks)
 - 1.3 Importance of early diagnosis of malaria (25 marks)
 - 1.4 Unmet need in family planning (25 marks)

2. Write notes on the following:
 - 2.1 Measures of dispersion (50 marks)
 - 2.2 Simple random sampling technique (25 marks)
 - 2.3 The role of social mobilization for control of dengue fever in Sri Lanka (25 marks)

3. In a Medical Officer of Health area, the rate of teenage pregnancies has increased over the past three years. Discuss the possible reasons and what action should be taken to reverse this trend. (100 marks)

PART B

4. You have been requested to design a study to determine risk factors for alcohol addiction in an MOH area.
 - 4.1 Describe your study design (50 marks)
 - 4.2 Describe briefly a study instrument that you plan to use (30 marks)
 - 4.3 Name a statistical test you would use in the analysis (20 marks)

5.

5.1 What is Odds Ratio (OR) ? (40 marks)

5.2 Given below is a table, which shows the Odds Ratios for selected variables that were studied to determine the risk factors for wheezing. Indicate as to which of the variables can be considered as risk factors for wheezing. (30 marks)

Table : Risk factors for wheezing

Variable	Odds Ratio	95 % Confidence Interval
Sex		
Girls	0.82	0.57 - 1.17
Boys (Reference)	1.00	
Education of mother (years of school)		
0-7	2.07	1.00 - 4.25
8-10	1.34	0.63 - 2.86
≥11 (Reference)	1.00	
Birth weight (g)		
≤ 2500	2.09	1.24 – 3.53
> 2500 (Reference)	1.00	
Duration of breast feeding (months)		
≤ 4	1.33	0.92 – 1.91
> 4 (Reference)	1.00	
Exposure to smoke at home		
Yes	1.49	1.10 – 2.16
No (Reference)	1.00	

5.3 State the reason/s for your conclusion (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MSc (COMMUNITY MEDICINE) QUALIFYING EXAMINATION -
SEPTEMBER, 2005

Date :- 22nd September, 2005

Time :- 1.30 p.m. - 4.30 p.m.

Answer all five questions
Answer each question in a separate book.

PART A

1. Describe the care received by a pregnant mother from the time of registration up to the delivery through field maternal care programme in Sri Lanka.

2. Discuss critically
 - 2.1.. The importance of Integrated Vector Control for the malaria control in Sri Lanka. (30 marks)

 - 2.2 Although the reported number of Dengue Fever/Dengue Haemorrhagic Fever cases has increased in the island during the year 2004, the Case Fatality Rate has decreased. Therefore the spread of Dengue Fever/ Dengue Haemorrhagic Fever is well controlled in the island. (40 marks)

 - 2.3 Depo Medroxy Progesterone Acetate (DMPA) is the most popular family planning method among fertile couples in the country. Therefore the Sri Lankan government should continue to invest on this method of family planning. (30 marks)

3. Comment on the following :-
 - 3.1. Introduction of Measles and Rubella (MR) vaccine to the Expanded Programme on Immunization (EPI) schedule (25 marks)

 - 3.2 According to the Demographic and Health Survey 2000, the Total

Fertility Rate is 1.9. (25 marks)

3.3 Field weighing is the best strategy to improve growth monitoring programme in Sri Lanka. (25 marks)

3.4 Infant mortality rate is higher in the Nuwara-Eliya district than in the other districts of the country. (25 marks)

PART B

4. The hospital mortality rate due to ischaemic heart disease in Sri Lanka has increased from 12.5 deaths per 100 000 population in 1980 to 18.6 deaths per 100000 population in 2000.
Discuss the possible reasons for this increase. (100 marks)

5. Write short notes on :-

5.1. Relative risk. (30 marks)

5.2. Literacy rate in Sri Lanka. (30 marks)

5.3. Primary prevention of human immunodeficiency virus (HIV) infection. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)-
SEPTEMBER, 2006

Date:- 21st September, 2006

Time :- 1.00 p.m. - 4.00 p.m.

Answer all five questions

Answer each question in a separate book.

PART A

1. Discuss the following statements:
 - 1.1. Antenatal mothers in Sri Lanka should be routinely tested for HIV status. (35 marks)
 - 1.2. Incidence of low birth weight reflects the quality of antenatal care services in a country. (35 marks)
 - 1.3. Intra uterine device (IUD) is the most cost effective method of family planning in Sri Lanka. (30 marks)

2. Describe the services that a mother and a newborn baby receive during puerperium from the public health staff. (100 marks)

3.
 - 3.1. Describe briefly the epidemiology of common vector borne diseases seen in Sri Lanka. (30 marks)

 - 3.2. Discuss the need for a dengue control programme in the country and the use of chemicals in such a programme for dengue vector control. (30 marks)

 - 3.3. Discuss notification of vector borne diseases. (40 marks)

PART B

4. Write notes on :
 - 4.1. measures of central tendency (30 marks)
 - 4.2. qualitative data (40 marks)
 - 4.3. confidence interval (30 marks)

5. All 330 elders (aged over 65 years) living in a town underwent a detailed clinical examination by a neurologist and 30 were found to have dementia. Twenty Seven of the elders with dementia gave positive results on a brief screening test for dementia. Fifteen of the elders who did not have dementia also gave positive results on the brief screening test.
 - 5.1. Present these results in a table. (20 marks)

 - 5.2. Calculate sensitivity, specificity and predictive values of the screening test. (20 marks)

 - 5.3. Do you think that this test is good for screening dementia? Give reasons for your answer. (30 marks)

 - 5.4. The prevalence of dementia is lower in developing countries when compared to developed countries. Discuss the possible reasons for this. (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER, 2007

Date : 20th September 2007

Time :- 1.00 p.m, - 4,00 p.m,

Answer all five questions.

Answer each question in a separate book.

PART A

1. In a Medical Officer of Health area, the incidence of viral hepatitis has increased over the past 2 weeks.
 - 1.1. List the possible reasons. (30 marks)
 - 1.2. As the MOH of the area discuss how you would manage this situation. (70 marks)

2. Medical Officer of Health presented the following indicators at a review meeting held in December 2006 :
 - (a) 25% of pregnant mothers were teenagers
 - (b) Prevalence rate of modern family planning method was 35%
 - 2.1. Comment on the above findings. (40 marks)
 - 2.2. As the MOH of the area what actions would you take to improve the Situation ? (60 marks)

3. Comment on the following statements :
 - 3.1. If the people who can afford it, go to the private sector, the government health service could provide a better quality service to the others. (25 marks)
 - 3.2. Closing the outpatients department (OPD) in the large hospitals will reduce overcrowding and will increase the utilization of smaller hospitals. (25 marks)
 - 3.3. Most maternal deaths occurring in Sri Lanka are preventable. (25 marks)
 - 3.4. The workload of PHM will be reduced in the near future as the number of births taking place per year is decreasing. (25 marks)

PART B

4. It was believed that occurrence of cancer is higher among people around a telecommunication tower in the Kotte MOH area. Describe a research project to test this hypothesis giving reasons for the design you adopted. (100 marks)

5. Among a group of 10,000 adult males, 25% were obese and 1000 were diabetic. Half of the diabetics were obese as well.
 - 5.1. Present this data in a table. (60 marks)

 - 5.2. Draw a sketch of a graph to present the data. (40 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2008

Date : 25th September 2008

Time : 1.00 p.m. - 4.00 p.m.

Answer all five questions.

Answer each question in a separate book.

1. During the year 2005 the following events were reported from a Medical officer of Health (MOH) area with an estimated mid year population of 50,000.

Live births	400
Total deaths	300
Infant deaths	06
Maternal deaths	02

- 1.1. Define and calculate all rates relevant to the above data. (40 marks)
- 1.2. Compare the above rates with the national rates and briefly state the possible reasons for any discrepancies seen. (60 marks)
2. Road traffic accidents (RTA) have been found to be on the increase during the past five years, in an MOH area. This has led to deaths and disability among all age groups. You have been requested to propose a plan for a long-term programme to prevent R T A.
- 2.1. List the agencies and sectors that should take part in developing the plan of action. (20 marks)
- 2.2. Describe the preventive activities you would propose indicating the levels of prevention relevant to the activities. (80 marks)

- 3.
- 3.1 With the demographic and epidemiological transition in Sri Lanka, there is a need for a new category of public health workers to provide services for the elderly and disabled and for the prevention of non-communicable diseases. Discuss the above statement. (40 marks)
- 3.2 Health indicators of Sri Lanka are comparable to that of the developed countries except for the indicators relating to nutritional status. Discuss the reasons for this situation. (30 marks)
- 3.3 Several outbreaks of chikungunya fever have occurred in many parts of the country during the first six months of the current year. However, the reported incidence of dengue fever/dengue haemorrhagic fever has declined by 10% in comparison to the same period last year. Therefore, it is claimed that the dengue vector control programme in the country is effective. Discuss the statement. (30 marks)
- 4
- 4.1. Define the term epidemiology. (20 marks)
- 4.2. With regard to a given disease in a community, the incidence has been reported as 5 per 1000 population and prevalence as 20 per 1000 population in the year 2000. Explain the above situation. (30 marks)
- 4.3. The results of a case control study carried out to assess the relationship between formula feeding and wheezing is given below. Interpret the results.
- 4.3.1. Odds ratio = 3.2 (95% CI: 2.0 - 5.7) (25 marks)
- 4.3.2. Chi square value = 4.2; df=1 (25 marks)

Table - Critical values for chi square distribution

df	P = 0.05
1	3.84
2	5.99

- 5 . You have been requested to design a study to determine the prevalence of hypertension in an MOH area.
- 5.1. Describe the study design you would use. (20 marks)
- 5.2. Describe briefly the study population you would plan to include in the study. (30 marks)
- 5.3. Discuss possible errors in blood pressure measurements in this study and the steps that should be taken to minimize these errors. (50 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2009

Date : 24th September 2009

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions

Answer each question in a separate book.

PART A

1. You are appointed as the Medical Officer of Health of a camp in Vavuniya, with a population of 75,000 internally displaced persons.
 - 1.1. An ongoing outbreak of hepatitis A has been confirmed in this camp. Describe briefly the measures you would take to control this outbreak ? (35 marks)
 - 1.2. List the short and long-term measures that should be taken to promote mental health status of this population. (35 marks)
 - 1.3. What are the preventive measures that should be taken by the healthcare workers of the medical institutions caring for these patients, to protect themselves and other patients from contracting hepatitis A. (30 marks)

2.
 - 2.1. list the vector borne diseases in Sri Lanka. (10 marks)
 - 2.2. A higher Case Fatality Rate has been observed during the current (year 2009) dengue fever epidemic in Sri Lanka, compared to previous years. List the possible reasons for this observation. (40 marks)

- 2.3. Table below shows the microscopically confirmed malaria cases from 1999 – 2008 in Sri Lanka.

Table: Microscopically confirmed malaria cases from 1999 – 2008 in Sri Lanka.

Year	Blood films examined	Malaria cases confirmed by microscopy
1999	1,582,111	264,549
2000	1,781,372	210,039
2001	1,353,386	66,522
2002	1,390,850	41,411
2003	1,192,259	10,510
2004	1,198,181	3,720
2005	974,672	1,640
2006	1,076,121	591
2007	1,044,114	198
2008	1,047,104	670

Source : Anti Malaria Campaign, Ministry of Healthcare and Nutrition, Sri Lanka, 2009

- 2.3.1 Calculate the slide positivity rate for 2007 and incidence of malaria for the year 2007 (total population was 19 million and total at risk population was 5 million in year 2007). (30 marks)
- 2.3.2. Give possible reasons for reduction of incidence of malaria observed during the last 7 years. (20 marks)
3. A mother aged 26 years brings her first baby aged 10 months to the field child welfare clinic. It was observed that the child's weight was $> 2SD$ below the median. Growth faltering has been observed over the past few months.
- 3.1. Describe briefly as a Medical Officer of Health, how you would manage this baby (50 marks)
- 3.2. On questioning the mother stated that she is using a natural family planning method. Describe giving reasons the modern family planning methods you would consider for her. (50 marks)

PART B

4. A study was conducted to compare the history of at least one episode of diarrhea among health care workers during the past six months. A sample of 540 male health workers were interviewed and 42% gave a history of watery diarrhea. Leave records of a sample of 270 female health workers were perused and it was found that 36% had a history of watery diarrhea during the same period. An appropriate statistical test was applied to compare the history of watery diarrhea between the two groups. The test statistics indicated a p value of 0.09.
- 4.1. What is the study design used ? (10 marks)
- 4.2. State the null hypothesis that would have been used in the statistical procedure. (20 marks)
- 4.3. What are the statistical tests that could be applied ? (10 marks)
- 4.4. What can be concluded from the above findings ? (30 marks)
- 4.5. Comment on the appropriateness of the methods that have been used to obtain information from the two groups. (30 marks)
5. Under nutrition has been found to be a problem among school children in an MOH area. As the Medical Officer of Health of the area, describe in detail how you would plan to address the issue. (100 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2010

Date : 23rd September 2010

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions
Answer each question in a separate book.

PART A

1. You are appointed as a Medical Officer of Health (MOH) of the Kilinochchi District and it was found that overall care for pregnant mothers is poor and have not met the required needs.

Discuss the aspects of field services provided by Public Health Midwives (PHMM) that needs improvement in correcting this situation. (100 marks)

2. 2.2. Several patients with **Bacillary dysentery** have been admitted to a District Hospital over the last two weeks. As a Medical Officer working in the hospital, what are your responsibilities in preventing further spread of the disease,

2.2.1. in the hospital ? (20 marks)

2.2.2. in the community ? (20 marks)

- 2.3. What is the role of field health staff of the relevant Medical Officer of Health area in preventing an epidemic of **Bacillary dysentery** in the community ?

(30 marks)

- 3.
- 3.1 Describe the environmental measures that should be taken to prevent diarrhoeal attacks among preschool children. (30 marks)
- 3.2.
- 3.2.1. List five (5) biological occupational hazards (with the respective route of entry) that medical officers are at risk of being exposed to. (20 marks)
- 3.2.2. What are the measures that should be taken to prevent occurrence of biological occupational hazards among medical officers ? (50 marks)

PART B

4. As the Medical officer of Health (MOH) of the area, you are requested to plan a health programme to address the **Dengue** menace in a housing scheme consisting of 200 houses.
- 4.1 Briefly describe five (5) items that you think are important in the situation analysis as a prerequisite to the preparation of the plan. (50 marks)
- 4.2 List the broad headings of the operational plan. (30 marks)
- 4.3 Describe two measures of success/ failure that would be useful to monitor the programme. (20 marks)

5. A randomized controlled trial was conducted to assess the effect of needle length, on the incidence of local reactions following immunization of infants aged 4 months. Healthy infants attending an immunization clinic was randomized into two groups. One group received immunization with 25 gauge 16 mm needles and the other group with 25 gauge 25 mm needles. Both groups were followed up for three days and the parents were inquired into the occurrence of redness, swelling and tenderness at injection site. Table 1 represents some of the results of the study.

Table 1 - Mean weights of babies and percentages of babies with local reactions to immunization over 3 days by the size of the needle used for immunization.

	Length of the 25 gauge needle		
	16 mm (n=53)	25 mm (n=57)	
Weight (kg)			
Mean (SD)	6.4 (0.7)	6.6 (0.8)	p=0.13
No. with any local reaction	25(48%)	18 (33%)	Relative Risk=1.3 95% Confidence Interval=1.02-1.98

- 5.1. What is the reason for presenting results of 'weight' of the two groups ? (20 marks)
- 5.2. What is the reason for selecting 'mean' as the summary measure to describe weight ? (10 marks)
- 5.3. Indicate the statistical test that can be used to compare the mean weights of the two groups. (20 marks)
- 5.4. What does the relative risk of 1.3 mean ? (20 marks)
- 5.5. What does the 95% confidence interval of 1.02 -1.98 mean ? (20 marks)
- 5.6. Comment on the suitability of the method used to assess the outcome of this study. (10 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2011

Date : 22nd September 2011

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions
Answer each question in a separate book.

PART A

1. The Demographic and Health Survey in 2006/7 reported that the percentage of low birth weight (33.8%) was highest in the Nuwara-Eliya district.
 - 1.1. Discuss the factors that may have contributed to the high prevalence of low birth weight in the above district. (50 marks)
 - 1.2. Describe the actions that should be taken to reduce the prevalence of low birth weight in this district. (50 marks)

2. Write short notes on :
 - 2.1. Effect of migration in the control of malaria in Sri Lanka. (30 marks)
 - 2.2. Early detection of cancers in Sri Lanka. (40 marks)
 - 2.3. Healthy worker effect. (30 marks)

3. Discuss the following statements :
- 3.1. Lifestyle modification to minimize risk factors for non-communicable diseases can be achieved through a mass media strategy. (50 marks)
- 3.2. The introduction of MMR (measles, mumps and rubella) vaccine to the national immunization schedule is a timely intervention. (50 marks)

PART B

- 4.
- 4.1.
- 4.1.1. Calculate the mean, the median and the mode for the following data :
1, 2, 3 3 4 5 (15 marks)
- 4.1.2. What is the best measure of central tendency for the above data ? (15 marks)
- 4.1.3. Give reasons for the answer for question 4.1.2. (10 marks)
- 4.2. List four (04) properties of the 'normal curve'. (20 marks)
- 4.3. At an examination it was felt appropriate to pass 75% of the candidates. At a previous examination the average mark obtained was 68% with a standard deviation of 14.
What should be the pass mark if the above is to be achieved ? (40 marks)

5. A researcher was interested in confirming whether smoking status was associated with lung cancer. He conducted an epidemiological study among 1400 male participants. At the baseline examination, participants were asked to report their lifetime smoking habits. After 25 years, participants had an examination to determine whether they had developed lung cancer. The table presents the number of cases of lung cancer detected.

Table - Smoking status and number of lung cancer cases among the study population.

<u>Smoking status</u>	<u>N</u>	<u>Cases of lung cancer</u>
Never smokers	400	20
Ever smokers	1000	100

- 5.1. What is the study design used by the researcher ? (10 marks)
- 5.2. Create a 2 x 2 table for the data given above. (30 marks)
- 5.3. Calculate the relevant risk estimate and interpret it. (40 marks)
- 5.4. Age is a known confounding factor for the above association. What is meant by a 'confounding factor' ? (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2012

Date : 20th September 2012

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions
Answer each question in a separate book.

PART A

1.
 - 1.1. What are the skills needed to practice community medicine in the field ?. (50 marks)
 - 1.2. Describe the different steps used in arriving at a community diagnosis. (50 marks)
2.
 - 2.1. A week-end newspaper has reported that child abuse is increasing in Sri Lanka.
Discuss the above. (50 marks)
 - 2.2. Describe the postnatal care that should be given to a mother in the field.. (50 marks)
3.
 - 3.1. “A worker in a factory should be provided with a good work environment”..
Describe the good work environment. (50 marks)
 - 3.2. Define underweight in preschool children.. (20 marks)
 - 3.3. Describe how you could identify growth faltering among preschool children. (30 marks)

PART B

- 4.
- 4.1. Breast cancer is a leading cancer among females in Sri Lanka. The incidence of breast cancer in Sri Lanka was 1.6% (95% Confidence Interval 1.3% - 1.8%), in the year 2000. A family history of breast cancer has been established as a significant risk factor (Relative Risk = 2.3).
- 4.1.1. List two (02) epidemiological measures that can be used to describe the breast cancer burden of a country. (20 marks)
- 4.1.2. Interpret the 95% Confidence Interval of breast cancer incidence in Sri Lanka in the year 2000. (20 marks)
- 4.1.3. Interpret the statement “family history is a risk factor for breast cancer (relative risk = 2.3)”. (20 marks)
- 4.2. Write short notes on :
- 4.2.1. Standard error (20 marks)
- 4.2.2. Normal distribution (20 marks)
5. A study was conducted to describe the association between high cholesterol diet and myocardial infarction. A total of 2820 individuals were included in this study. Information on high cholesterol diet was obtained using the 24 hour dietary recall method. High cholesterol diet was found in 314 of 732 individuals with myocardial infarction and 220 of 2088 individuals without myocardial infarction.
- 5.1. What is the study design ? (10 marks)
- 5.2. Give two (02) advantages and two (02) disadvantages of the study design mentioned in 5.1. (20 marks)
- 5.3. Draw a 2 x 2 table for this data. (20 marks)
- 5.4. Calculate the odds ratio for this data. (20 marks)
- 5.5. Name one (01) test that you could use to test the significance of this association. (10 marks)
- 5.6. Comment on the suitability of the method that has been used to obtain information on high cholesterol diet. (20 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2013

Date : 12th September 2013

Time : 1.00 p.m. – 4.00 p.m.

Answer **all five** questions

Answer each question in a separate book.

PART A

1. A 17-year-old post partum mother visits the well baby clinic with her 30-day-old baby. She complains of insufficient breast milk and seeks advice on introducing formula feeds.
 - 1.1. Briefly describe how you would assess the adequacy of breast milk for this baby. (30 marks)
 - 1.2. Giving reasons, state the information that you would give this mother on the timing of initiation of family planning and the appropriate methods. (30 marks)
 - 1.3. As a Medical Officer of Health (MOH) what activities would you undertake to prevent teenage pregnancies in your area ? (40 marks)

2.
 - 2.1. Giving reasons state the recent changes made in 2011 / 2012 to the National Immunization Schedule for children under 5 years of age in Sri Lanka. (30 marks)
 - 2.2. Briefly describe five (05) possible factors contributing to the high immunization coverage in Sri Lanka. (50 marks)
 - 2.3. State two (02) actions that should be taken by the Medical Officer of Health when an adverse event following immunization (AEFI) is reported. (20 marks)

- 3.
- 3.1. List the four (04) main risk behaviours that could have led to the increasing trend of non communicable diseases (NCDs) in Sri Lanka. (20 marks)
- 3.2. State the population level strategies that could be taken by the Government of Sri Lanka to reduce above risk behaviours. (40 marks)
- 3.3. critically comment on the usefulness of the well women clinic programme in the prevention and control of non communicable diseases. (40 marks)

PART B

- 4.
- 4.1. The recorded number of rainy days per month in Watawala in year 2011 were as follows:
- 14,14,10,12,11, 13, 11, 11 ,14,10,13, 8.
- Calculate the mean, median, mode and range for the above data set. (40 marks)
- 4.2. All students who sat for the science paper in a class scored over 50. Four students were absent for the paper and the computer listed their scores as zero (0). The most repeated score in the data. set was zero (0).
- What is the most appropriate measure of central tendency for this data set ? Give reasons for your answer. (30 marks)
- 4.3. The following is the probability distribution of the number of telephone calls received by an office between 8.00 a.m. and 9.00 a.m. on a given day-

(X) Number of telephone calls	1	2	3	4	5
P (x)Probability of receiving telephone calls	0.1	0.2	0.2	0.4	0.1

Calculate the probability of receiving at least 3 telephone calls between 8.00 a.m. and 9.00 a.m. on any day. (30 marks)

5. In a community based study 5000 non-diabetic people over 18 years of age with low and high levels of physical activity were followed up for a period of 5 years. After 5 years, a total of 350 from both groups had developed diabetes mellitus. The total person time of follow up was 22504 years.

5.1. What is this study design ? (20 marks)

5.2. Briefly describe one (01) advantage and one (01) disadvantage of the above design for community based studies. (30 marks)

5.3. Calculate the incidence density of diabetes mellitus in this study. (20 marks)

5.4. The prevalence of diabetes mellitus in the same district was estimated to be 10% with a 95% confidence interval of 7.8 -12'3.

What do you understand by the confidence interval of 7.8 - 12.3 ? (30 marks)

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER 2014

Date : 11th September 2014

Time : 1.00 p.m. – 4.00 p.m.

Answer all five questions
Answer each question in a separate book.

PART A

1. Write short notes on
 - 1.1 Noise induced hearing loss in workers. (30 marks)
 - 1.2 Methods of preventing water pollution from chemical industry. (30 marks)
 - 1.3 Role of Public Health Inspector in food sampling. (40 marks)

2.
 - 2.1 List the five (5) key components (key action areas) in health promotion as outlined in the Ottawa Charter. (20 marks)
 - 2.2 Describe, giving examples, how the key components in health promotion can be applied in the prevention and control of dengue in the country. (40 marks)
 - 2.3 As a Medical Officer of Health, what action would you take to create a risk free environment in schools against food and water borne infections. (40 marks)

3.
 - 3.1. Describe the system for identifying and reporting postpartum morbidities in Sri Lanka. (35 marks)
 - 3.2. List three (3) common postpartum morbidities that can affect breastfeeding. (15 marks)
 - 3.3. Discuss how these morbidities could be minimized. (50 marks)

PART B

4. A researcher conducted a case control study to determine the association between smoking and stomach cancer. He recruited 90 males with stomach cancer as cases and 180 apparently healthy males as controls. Fifty patients with stomach cancer were smokers. Among controls, 60 were smokers.
- 4.1 Present the above data in a 2 x2 table (30 marks)
- 4.2 Calculate the strength of association between smoking and stomach cancer (20 marks)
- 4.3 The 95% confidence interval calculated for the above measure ranged from 1.4 - 3.3. Interpret the results. (20 marks)
- 4.4 List the advantages of this study design over a cohort study design to determine the association between smoking and stomach cancer. (30 marks)
- 5.
- 5.1 A community based study on the prevalence and risk factors of stroke was conducted in the North-Western Province. The researchers attempted to determine the association between stroke and the variables: socio-economic level, smoking and the physical activity level.
- 5.1.1. List three categorical variables that can be used to determine the socio-economic level of a participant . (15 marks)
- 5.1.2 State two statistical tests that can be used to determine the association between socio-economic level and stroke (20 marks)
- 5.1.3 The researchers performed a suitable statistical test to determine the association between doing a labour-intensive job and ever having a stroke and obtained a p value of 0.02. Interpret this finding. (25 marks)
- 5.2
- 5.2.1 Describe the demographic basis for the increasing incidence of stroke in Sri Lanka. (20 marks)
- 5.2.2 Describe the health services that need to be developed to address this increasing trend. (20 marks)