



**YENEPOYA**

(DEEMED TO BE UNIVERSITY)

Recognized under Sec 3(A) of the UGC Act 1956

Accredited by NAAC with 'A' Grade

## **YENEPOYA (DEEMED TO BE UNIVERSITY)**

**Deralakatte, Mangaluru -575018**

### **REGULATIONS AND CURRICULUM GOVERNING POSTGRADUATE PROGRAM (MD) IN COMMUNITY MEDICINE**

**(REVISED CURRICULUM – AMENDED UP TO 2019)**

**ATTESTED**  


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**NOTIFICATION - 34-ACM/2019 dtd. 20.02.2019**

Sub:- Implementation of Competency Based Medical Education PG Curriculum  
Ref. : Resolution of the Academic Council at its 34<sup>th</sup> Meeting held on 08.02.2019 vide  
Agenda 33

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The Academic Council at its 34<sup>th</sup> Meeting held on 08.02.2019 and subsequently the 45<sup>th</sup> meetings of Board of Management held on 09.02.2019 have accepted the proposal for implementation of Competency Based Medical Education (CBME) for the PG Curricula of the following programs as per the MCI Norms.

1. MD in Pathology
2. MD in General Medicine
3. MD in Anaesthesiology
4. MD in Paediatrics
5. MD in Respiratory Medicine
6. MD in Radio-diagnosis
7. MD in Anatomy
8. MD in Physiology
9. MD in Biochemistry
10. MD in Microbiology
11. MD in Pharmacology
12. MD in Forensic Medicine
13. MD in Psychiatry
14. MD in Dermatology
15. MD in Community Medicine
16. MS in General Surgery
17. MS in OBG
18. MS in Otorhinolaryngology
19. MS in Ophthalmology
20. MS in Orthopaedics

This revised curriculum shall come into effect from the academic year 2019-2020 onwards.

**REGISTRAR**

Yenepoya (Deemed to be) University,  
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Mangalore 575 018

## **MD Community Medicine**

### **Preamble**

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

Community Medicine is an academic subject, a branch of Medicine which deals with promotion of health and prevention of diseases, involving people's participation, utilizing professional management skills. The Community Medicine specialist, will inculcate a holistic view of health and medical interventions primarily focused on Community Health/Population Health. Thus, he/she should be equipped with the knowledge, skills, competencies in primary, secondary & tertiary care, control and prevention of outbreaks/epidemics, community diagnosis, health needs assessment, epidemiological assessment, research and planning evidence-based health policies and programmes.

The Guidelines for teaching Community Medicine, therefore, should be designed to create a cadre of professionals who are competent to meaningfully contribute their expertise in planning, implementation, co-ordination, monitoring, evaluation of Primary Health Care Programs based on scientific evidence. The competencies must cover a wide spectrum of skills viz., technical, managerial, administrative, organizational skills, applied skills in Health Information Management, software application and soft skills of communication, motivation, decision-making, team building, training in scientific communication and medical writing.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject- content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

## **2. OBJECTIVES**

At the end of the postgraduate training in Community Medicine (Preventive and Social Medicine/ Social and Preventive Medicine), the student shall be able to:

1. To create a skilled cadre of medical professionals having expertise in application of principles of Public Health, Community Medicine and applied epidemiology, contributing meaningfully in formulating National Health Policies & Programmes with a systems approach for overall human development.
2. To standardize the teaching & training approaches at post- graduate level, for Community Medicine
3. Research: To formulate research questions, do literature search, conduct study with an appropriate study design and study tool; conduct data collection and management, data analysis and report.

## **SUBJECT SPECIFIC COMPETENCIES**

At the end of the course the student should be able to acquire the following competencies under the three domains, Cognitive, Affective and Psychomotor:

### **A. Cognitive domain (The student should be able to:)**

1. Describe conceptual (and applied) understanding of Public Health, Community Medicine, clinical and disease-oriented approach, preventive approach & health promotion, disease control & promotion.
2. Have knowledge about communicable and non-communicable diseases, emerging and re-emerging diseases, their epidemiology, control and prevention.
3. Apply the principles of epidemiology, health research and Bio-statistics, application of qualitative research methods
4. Calculate Odds Ratio, Relative Risk, Attributable risk and other relevant health and morbidity indicators.
5. To describe nutritional problems of the country, role of nutrition in health and disease and to describe common nutritional disorders

6. Develop nutrition plan for an individual based on his requirements and with concerns to special situations if applicable
7. Plan comprehensive programme to address issue of malnutrition in a given area for a specific group
8. To describe the concept of Environmental Health and its various determinants.
9. Identify environmental health issues in a given area/community
10. Assess impact of adverse environmental conditions on health of human beings
11. Plan awareness programmes at various levels on environmental issues and mobilize community resources and participation to safeguard from local adverse environmental conditions
12. Should be able to provide technical advice for water purification, chlorination, installing go-bar gas plant, construction of soakage pits etc.
13. Be a technical expert to advice on protection measures from adverse environmental exposure
14. To describe the working of Primary Health Care system, Panchayat Raj system, National Health Programmes, urban/rural differences, RCH, Demography and Family Welfare.
15. Do orientation of the inter-linkage of health sector and non-health sector for promotion of Health & control and prevention of diseases.
16. Have familiarity with administrative procedures and protocols
17. Have knowledge about role of media and its use in health.
18. Have knowledge of Health Care Administration, Health Management and Public Health Leadership
19. To describe Health Policy planning, Medical Education technology, Information Technology and integration of alternative Health system including AYUSH.
20. To describe the intricacies of Social & Behavioral sciences and their applications.
21. To describe Public Health Legislations
22. To understand and describe International Health & Global Diseases surveillance.

- 23.To relate the history of symptoms with specific occupation, diagnostic criteria, preventive measures, identification of various hazards in a specific occupational environment and legislations.
- 24.To keep abreast of recent advances in Public Health & formulate feasible, optimal, sustainable, cost effective strategies in response to the advances in public health & development.
- 25.To describe the principles of Health Economics and apply it in various public health settings.
- 26.To explain and correlate common health problems (medical, social, environmental, economic, psychological) of urban slum dwellers, organization of health services in urban slum areas
- 27.Develop workable interventions for control and prevention of emerging and re-emerging diseases at local, national and global level.
- 28.Identify behavior pattern of individual or group of individuals detrimental or adversely affecting their health
- 29.Define and identify vulnerable, under-privileged high risk communities and their special needs
- 30.To create awareness about various public health laws
- 31.Evaluate cost effectiveness and cost benefits of a Health Program
- 32.Understand and express implications of 'Poverty Line', 'Social Inclusion', 'Equity', 'taxations', 'Insurance' on Health care management.
- 33.To categorize hospital waste and be able to guide for proper disposal.
- 34.To provide a comprehensive plan for disaster management and mitigation of sufferings.

**B. Affective domain:**

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the

right to information and second opinion.

3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

**A. C. Psychomotor domain: (The student should be able to:)**

**B. The student should be able to perform independently the following :**

- Conduct community surveys for assessment of health & morbidity profile, epidemiological determinants, assessment of health needs, disease surveillance, evaluation of health programmes and community diagnosis
- Conduct epidemic investigations, spot maps, predict disease trends, preparation of reports, planning and implementation of control measures
- Demonstrate clinical skills of preparing case history, examination, provisional diagnosis, treatment and clinical case management and interpretation of laboratory findings. Conduct common procedures such as incision, drainage, dressings & injections.
- Do data collection, compilation, tabular and graphical presentation, analysis and interpretation, applying appropriate statistical tests, using computer-based software application for validation of findings
- Conduct epidemiological research studies to establish cause-effect relationships in elaborating the epidemiology of diseases and health events
- Develop appropriate IEC Material, assessment of community communication needs, training skills, counseling skills, conduct Health Education Programmes in urban and rural settings
- Conduct dietary surveys, assessment of nutritional status, nutritive values of common food menus, detection of food adulterants, use of lactometer, recording and interpretation of growth and development charts.
- Use and apply various instruments and processes concerned with environmental health and biological waste management eg. waste collection, segregation and disposal as per protocols, needle-disposers, disinfection procedures. Also use of Dosi-meters, Kata / Globe Thermometer, Slings Psychrometer, Gobar Gas Plant, Soakage pit, Solar Energy, functioning of ILRs, Deep Freezers, Cold Boxes, Vaccine Carriers.
- identify different types of mosquitoes, detect vector breeding places and orientation of the methods of elimination of breeding places and placement of a mosquito-proof water tank.
- Conduct clinical screening of various diseases and organize community health camps involving community participation in urban and rural settings. Use of Snellen charts for

vision, Ishihara's chart for colour blindness, tourniquet tests for dengue diagnosis in fever, BMI and other physical measurements of infants, children and adults etc., copper-T insertions and preparation of pap smear.

- Conduct tests for assessment of chlorine demand of water (Horrock's Apparatus), procedure of well-water and urban water-tank chlorination, assessment of chlorination levels, physical examination of water, methods domestic water purification, oriented in use of water filters.
- Prepare health project proposals with budgeting based on the project objectives.

**Miscellaneous skills: (The student should be able to)**

1. Devise appropriate health education messages for public health awareness using various health communications strategies.
2. Identify family level and community level interventions and facilitate the implementation of the same e.g. food hygiene, food storage, cooking demonstrations, community kitchen, kitchen garden, empowerment of women for promoting nutritional health etc.
3. Demonstrate counselling skills for family planning services.
4. Plan and execute BCC strategy for individuals.
5. Conduct measurement of occupational exposure to harmful influences.
6. Diagnose occupational hazards and undertake surveys to identify occupational exposures as and when necessary.
7. Elicit appropriate response at individual and community level to prevent occupational hazards including IEC activities at different levels.
8. Use modern IT applications especially internet & internet-based applications.



## **SYLLABUS**

### **THEORY**

#### **Course contents:**

- 1. Conceptual (and applied) understanding of Public Health, Community Medicine, clinical disease-oriented approach, Preventive approach & Health promotion, disease control & promotion.**

#### **Learning objectives:**

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

- i. Understand and explain the concept & application and give suitable analogies/examples related to Public Health/Community Medicine (with differences), Disease-oriented v/s Preventive approach, health promotion disease control & prevention.
- ii. Explain correlation between health and human development with analogies/ examples.
- iii. Explain concept of Primordial, Primary, Secondary and Tertiary prevention with examples.
- iv. Evolutionary History and mile-stones in Public Health – National and International levels.

- 2. Communicable and Non-Communicable diseases, emerging and re emerging diseases**

#### **Learning objectives:**

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

- i. Understand and explain Epidemiology of Communicable/Non-communicable diseases- its causes, precipitating factors, social & other non- health causes, mechanisms of transmission, signs/systems, management, control & prevention measures, related national Health Programmes & national Guidelines, Directives, special projects, if any.
- ii. Explain application of Disease surveillance system in control of Communicable/Non-communicable diseases.
- iii. Explain & undertake steps to investigate & control outbreaks, epidemics and take measures to prevent the same.
- iv. Evolve prevention & control measures based on local & regional epidemiological funding, synchronizing with National guidelines.
- v. Explain the rationale of One Health in epidemiology of disease and its public health importance

### **3. Applied Epidemiology, Health research, Bio-statistics**

#### **Learning objectives:**

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

- i. Explain the concept & application of Epidemiology of Disease and Health giving suitable examples.
- ii. Explain Epidemiological approach, the terms Distribution & Determinants, uses, types of Epidemiological studies, interpretation, merits/demerits and limitations, odds ratio, relative risk, attributable & population attributable risks, Hybrid designs (with examples), validity of Epidemiological Data and application in practice at field level.
- iii. Explain Epidemiological Research methods, Research related protocols, Literature review, estimating sample size, data collection/ compilation/Analysis/ Research, interpretation.
- iv. Develop Health interventional programs based on Epidemiological Finding & create evidence for Public Health action.
- v. Understand difference between data, information & intelligence, types of data, survey methods, formulating questionnaires, interview schedule, data presentation types & analysis.
- vi. Apply computer based software application for data designing, data management & collation analysis e.g. SPSS, Epi-info, MS office and other advanced versions.
- vii. Use statistical software for data management
- viii. Understand & conduct Literature search using Pub Med
- ix. Understand & conduct Reference Management using Mendeley
- x. Understand & conduct Qualitative data capture using smart phone with Epicollect application
- xi. Understand & use G power software for sample size estimation

### **4. Nutrition**

#### **Learning objectives:**

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

- i. Identify various nutritional problems in the region, state and country and contributing factors for the same, with due emphasis on ecology perspectives.
- ii. Explain importance of various nutrients (including micronutrients) in health, their sources, requirements and problems associated with their deficiencies as well as over consumption.

- iii. Plan balanced diet and dietary requirements of various age and sex groups.
- iv. Dietary/nutritional concerns of vulnerable groups – young children, adolescents, ANC/PNC/Lactating mothers/senior citizens/individuals with various health problems e.g hypertension, diabetes, renal problems etc.
- v. Classification of food, food additives, food fortification, food enrichment, food toxins and food adulteration.
- vi. Explain Food production, Food hygiene and safety, food storage, food preparation, food wastage and feeding practices.
- vii. Assessment of nutritional status of a community by adopting different methodologies.
- viii. Nutritional supplementation, surveillance, education and rehabilitation.
- ix. National programmes in nutrition and their evaluation
- x. National nutrition policy.

## **5. Environmental health**

### **Learning objectives:**

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

- i. Highlight importance of external environment (air, water, noise, radiation, temperature, ventilation, solid waste disposal, insects and vectors, domestic and country yard pests, industrial waste disposal etc. and its impact on ecology and human health.
- ii. Elaborate on health issues related to housing, air, water, noise, radiation pollution i.e. size of problems, area and specific groups affected, measurement of pollution levels and health impact of the same, corrective measures
- iii. Elaborate on requirements of water, water chlorination and household purification measures, measurement of chlorine demand, Break-point chlorination levels, water quality.
- iv. Assessment of quality of water and air, control of air pollution
- v. Explain environmental sanitation and control measures (including appropriate technologies) – modern methods of sewage disposal, mechanical ventilation, soakage pits, gobar gas plants, smokeless Chula, solar energy, rainwater harvesting, sewage water recycling plants at society level etc.
- vi. Explain global warming and its health impact.
- vii. Elaborate on forest reserves, social forestry and health
- viii. Study vectors of medical importance and integrated control measures against them.
- ix. Explain dynamics of transmission of vector borne diseases

- x. Explain pest control measures
- xi. Explain environmental health issues in urban and rural areas
- xii. Understand functioning of public sector measures to safeguard environmental health e.g water purification plant
- xiii. Explain Legislative measures for protection of environmental health

## **6. Primary Health Care System, Panchayat Raj, National Health Programmes including RCH, Demography & Family Welfare:**

### **Learning Objectives**

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

- i. Explain the meaning of Primary Health Care with suitable analogies with reference to India, and be able to define the systems approach for implementation of Primary Health Care.
- ii. Enumerate the elements, principles, population coverage norms, staff patterns, day to day activities, programme schedule, stakeholders at PHC level.
- iii. Explain the scope and implications of 3-tier system of Primary Health Care.
- iv. Understand functioning of Rural Panchayat Raj system of development and its correlation with health.
- v. Promote community participation in Primary Health Care programme and motivate various stakeholders for the same.
- vi. Understand and comply with medico-legal procedures related to Primary Health Care activities.
- vii. Integrate, coordinate both health and non-health sectors for implementing various national health programmes.
- viii. Deliver the provisions of various health schemes to eligible beneficiaries such as Janani Suraksha Yojana, Rashtriya Swasthya Beema Yojana, Rajiv Gandhi Jeevandayi Arogya Yojana etc.
- ix. Impart training in health programmes for paramedical workers, lab technicians, community health volunteer's, interns and provide health education in the community.
- x. Implement Public Health Skills for investigations and containment of outbreaks & epidemics.
- xi. Understand history of evolution of public health, important milestones in the world and

in India.

- xii. Enumerate the various health committees established and their major recommendations since 1947-48 to till date.
- xiii. Nutritional Evaluation in Maternal Health: To evaluate maternal nutrition area as a part of Clinico-social and family case taking

## **7. Health Care Administration, Health Management and Public Health Leadership**

### **Learning Objectives:**

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

- i. Explain the conceptual difference between Administration and Management, Power and Authority with reference to health care.
- ii. Explain the role of fundamental principles of constitution, principles of Democracy and its correlation with health care administration.
- iii. Explain the role of Bureaucracy, Technocracy, Political system, Judiciary, Media and people in health care administration.
- iv. Explain and identify the key positions and their role in health administration at State, District, Taluka (Tehsil block) and village level.
- v. Explain the frame work of health care system at State, District, Taluka & village level and understand the mechanism of coordination between bureaucrats, technocrats, political, judiciary and media at each of these levels.
- vi. Enumerate functions of a manager, explain concepts of management and leadership styles, various management techniques, planning process, monitoring & evaluation skills.
- vii. Should be sensitive to quality issues in health care management and comply with relevant quality management techniques.
- viii. Formulate and manage team approach for implementing health programmes.
- ix. Apply skills of effective human resource management and identify relevant roles, responsibilities and duties of functionaries.
- x. Implement skills of motivation, communication, negotiation and conflict management at PHC level.
- xi. Develop budgetary statements based on evidence of needs assessment and be able to maintain account of expenditure as per norms.
- xii. Undertake community health needs survey, conduct training & communication needs assessment of paramedical and health workers, identify vulnerable, underprivileged communities, implements high risk approach.

## **8. Health Policy, Medical Education, Integrating Alternative system of Medicine**

### **Learning Objectives**

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

- i. Understand and elaborate implications of the policy provision with reference to the current health scenario in the country.
- ii. Explain the role of health policy in promotion of Primary Health care, ensuring equity, inter- sectoral co-ordination, appropriate technology and community participation.
- iii. Explain the various provisions for promotion of preventive and curative health services including National Health Mission, National Health Programs, Quality Hospital based services, Medical Education and AYUSH.
- iv. Critically appreciate merits and demerits of the Health Policy.
- v. Explain SWOT analysis of the policy and debate on evidence based recommendations, additions, deletions.
- vi. Debate on suggestions or recommendations for future inclusions.

## **9. Social and behavioral sciences**

### **Learning objectives:**

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

- i. Understand influence of social and behavioral practices on health.
- ii. Understand principles of behavior change of an individual and community. Clearly understand difference between knowledge, attitude and practices..
- iii. Understand importance of social medicine and health.
- iv. Importance of behavior change communication (BCC).
- v. Socio-cultural factors influencing behavior change.
- vi. Formal and informal organizations in the community.
- vii. Influence of peer pressure.
- viii. Know the health problems, where BCC interventions are necessary.
- ix. Understand factors promoting and detrimental to BCC.

## **10. Public Health Legislations**

### **Learning objectives:**

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

- i. Explain public health legislations and need for the same.
- ii. Know in detail each public health law – when, why, implementation, impact, issues etc.
- iii. Enforcement of various public health laws.
- iv. Judiciary mechanism for ensuring proper implementation of public health laws.
- v. Scope for integrated approach for implementation of public health laws.

## **12. International Health**

### **Learning Objectives:**

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

- i. Understand the need and scope for international health measures.
- ii. Enlist and understand functioning of various UN agencies (including WHO) playing key role in international health.
- iii. Enlist and understand functioning of bilateral vs multilateral international donor agencies.
- iv. Provide advice to international travelers and vaccination requirements,
- v. Understand International health control measures e.g. quarantine, airport management etc.
- vi. Understand the management of international ports from health perspectives.

## **13. Occupational Health**

### **Learning Objectives:**

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

- i. Understand the concept of occupational health and its importance, Occupational environment and work dynamics.
- ii. Know different types of occupational exposures at various settings.
- iii. Enlist various occupational hazards and their relative magnitude.

- iv. Understand measurement of exposure levels to harmful influences during occupation.
- v. Understand preventive and control measures against various occupational hazards – global, national and local level measures.
- vi. Understand individual and community responses towards preventing exposure to occupational hazards.
- vii. Understand and advise occupational safety measures.
- viii. Understand legislative measures to prevent exposures to occupational hazards.
- ix. Advise compensation provisions to persons exposed to various occupational hazards.
- x. Understand occupational health problems amongst people in unorganized sector
- xi. Understand and advise social security and welfare provisions for workers – ESIS, Factory's Act, Role of ILO, Ministry of Labor, DGFASLI.

#### **14. The recent advances in Public Health & miscellaneous issues**

##### **Learning Objectives:**

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

- i. identify & enlist events at local, district, national & global levels influencing or adversely affecting health /medical issues of the population.
- ii. Adopt & practise skills related to utilization of modern technology, software, IT application in the interest of health promotion & disease prevention.

#### **15. Health Economics**

##### **Learning Objectives:**

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

- i. Describe the scope of health economics.
- ii. Understand health market & its characteristics.
- iii. Understand & apply economic evaluation techniques.
- iv. Assess the mechanism of Funding Health Care services, especially health insurance.
- v. Advise on allocation of resources appropriately in their work area.



## TEACHING PROGRAM

### Teaching methodology

The following is the guideline for various teaching/learning activities:

- **Journal Club** : Critical appreciation and discussion of research articles in indexed journals
- **Seminar**
- **Lecture/Discussion** : Lectures on newer topics by faculty
- **Case presentation** : Communicable disease case presentation (focus on epidemiology, control, prevention) or Family case ( focus on health needs assessment, SWOT analysis of family, social determinants and social empowerment, community management, role of primary health care and mobilizing resources for empowerment of the family). PG students will present the cases in presence faculty and discuss various modalities of management( Family case presentation, clinico social case presentation, short case presentation  
**Story Telling for case presentation:** Clinico social and family cases with social determinants will be presented in story telling form.
- **Problem Based Learning for 2<sup>nd</sup> & 3<sup>rd</sup> year PGs** : Problem Based learning on communicable and non-communicable disease, outbreak investigation and research methodology will be conducted on quarterly basis.
- **Public Health Management training** in Immunization clinics, Disease Surveillance Units, General Preventive OPD, hands-on training in management of national health programs at urban health centre and rural health centre along with orientation in health administrative system.
- The PG student shall be required to participate in the teaching and training programme of Undergraduate students and interns.
- The PG student must have attended Mandatory training in Research Methodology during his tenure.

- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
- **Special Seminars / Workshops:** conducted by External Faculty on cross-cutting subjects directly or indirectly concerned with Health. eg. Critical appreciation of National Developmental Budget, delivered by prominent Economist.
- **Log Book:** Postgraduate students shall maintain a log book of the work carried out by them and the training programme undergone during the period of training including details of work experience during their postings, including programs implemented under supervision and those performed independently. The log book shall be checked and assessed periodically by the faculty members imparting the training.
- Department should encourage e-learning activities.
- Epidemiological exercise
- Public health exercise
- Biostatistics exercise
- Field visits
- Participation in National Health Programmes
- Group discussion
- Lecture by faculty, Pedagogy sessions
- Discussion on recent advances in public health
- Postings are given below:

**Recommended schedule for three years training:**  
**Orientation Training/Field postings for students of MD**  
**Community Medicine**

Sl.No.	Field posting and work	Duration
1	Posting at sub centres & PHCs under & at RHTC and UHTC attached to dept. Of Community Medicine as per MCI norm	Total period of ONE year during the 3 year period of PG course. Posting at RHTC should be residential
2	Posting in the teaching hospital for exposure to clinical departments namely Paediatrics, OBGY & General Medicine to acquire clinical skills for diagnosis and management of communicable and non-communicable diseases	Total-One month General Medicine-2weeks Paediatrics-1 weeks OBGY-1 week Time of posting shall be at the discretion of local feasibility
3	Work attachment to gain hands-on skills based, training in public health department & orientation in Health Administration and management of various National Health programmes and aspects of public health management at the offices of the DHO/DHS/THO/DTO/DMO/CDPO/MOH of local Civic Body or district health authorities	Total-One month Place & Time of posting shall be at the discretion of local feasibility
4	Short duration posting in various camps, melas, public health emergencies, investigation of epidemics, implementation of NHP, linen dept of hospital, Hospital kitchen, Hospital record section, central drug store, Medical Superintendent office, blood bank, casualty dept., CCL, Hospital waste management, ART-VCTC, Matron office(HRD),HMIS etc.	Total-one month Minimum of four posting of 1 wk duration each shall be done subject to local feasibility
5	Visits to various institutions of Public Health Importance	

**During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of skills laboratories in medical colleges is mandatory.**

## Teaching Schedule

The suggested departmental teaching schedule is as follows:

1	Journal clubs	Once a week
2	Seminar	
3	Family / Medico-Social Case Presentation	
4	Lecture by faculty	
5	Group Discussion	
6	Guest lecture (held in the auditorium regarding various	Regularly, minimum once in week at college or University level

Each PG should present minimum of 04 journal clubs,04 seminars,04 case presentations(family/clinic social case),04 pedagogy sessions, dissertation progress 06 monthly.

### Note:

- All sessions are to be attended by the available faculty members.
- All the teaching sessions are to be assessed by the faculty at the end of session.

# **ASSESSMENT**

**FORMATIVE ASSESSMENT, ie., during the training may be as follows:**

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

**Quarterly assessment during the MD training should be based on:**

- 1. Journal based / recent advances learning**
- 2. Patient based /Laboratory or Skill based learning**
- 3. Self directed learning and teaching**
- 4. Departmental and interdepartmental learning activity**
- 5. External and Outreach Activities / CMEs**

## **Assessment Plan**

All the PG residents are to be assessed daily for their academic activities and also periodically.

### **1. General Principles**

- The assessment is valid, objective, and reliable.
- It covers cognitive, psychomotor and affective domains.
- Formative, continuing and summative (final) assessment is also conducted in theory as well as practical /clinical. In addition, thesis is also assessed separately.

### **2. Formative Assessment**

The formative assessment is continuous as well as end-of-term. The former is based on the feedback from the senior residents and the consultants concerned. End-of term assessment is held at the end of each semester (up to the 5th semester).

Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate.

### **3. Internal Assessment**

The performance of the Postgraduate student during the training period should be monitored

throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student. Marks should be allotted out of 100 as followed.

**ItemsMarks**

a. Personal Attributes	20
b. Practical Work	20
c. Academic activities	20
d. End of term theory examination	20
e. End of term practical examination	20

**a. Personal attributes:**

**Discipline:** Dress, appearance, punctuality, follows orders and reports, etc (10Marks)

**Honesty and Integrity:** Assess the student for honesty in terms of his hard work and compliance (10Marks)

**b. Practical Work:**

**Professional etiquettes:** Behavior with patients, community members, colleagues, respect for seniors and general good manners (10 Marks)

**Research related Activities:** Dissertation progress presentation, presentation of articles submitted for conference (10Marks)

**c. Academic Activity:** Performance during presentation at Journal club/ Seminar/ Case discussion/ Statmeeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

**d. End of term theory examinations** conducted at end of 1st, 2nd year and after 2 years 9 months.

**e. End of term practical/oral examinations** after 2 years 9 months.

Marks for **personal attributes** and **work done** should be given annually by all the consultants under whom the resident was posted during the year. Average of the three years should be put as the final marks out of 20. Marks for **academic activity** should be given by the all consultants who have attended the session presented by the residents.

The Internal assessment should be presented to the Board of examiners for due consideration at the time of Final Examinations.

### **SUMMATIVE ASSESSMENT, ie., at the end of training**

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The examination shall be in three parts:

#### **1. Thesis**

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

#### **2. Theory Examination:**

The Post Graduate examination shall be in three parts: -

**1. Thesis:** It should be submitted to the University by each post graduate student at least 6 months before the theory and clinical/practical examination. The thesis shall be examined by a minimum of three examiners, one internal and two external examiners, appointed by the university and who shall not be the examiners for theory and practical. A post graduate student shall be allowed to appear for the theory and practical/clinical examination only after the acceptance of the thesis by two examiners.

#### **2. Theory:**

The examinations shall be organised on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student 's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

### **Eligibility criterion to appear in university examination**

- A minimum of 80% of attendance
- A minimum of 50% internal assessment
- A minimum of one poster presentation and one paper read in national/state/conference
- A minimum of one research paper and published/ accepted for publication

- Acceptance of thesis by the external evaluators

### **Criteria for passing the university examination**

- The pass percentage will be 50%.
- Candidate will have to pass i) theory and ii) practical and oral examinations separately
- Every paper should get 40% marks minimum and aggregate marks for theory(all four) should be 50% for passing

## **SCHEME OF EXAMINATION**

### **A. Theory written Examination**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers.

#### **Paper 1**

- Conceptual (and applied) understanding of Public Health
- Community Medicine
- Communicable and Non-Communicable Diseases
- emerging and re-emerging diseases
- applied Epidemiology
- Health research
- Bio-Statistics

#### **Paper 2**

- Nutrition,
- Environmental Health
- Primary Health Care System
- Pachayat Raj system
- National health Programs
- RCH
- Demography and Family Welfare
- Health Care Administration



- Health Management and Public Health Leadership

### **Paper 3**

- Social and Behavioral Sciences-applied aspects
- Scientific communications & Medical Writing
- Research Methodology
- Public Health Legislations
- International Health & Global diseases Surveillances

### **Paper 4**

- Health Policy Planning
- Medical Education technology
- Information Technology
- Integration of alternative Health System including AYUSH
- Occupational Health
- Recent advances in Public Health & Miscellaneous issues
- Health economics.

### **Practical/Clinical and oral examination:**

The practical examination should be conducted over two days, not more than 8 post graduate students per batch, per day as follows :

**1. One long Family case from the community (50marks)**

Socio-economic, demographic, cultural and holistic history taking, of the family to understand the various risk factors affecting health and quality of life, assessment of social support system, assessment of present morbidity and its implications, evolve interventions for medical relief and social empowerment and role of family, community and primary health care system in resolving family issues. This shall be conducted preferably in the community setting.

**2. One long Case (30 minutes,30marks), 2 short cases (20 minutes each,10marks each) – Cases with Communicable Diseases**

Students will elaborate on clinico-epidemiological case history to assess the epidemiological factors, precipitating factors, probable source of infection and evolve measures for diagnosis, treatment, management with reference to the case as well as major public health concerns, i.e. Control, prevention of the diagnosed disease and interventions

in case of eminent outbreak / epidemic situations. Short cases may be assessed without presentation of detailed history, beginning with Differential Diagnosis in the given time.

**3. Epidemiology and Statistics problem-solving exercises (5): (Epidemiological – 3, Statistical – 2) 50marks**

Problem on Epidemiology and Biostatistics (25+10 marks respectively) and data management using statistical software (demonstration, interpretation and viva voce:15marks).

**4. Public Health Spot (5) : 20marks**

**5. Public Health Lab :- Gram /ZN Staining exercise + water & milk problems (20+10=30marks)**

Including interpretation of analytical reports of water, food, environmental assessment and public health micro-biology

**VIVA-VOCE: 100 marks**

**1) Viva-Voce Examination: (80 Marks) (30 min)**

Students will be examined by all the examiners together about student's comprehension, analytical approach, expression and interpretation of data. Student shall also be given case reports, charts for interpretation. It includes discussion on dissertation.

**2) Pedagogy Exercise: (20 Marks) (30 min)**

A topic is given to each candidate along with the Practical Examination question paper on the first day. Student is asked to make a presentation on the topic on the second day for 20 minutes.

Max. Marks in M. D. Community Medicine	Theory	Practical	VIVA-VOCE	Total
	400	200	100	700

## SUGGESTED BOOKS

### Core books

- Maxcy-Rosenau-last Public Health & Preventive Medicine : Wallace RB
- Epidemiology: Leon Gordis
- Text book of Community Medicine : Sunder Lal, Adarsh&Pankaj
- Park's Text book of Preventive & Social Medicine
- Methods in biostatistics for medical students, BK Mahajan
- Epidemiology and Management for Health Care for all: Sathe PV, Sathe AP
- Practical Epidemiology: Barker DJP
- Principles of Medical Statistics: A Bradford Hill
- Biostatistics : A foundation for Analysis in the Health Sciences: Daniel WW
- An introduction to sociology: Bhusan and Sachdeva
- National Health Programmes of India: Kishore J

### Reference Books

- Oxford Text book of Public Health: Detels R, McEwen J, Beaglehold R
- Basic Epidemiology: R Bonita, R Beaglehole, T Kjellstrom. World Health Organization Geneva
- Epidemiology, Principles and Methods: B MacMohan,D Trichopoulos
- Control of Communicable Diseases in Man: Benenson AS
- Manson's Tropical Diseases: Cook G, Zumla A
- Hunter's Diseases of Occupations: Baxter PJ, Admas PH
- Hunters Tropical Medicine and emerging infectious diseases: Strickland GT
- Clinical Epidemiology- the Essentials : Fletcher
- Vaccines: Stanley A Plotkin
- Training modules of various national & international institutes and national health programmes

### Journals

- WHO Bulletin
- American Journal of Epidemiology
- Annals of tropical Medicine and Public Health
- American Journal of Public Health
- Archives in Public Health
- International Journal of Epidemiology

- Journal of Epidemiology and Community Health
- Annals of Family Medicine
- Journal of Tropical Medicine
- BMC Pregnancy and Child Birth
- Indian Journal of Community Health
- Scientific World Journal
- Indian Journal of Medical Research
- International Journal of STDs and AIDs
- Indian Journal of Public Health
- Annals of epidemiology
- International Journal of Preventive Medicine
- Indian Journal of Cancer
- Journal of Vector Borne Diseases
- International Journal of Adolescent Medicine and Health
- National Journal of Community medicine
- Indian Journal of Community Medicine
- Iranian Journal of Public Health
- Indian Journal of Occupational and Environmental Medicine
- Indian Journal of Maternal and Child Health
- Indian Journal of Medical Education
- Indian Journal of Preventive and Social Medicine
- Indian Journal of Nutrition and Dietetics
- Annals of Occupational and Environmental Medicine
- Advances in Preventive Medicine
- Advances in Public Health
- International Journal of Community Medicine and Public Health
- International Journal of Family Medicine
- International Journal of Medical sciences and Public Health
- Education for Health
- Diabetes & metabolic syndrome : Clinical research and Reviews
- Indian journal of medical ethics
- Indian journal of leprosy
- National journal of postgraduate medicine
- National journal of family medicine & primary care
- National medical journal of India
- Health of population: perspective & issues
- Indian journal of occupation & environmental medicine

- Indian journal of tuberculosis
- International journal of family welfare
- International journal of Mahathma Gandhi institute of Medical Science
- Public health action
- International journal of Tuberculosis & lungs diseases
- NTI bulletin