## Regulation for 3rd Professional MBBS Part -I Examination:

**Subject: COMMUNITY MEDICINE**

**Departmental Goal:**

The broad goal of the teaching of undergraduate students in Community Medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.

**Departmental objectives:**

The medical graduates should -

(a). be able to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
(b). be able to diagnose and manage of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels.
(c). be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
(d). seek further expertise through continued self-learning and pursue research in any chosen area of health science.
(e). have the expertise to organize, implement, monitor & evaluate National Health Programmes at his / her respective level of functioning.
(t). have acquired basic management skills in the area of human resources, materials and resource management related to health care delivery.
(g). be able to work as a leader in health care teams and acquire proficiency in communication skills.
(h). be able to work in a variety of health care settings particularly in rural setting of our country.
(i). have personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to show concern for other individuals.

**CURRICULUM:**

(a). KNOWLEDGE

The student shall be able to:

1. explain the principles of sociology and identify social factors related to health, disease and disability and appreciate the roles of the individual, family, community and socio-cultural milieu in health and disease.
2. observe and interpret the dynamics of community behavior; ,
3. observe the principles of practice of medicine in hospital and community setting;
4, describe the health care delivery system including rehabilitation of the disabled in the country;
5. describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
6. list epidemiological methods and describe their application to communicable and non-communicable diseases in the community or hospital situation.
7. apply biostatistical methods and techniques;
8. outline the demographic pattern of the country

9. describe the health information systems.
10. enunciate the principles and components of primary health care and the national health policies to achieve the goal of 'Health for All'.
11. identify the environmental and occupational hazards and their control.
12. to plan, organize & implement health education programmes and apply the techniques of counseling;
13. to understand and apply the principles of management, health economics and health administration.

(b). SKILLS

At the end of the course, the student should be able to -

1. use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
2. collect, analyse, interpret and present simple community and hospital based data.
3. diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-cultural situations.
4. diagnose and manage maternal and child health problems and advise a couple and the community on the family planning methods available in the context of the national priorities.
5. diagnose and manage common nutritional problems at the individual and community level.
6. plan, implement and organize health education programme with the skill to use simple audio-visual aids.
7. interact with other members of the health care team and participate in the organisation of health care services and implementations of national health programmes.

Teaching of community medicine should be both theoretical as well as practical. As far as practicable, teaching of community medicine should be integrated with other relevant disciplines. Also, students should be exposed to the problem solving exercises. The practical aspects of the training programme should include visits to the health establishments and to the community and families where health intervention programmes are in operation.

**SYLLABUS**:

Total teaching hours = 310 hours [Lecture / Demonstration / Practical]
+ 12 weeks clinical / community posting

1. Introduction to Community Medicine:
   Concepts and evolution of Public Health, Preventive Medicine, Social Medicine & Community Medicine. Concepts of individual, family & community health. Significance of community medicine in promotive, curative, preventive and rehabilitative health interventions.
2. General concepts of Health and Disease:
   Definition of health. Definition of disease. Interrelation between health & overall human development. Indicators of health and Human Development. Disease causation. Natural history of disease & its significance in prevention & control of disease. Disease prevention. Levels of prevention and modes of interventions. Community diagnosis. Community physician. Functions of a physician. International classification of diseases.
3. Epidemiology - General considerations:
   Definition, aims and uses of epidemiology. Sources of epidemiological data. Measurements of disease frequency, health related states & events. Measurements of mortality. Certification of death. Epidemiological indicators and its application. Epidemiological triad.
   Descriptive, analytical & experimental epidemiology. Epidemiological studies – types, purposes, methods, advantages & disadvantages. Etiological hypothesis, Association and causation. Research methodologies.
   Application of epidemiological methods in assessment of health & disease and evaluation of health programmes.

Natural history of diseases. Multifactorial causation.
Dynamics of disease transmission. Modes of disease transmission. Concepts and strategies for disease prevention, control, elimination and eradication. Disease surveillance.
Host immunity. Immunizing agents. Cold chain. Adverse events following immunization. Immunization schedules, universal immunization programme, conduction of immunization session and calculation of vaccine requirement.
Disinfection. Sterilization. Universal precaution.
Investigation of epidemic and outbreak control.
Epidemiological exercises.

4. Disease screening: Concepts and application in community health. Definition and significances of sensitivity, specificity and predictive value.
5. Epidemiology of communicable diseases (including relevant National programmes):
   Small pox, Chickenpox, Measles, Rubella, Mumps, Influenza, Diphtheria, Whooping cough, Meningococcal meningitis, Tuberculosis, Acute respiratory infections, Poliomyelitis, Viral hepatitis, Acute diarrhoeal diseases, Cholera, Typhoid, Food poisoning, Amoebiasis, Ascariasis, Hookworm infection, Dracunculiasis, Malaria, Filaria, Dengue, Rabies, Yellow fever, Japanese encephalitis, Rickettsial diseases, Plague, Leishmaniasis, Trachoma, Tetanus including Neonatal Tetanus, Leprosy, Scabies, Sexually transmitted diseases, HIV & AIDS.
6. Epidemiology of non-communicable diseases (including relevant National programmes):
   Coronary heart disease, Hypertension, Diabetes, Obesity, Rheumatic heart diseases, Cancer, Blindness, Accidents.
   Geriatric health problems and interventions.
7. Demography and population dynamics:
   Demographic trends in world and India. Impact on Socio-economic & health situation. Demographic parameters.
   Fertility, Factors determining fertility. Fertility indicators. Fertility situation in India and population stabilization. Family planning & family welfare. National Population policy 2000. National socio-demographic goals.
   Methods of contraception. Medical termination of pregnancy Act.
8. Maternal & child health:
   Significance of maternal & child health in relation to overall health situation in India. Reproductive and child health problems in India.
   Maternal health interventions during pregnancy, childbirth and lactation.
   Child health care with special reference to essential newborn care, nutrition during infancy and childhood, growth & development, growth surveillance. Low birth weight and prematurity.
   Indicators of maternal and child health. Prevention and control of maternal and child morbidity & mortality.
   School health program. Adolescent health.
   National programs related to MCH care with special reference to RCH program. (National programmes related childhood diseases like ARI, diarrhoea, VPDs to be dealt with Epidemiology of communicable diseases).
9. Nutrition and health:
   Macronutrients & Micronutrients – physiological functions, dietary sources, requirements, deficiency conditions. Classification of food & nutritional values. Balanced diet.
   Nutritional diseases of public health importance in India – PEM, nutritional anaemia, vitamin A malnutrition, iodine deficiency disorders, fluorosis.
   Nutritional factors in coronary heart disease, diabetes, cancer and obesity.
   Assessment of nutritional status at community level. Diet survey. Nutritional surveillance.
   Food hygiene – milk, meat, fish. Food-borne diseases. Food toxicants.
   Food fortification. Food additives. Food adulteration, Prevention of Food Adulteration Act.
   National programmes on nutrition. Integrated Child Development Service scheme.
10. Social and behavioural science:
    Concepts of sociology and behavioural sciences as relevant to practice of Community Medicine. Health behaviour and factors affecting it.

Society, community, social stratification, social problems, social security, interrelation between socio-cultural factors and health. Socio-economic class.
Family – types, functions, role in health & diseases.
Psychosocial problems affecting health. Drug addiction, alcoholism & juvenile delinquency.

11. Environment and health:
    Relationship between environment and health. Health hazards arising out of environmental conditions.
    Concepts of safe water. Water pollution and contamination. Hazards of unsafe water. water-borne diseases. Hazards of water contamination with special reference to arsenic & fluoride. Water purification at family and community level. Water quality standards Bacteriological surveillance of water quality. Disinfection of drinking water sources.
    Air pollution – sources, health hazards, air quality monitoring.
    Housing and health. Housing standards. Overcrowding.
    Assessment of housing & environmental condition at community level.
    Noise pollution. Radiation hazards. Thermal environment and health.
    Sanitation barrier. Excreta disposal. Solid waste management. Liquid waste management.
    Bio-Medical waste management. Hazards of unplanned industrialization and urbanization.
    Arthopods of medical importance [may be integrated with teaching of communicable diseases]: Mosquito/housefly/louse/rat flea/sand fly/hard tick/soft tick/itch mite/Cyclops – life cycle, diseases transmitted, control measures. Integrated vector control.
12. Occupational health:
    Health hazards due to occupational environment. Occupational diseases including Pneumoconiosis, Lead poisoning, occupational cancers & occupational dermatitis.
    Prevention & control of occupational diseases. Health protection of workers. Ergonomics.
    Sickness absenteeism. Social security for workers.
    Indian Factories Act. Employees State Insurance Act.
13. Genetic disorders:
    Human genetics and community health. Prevention & control of genetic diseases of public health importance. Genetic counselling.
14. Health information system:
    Sources of health information and its uses. Census in India.
15. Bio-statistics:
    Types of data. Methods of data compilation, analysis and presentation.
    Rate, ratio, proportion, statistical averages, measures of dispersion. Normal distribution and normal curve. Basic concepts of probability theory & binomial distribution. Basic understanding of tests of significance.
    Sampling – methods, uses, calculation of sample size.
    Statistical exercises.
16. Health education & communication:
    Principles of health education. Communication for behaviour change. Information, education & communication. Communication process, channels of communication, types of communication, advantages and disadvantages of different channels & methods of communication.
    Counselling. Application of counseling in health programs.
    Planning & implementation of IEC programmes.
17. Health planning, management:
    Definition of planning. Steps of planning, planning cycle.
    Resource management with special reference to rural health care setting.
    Supervision, monitoring & evaluation of health programmes.
    Health planning in India. National Health Policy. Health for all.
18. Health care delivery system in India:
    Levels of health care with special reference to primary health care. Definition, principles and components of primary health care.
    Health care system in India. Health care administration & organization at Center, State, District and Block levels. Community Development Blocks. Role of Panchayeti Raj Institutions –community participation & decentralized planning.

Health care system in rural India – organization and functions of health institutions at block level and below. Primary health center. Subcenter, Community level health functionaries. Functions of different categories of health personnel.
Non-Government Organizations. International health agencies (WHO, UNICEF).
National health program implementation at the block level and evaluation of health programs. [To be integrated with teaching of relevant health problems].

19. Disaster management:
Types of disasters. Health hazards of disasters. Disaster preparedness. Disaster management.

**EXAMINATION REGULATION:**

TOTAL = 200 marks
A] Written paper: 60 marks in each paper X 2 papers = 120 marks

Paper-I:
General concepts of health & disease, epidemiology, disease screening, epidemiology of communicable (including childhood diseases like ARI, diarrhoea, VPDs) & non-communicable diseases, health information, biostatistics, environmental health, disaster management.

Paper-II:
Demography, maternal & child health, nutrition & health, social & behavioural sciences as relevant to community health, occupational health, health education & communication including counseling, health planning & management, health care delivery.

B]. Viva: = 10 marks

C]. Practical: = 30 marks

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| Epidemiological exercise | = 5 marks |
| Statistical exercise | = 5 marks |
| Problem solving exercise | = 10 marks |
| Project work | = 5 marks |
| Family study exercise | = 5 marks |
| TOTAL | = 30 marks |

D]. Internal assessment: = 40 marks

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|---|---|---|
| Theory | | |
| | Continuous | = 10 |
| | Terminal | = 10 |
| | Total | = 20 |
| Practical | | |
| | Continuous | = 10 |
| | Terminal | = 10 |
| | Total | = 20 |

## MODEL QUESTIONS:

**PAPER – I**

**Group – A** [Answer any one question]

1. Define epidemiology and epidemic. Enumerate with examples the different types of time trends in disease occurrence. Mention briefly the important differences between case-control and cohort studies. 2+2+4+4 = 12

2. What is 'disease surveillance'? Discuss the activities under AFP surveillance currently being undertaken in India. 2+10 = 12

**Group – B** [Answer any two questions]

3. Malaria cases are occurring frequently in your block. Discuss the steps you would take as BMOH for management. 12

4. A few cases of enteric fever have been reported in a hostel of a medical college. How will you investigate the outbreak? What measures will you take to control the outbreak? 6+6 = 12

5. An under-five child with history of cough and difficult breathing has been brought to subcenter. How the subcenter health worker (female) will assess, classify and manage the case? 4+3+5 = 12

**Group – C**

6. Write short notes on any three: 4 X 3 = 12

a). Health hazards of radiation

b). Iceberg phenomenon of a disease

c). Risk factors of coronary heart disease

d). Biological transmission

**Group – D**

7. Answer in brief, any three of the following: 4 X 3 = 12

a). Urban slum dwellers are subjected to multiple environmental hazards – explain.

b). Modalities for prevention of Hepatitis B.

c). Coliform bacteria are chosen as the indicator of faecal contamination of water – Why?

d). There are multiple sources of health information – explain.

**PAPER – II**

**Group – A** [Answer any one question]

1. Enumerate the National Nutritional Programmes. What are the objectives of ICDS programme? Who are the beneficiaries and what are the services provided under ICDS scheme?
2+3+2+5 = 12

2. What is 'pneumoconiosis'? Enumerate the different types with the causative factor for the respective types of pneumoconiosis. Briefly outline the measures for prevention of pneumoconiosis.
2+4+6 = 12

**Group – B** [Answer any two questions]

3. CPR is reported to be very low in your block. As BMOH, how will you plan and organize awareness campaign in your block to improve the situation? 12

4. Maternal mortality was found to be high in your block. What measures will you take to reduce the problem? 12

5. A large number of women are suffering from nutritional anaemia in a block. As a BMOH how will you assess the problem? What measures will you take up to control the problem?
6 + 6 = 12

**Group – C**

6. Write short notes on any three: 4 X 3 = 12

a). Demographic cycle

b). Functions of WHO

c). MTP Act

d). Family

**Group – D**

7. Answer in brief, any three of the following: 4 X 3 = 12

a). Subcenters are the nodal points for delivery of health care in rural areas – justify the statement.

b). Ouitline various methods of contraception after an unprotected intercourse.

c). Explain why IMR is considered as a very sensitive indicator of health status.

d). Medical care and health care is not synonymous – Explain.