

# 2019 Scheme

Q.P. Code: 316001

Reg. no.: .....

## III Professional MBBS Part I Degree Regular/Supplementary Examinations February 2025

### Community Medicine Paper I

Time: 3 Hours

Total Marks: 100

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

#### 1. Multiple Choice Questions

(1x20=20)

The MCQ questions (Q.No. i to Q.No. xx) shall be written in the space provided for answering MCQ questions at page No. 51 of the answer book (the inner portion of the back cover page (PART III)). Responses for MCQs marked in any other part/page of the answer book will not be valued

#### Question numbers i-v are single response type questions

- The number of daughters a new born girl will bear during her life time assuming fixed age specific fertility and mortality rate, refers to which one of the following
  - Age specific fertility rate
  - Gross reproduction rate
  - Net reproduction rate
  - Total fertility rate
- The killing power of a disease is best expressed by
  - Case fatality rate
  - Attack rate
  - Secondary attack rate
  - Proportional mortality rate
- All the following are true regarding BCG vaccine except
  - Diluent used is Normal saline
  - The strain used is Danish 1331
  - Needs to be repeated if scar is not present
  - Newborns are given 0.05ml
- Particles \_\_\_\_\_ in size reaches the alveoli and get deposited causing damage to the lungs, producing various types of pneumoconiosis
  - $0.5\mu - 3\mu$
  - $> 10\mu$
  - $5\mu - 10\mu$
  - $< 0.1\mu$
- The following consideration is NOT required to be taken while doing a screening programme
  - The disease should be a public health problem
  - The disease should be vaccine preventable
  - There should be an acceptable and effective treatment
  - Facilities for confirming the diagnosis and for treatment should be available.

#### Question numbers vi-x are case scenario-based questions

While checking the vaccine prior to routine immunization session at the PHC the intern checks the vaccine vial monitor of OPV vaccine and notices that the colour of the inner square is darker than the outer circle.

- What does it indicate
  - Vaccine is expired
  - Vaccine is exposed to temperature above  $8^{\circ}\text{C}$  over along period of time
  - Vaccine is contaminated
  - Vaccine is safe to use
- What is recommended action
  - Discard the vaccine
  - Put the vaccine back in ILR
  - Vaccine can be used within one hour
  - Vaccine should be used immediately
- All the following are cold chain equipment's **except**
  - Vaccine Carrier
  - Walk in coolers
  - Walk in freezers
  - Refrigerators
- The smartphone app that collects and analyzes information on vaccine stocks and temperatures in India is
  - Electronic Vaccine Intelligence Network (eVIN)
  - Automated Vaccine Intelligence Network (aVIN)
  - CoWIN (Covid Vaccine Intelligence Network)
  - Integrated Vaccine Intelligence Network (iVIN)
- The Ice lined refrigerator at the PHC maintains a cabinet temperature between
  - $+2^{\circ}\text{C}$  and  $+8^{\circ}\text{C}$
  - $+8^{\circ}\text{C}$  and  $+10^{\circ}\text{C}$
  - $-2^{\circ}\text{C}$  and  $-8^{\circ}\text{C}$
  - $-8^{\circ}\text{C}$  and  $-10^{\circ}\text{C}$

(PTO)

**Question numbers xi-xv consist of two statements-Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.**

- xi. Assertion: During COVID 19 Pandemic a 14-day quarantine period is applied to contacts  
Reason: 14days is the median incubation period of COVID 19  
a) Both A and R are true and R is the correct explanation of A      c) A is true, but R is false  
b) Both A and R are true but R is not the correct explanation of A      d) A is false, but R is true
- xii. Assertion: Prevalence is used as indicator of Morbidity  
Reason: Prevalence includes only new cases  
a) Both A and R are true and R is the correct explanation of A      c) A is true but R is false  
b) Both A and R are true but R is not the correct explanation of A      d) A is false but R is true
- xiii. Assertion: The trend in mortality from tuberculosis in India showed a steady fall in the past years  
Reason: Tuberculosis shows a cyclic trend  
a) Both A and R are true and R is the correct explanation of A      c) A is true but R is false  
b) Both A and R are true but R is not the correct explanation of A      d) A is false but R is true
- xiv. Assertion: Mean, median and mode are the measure of Dispersion  
Reason: Mean is affected by extreme values or outliers  
a) Both A and R are true and R is the correct explanation of A      c) A is true but R is false  
b) Both A and R are true but R is not the correct explanation of A      d) A is false but R is true
- xv. Assertion: Randomization eliminates selection bias  
Reason: Randomization reduces potential for confounding  
a) Both A and R are true and R is the correct explanation of A      c) A is true but R is false  
b) Both A and R are true but R is not the correct explanation of A      d) A is false but R is true

**Question numbers xvi-xx are multiple response type questions. Read the statements and mark the answers appropriately**

- xvi. Air pollution is a major public problem in India  
1) National Air Quality Monitoring Programme in India is sponsored by Health and Family Welfare Department  
2) Air pollution index is an arbitrary index which takes into account one or more pollutants as a measure of severity of pollution  
3) The combination of smoke and fog is called as smog  
4) The best indicators for air pollution are Sulphur dioxide, smoke and suspended particle  
a) 1, 2 and 3 are correct      c) 1, 3 and 4 are correct  
b) 2, 3 and 4 are correct      d) 1, 2, 3 and 4 are correct
- xvii. To reduce selection bias in case-control studies, it is recommended that  
1) Population based designs are used  
2) Different eligibility criteria are applied for selecting cases and controls  
3) Both cases and controls undergo the same diagnostic procedures  
4) Avoid hospital based design  
a) 1 and 3 are correct      c) Only 2 is correct  
b) 1 and 2 are correct      d) 1, 3 and 4 are correct
- xviii. Which among the following are disability rates  
1) Disability adjusted life years (DALY)      2) HALE (Health – Adjusted Life Expectancy)  
3) Five year Survival rates      4) Human disability index  
a) 1, 2, 3 and 4 are correct      c) 1 and 2 are correct  
b) 1, 2 and 3 are correct      d) 1, 3 and 4 are correct
- xix. As per biomedical waste management rules in India all the following has be discarded in the yellow colored container:  
1) Urinary catheter      2) Intravenous tube  
3) Discarded medicines      4) Human anatomical waste  
a) 1, 2 and 3 are correct      c) 1, 3 and 4 are correct  
b) 1 and 2 are correct      d) 3 and 4 are correct
- xx. The purpose of the National List of Essential Medicines is to  
1) Guide safe and effective treatment of priority disease conditions of a population  
2) Promote the rational use of medicines  
3) Optimize the available health resources of a country  
4) Identify the must know domain for the teaching and training of health care professionals  
a) 1 and 2 are correct      c) 3 and 4 are correct  
b) 1,3 and 4 are correct      d) 1, 2, 3 and 4 are correct

**Essays:****(2x10=20)**

2. A manual labour working at construction presents with irritant cough, dyspnea on exertion and tightness of chest. Chest x-ray showed ground glass opacities:
  - a) What is the probable diagnosis
  - b) Explain the medical measures for prevention of occupational diseases
  - c) Explain engineering the measures to prevent the same among other labourer working over there. (1+3+6)
3. You are a PHC medical officer. Field workers report to you about 3 cases of watery diarrhea and dehydration, one of which was severe and was referred. As a medical officer, how will you investigate and control the situation. Comment on the Bacterial indicators of drinking water quality (7+3)

**Short Essays:****(6x6=36)**

4. Describe the concept of web of causation in relation to coronary heart disease. Discuss the suitable measures of prevention and control with reference to risk factors
5. As medical officer of PHC, you are required to organize health education programs for primordial prevention of diabetes mellitus. How will you apply principles of health education in the health education program
6. Explain the criteria of causation with suitable examples
7. Discuss the integrated vector control management, add a note on the various vector control tools used for malaria
8. Write in brief about Adverse events following immunization
9. Define bias, explain the various types of bias with suitable examples

**Short Answers:****(6x4=24)**

10. Define food fortification and give suitable examples
11. Application of Kalamazoo consensus statement in doctor patient communication
12. Write in brief about lead time
13. Benefits to employee in the ESI Act
14. Discuss the role of a family in health and disease
15. Explain eugenics and euthenics with suitable examples

\*\*\*\*\*