

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

Master Copy

SELECTION EXAMINATION FOR MSc (COMMUNITY MEDICINE)
SEPTEMBER, 2018

Date: 20th September 2018

Time: 9.00 a.m. – 12 noon

Answer **all five** questions.

Answer each question in a separate book.

PART A

1. The table below gives the number of malaria cases reported in Sri Lanka from 1999 onwards. Since 2008, the cases have been classified as indigenous and imported.

| Year | Indigenous cases | Imported cases | Deaths |
|-------------|-------------------------|-----------------------|---------------|
| 1999 | 264,549 | | 102 |
| 2000 | 210,039 | | 76 |
| 2001 | 66,522 | | 53 |
| 2002 | 41,411 | | 30 |
| 2003 | 10,510 | | 4 |
| 2004 | 3,720 | | 1 |
| 2005 | 1,640 | | - |
| 2006 | 591 | | - |
| 2007 | 198 | | 1 |
| 2008 | 649 | 23 | - |
| 2009 | 531 | 27 | - |
| 2010 | 684 | 52 | - |
| 2011 | 124 | 51 | - |
| 2012 | 23 | 70 | - |
| 2013 | - | 95 | - |
| 2014 | - | 49 | - |
| 2015 | - | 36 | - |
| 2016 | - | 41 | - |

- 1.1. Plot the number of imported malaria cases from 2008 to 2016 using a suitable graph to show the trend. (30 marks)

1.2. The National Strategic Plan for the Prevention of Re-introduction of Malaria in Sri Lanka 2018-2022 advocates that at the beginning of any year the country should have 5000 effective (unexpired) long lasting insecticidal nets (LLINs) to prevent any outbreak of malaria that may arise. The effective life span of a LLIN is 3 years after which it is not effective. After 3 years, any unused nets are discarded. Each year it is expected that 2000 LLINs will be distributed to high risk communities. At the beginning of 2018 the Anti Malaria Campaign had 5000 nets expiring on 31st December, 2018 and 3000 nets expiring on 31st December 2019. Assuming that a LLIN procured is effective from the 1st of January of the immediate year following the procurement, i.e., if a LLIN is procured in 2018, it is effective from 1st January 2019 to 31st December 2021,

1.2.1. Calculate the number of nets that need to be procured from 2018 to 2022. (25 marks)

1.2.2. Calculate the number of unused nets that need to be discarded from 2018 to 2022. (25 marks)

1.2.3. Discuss if the number of LLINs discarded is justified. (20 marks)

2. Empowerment is a key element of health promotion. Briefly describe the likely circumstances or processes that would have led to the levels of empowerment in each of the following situations. (20 marks each).

2.1. A ten year old child wants to check the BMI of his parents.

2.2. A housewife decides to save some money to buy a compost bin.

2.3. After a school walk to raise funds for kidney patients the school ground is littered with plastic bottles and polythene waste.

2.4. A young man sees a banana skin on the middle of the pavement and pushes it to the edge.

2.5. A 35 year old man who gets a voucher for a health check up opts to get cash back.

3.

- 3.1. Define the terms 'control', 'elimination' and 'eradication' of communicable diseases with relevant examples related to Sri Lanka. (30 marks)
- 3.2. Briefly outline the routine communicable disease notification system in Sri Lanka. (40 marks)
- 3.3. List the importance/ usefulness of communicable disease surveillance. (30 marks)

PART B

4. The table below (on page 4) gives the summary of health expenditure by programme in 2016 as given in the Annual Report of the budget estimates of the Central Bank of Sri Lanka. Assuming that only health promotion and disease prevention, control of communicable and non-communicable diseases and the national nutrition programme are essentially public health programmes, then Ministry of Health spends only 3.5% of the total health budget (4819/134,780 in millions) on public health whereas it spends 85.4% (115,039/134,780 in millions) on essentially curative services (Medical Supplies Division, Hospital Operation and Hospital Development Project).

4.1.

4.1.1. Critically comment on the observed expenditure pattern of the Ministry of Health. (30 marks)

4.1.2. List five (05) national programmes that may be included under health promotion and disease prevention component of the recurrent expenditure. (20 marks)

4.2. Discuss the factors that have contributed to the reduction in maternal and infant mortality in Sri Lanka. (50 marks)

Table 14. Summary of Health Expenditure by Programme, 2016

(Rs. Million)

| Programme | Health Expenditure 2016 | | | |
|---|-------------------------|------------------------|-------------------|----------------|
| | Ministry of Health | Department of Ayurveda | Provincial Health | Total |
| Recurrent Expenditure | | | | |
| 01. Operational Activities | 99,432 | 105 | | |
| 1. Minister's Office | 84 | | | |
| 2. Ministry Administration and Establishment Services | 3,416 | | | |
| 3. Medical Supply Division | 38,435 | | | |
| 5. Hospital Operation | 57,497 | | | |
| 02. Development Activities | 12,320 | 1,134 | | |
| 11. Human Resources Development | 9,787 | | | |
| 14. Health Promotion and Disease Prevention | 908 | | | |
| 16. National Nutrition Programme | 1,351 | | | |
| 17. Medical Research | 274 | | | |
| Total Recurrent Expenditure | 111,752 | 1,239 | 51,406 | 164,397 |
| Capital Expenditure | | | | |
| 01. Operational Activities | 5,563 | 6 | | |
| 1. Minister's Office | 12 | | | |
| 2. Ministry Administration and Establishment Services | 911 | | | |
| 3. Medical Supply Division | 37 | | | |
| 5. Hospital Operation | 4,603 | | | |
| 02. Development Activities | 17,465 | 607 | | |
| 11. Human Resources Development | 174 | | | |
| 13. Hospital Development Project | 14,467 | | | |
| 14. Health Promotion and Disease Prevention | 154 | | | |
| 15. Control of Communicable and Non Communicable Diseases | 2,207 | | | |
| 16. National Nutrition Programme | 199 | | | |
| 17. Medical Research | 124 | | | |
| 19. Promotion of Indigenous Medicine | 140 | | | |
| Total Capital Expenditure | 23,028 | 613 | 4,497 | 28,138 |
| Total Health Expenditure (Recurrent + Capital) | | | | |
| 01. Operational Activities | 104,995 | 111 | | |
| 1. Minister's Office | 96 | | | |
| 2. Ministry Administration and Establishment Services | 4,327 | | | |
| 3. Medical Supply Division | 38,472 | | | |
| 5. Hospital Operation | 62,100 | | | |
| 02. Development Activities | 29,785 | 1,741 | | |
| 11. Human Resources Development | 9,961 | | | |
| 13. Hospital Development Project | 14,467 | | | |
| 14. Health Promotion and Disease Prevention | 1,062 | | | |
| 15. Control of Communicable and Non Communicable Diseases | 2,207 | | | |
| 16. National Nutrition Programme | 1,550 | | | |
| 17. Medical Research | 398 | | | |
| 19. Promotion of Indigenous Medicine | 140 | | | |
| Grand Total (Recurrent + Capital) | 134,780 | 1,852 | 55,903 | 192,535 |

Source: Central Bank of Sri Lanka - Annual Report 2016, Department of National Budget - Budget Estimate 2018

Ministry of Finance and Planning, Sri Lanka - Annual Report 2016,

Department of State Accounts, General Treasury - Financial Statements for the year ended 31st December 2016

5.

- 5.1. Describe five (05) components of Primary Health Care in Sri Lanka. (50 marks)
- 5.2. List five (05) services available in a Primary Medical Care Unit (PMCU). (30 marks)
- 5.3 Briefly describe how the Primary Medical Care Unit (PMCU) can contribute to the improvement of oral health services. (20 marks)