Program and Course Structure

School of Medical Science and Research

MD (Community Medicine)

Session:2020-23

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. Transformative educational experience
2. Enrichment by educational initiatives that encourage global outlook
3. Develop research, support disruptive innovations and accelerate entrepreneurship
4. Seeking beyond boundaries

Core Values

- Integrity
- Leadership
- Diversity
- Community

Vision of the School

To serve the society by being a premier institute that promotes a comprehensive approach to human health through excellence inacademics, research and clinical care

Mission of the School

- Provide a transformative educational experience in Medical Science
- Develop skills and competencies to create global leaders in clinical care
- Promote innovative and collaborative research through intellectual and technological advancement
- Establish a center for excellence in preventive, promotive and curative health care

Core Values

- Integrity
- Leadership
- Ethics
- Community Health

1.3 Program Educational Objectives (PEO)

1.3.1 Writing Program Educational Objectives (PEO)

A post graduate student having qualified the MD (Community medicine) examination should:

PE01: 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.

PE02: To standardize the teaching & training approaches at post- graduate level, for Community Medicine

PE03: 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.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2	School Mission 3	School Mission 4
PEO1	**3**	**3**	**3**	**2**
PEO2.	**3**	**3**	**2**	**2**
PEO3.	**3**	**2**	**3**	**1**

1.3.2 Program Outcomes (PO's)

1. Cognitive Domain

PO1: Describe conceptual (and applied) understanding of Public Health, Community Medicine, clinical and disease-oriented approach, preventive approach & health promotion, disease control & promotion.

PO2: Have knowledge about communicable and non-communicable diseases, emerging and reemerging diseases, their epidemiology, control and prevention.

PO3: Apply the principles of epidemiology, health research and Bio-statistics, application of qualitative research methods and able to Calculate Odds Ratio, Relative Risk, Attributable risk and other relevant health and morbidity indicators.

PO4: To describe nutritional problems of the country, role of nutrition in health and disease and to describe common nutritional disorders and Develop nutrition plan for an individual based on his requirements and with concerns to special situations if applicable. Plan comprehensive programme to address issue of malnutrition in a given area for a specific group.

PO: To describe the concept of Environmental Health and its various determinants, Identify environmental health issues in a given area/community, Assess impact of adverse environmental conditions on health of human beings and Plan awareness programmes at various levels on environmental issues and mobilize community resources and participation to safeguard from local adverse environmental conditions

PO6: To describe the working of Primary Health Care system, Panchayat Raj system, National Health Programmes, urban/rural differences, RCH, Demography and Family Welfare.

PO7: Do orientation of the inter-linkage of health sector and non-health sector for promotion of Health & control and prevention of diseases. Have knowledge of Health Care Administration, Health Management and Public Health Leadership

PO8: To describe Health Policy planning, Medical Education technology, Information Technology and integration of alternative Health system including AYUSH.

PO9: To understand and describe International Health & Global Diseases surveillance.

PO10: 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.

PO11: To describe the principles of Health Economics and apply it in various public health settings.

PO12: To explain and correlate common health problems (medical, social, environmental, economic, psychological) of urban slum dwellers, organization of health services in urban slum areas

B Affective domain

PO13: 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.

PO14: 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.

PO15: 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.

C. Psychomotor Domain

PO16: 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

PO17: Develop appropriate IEC Material, assessment of community communication need, training skills, counseling skills, conduct Health Education Programmes in urban and rural settings

PO18: 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, Ischiara'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.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	**PEO2**	**PEO3**
PO1	3	3	1
PO2	3	3	1
PO3	3	3	3
PO4	2	1	2
PO5	3	1	3
PO6	3	1	1
PO7	3	3	1
PO8	3	3	3
PO9	1	2	3
PO10	2	-	3
PO11	3	3	-
PO12	3	3	3
PO13	-	-	1
PO14	-	-	1
PO15	1	-	1
PO16	-	-	3

PO17	2	2	3
PO18	3	3	3

School: SMSR		**Batch:**
Program: MD Community medicine		**Current Academic Year: 2019-20**
1	Programme Code	SMS0801

Syllabus

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/Noncommunicable 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. 6

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.

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.

1. **Environmental health Learning objectives:** 7

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

1. 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.
2. 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
3. Elaborate on requirements of water, water chlorination and household purification measures, measurement of chlorine demand, Break-point chlorination levels, water quality.
4. 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.
5. Explain global warming and its health impact.
6. Elaborate on forest reserves, social forestry and health

7. Study vectors of medical importance and integrated control measures against them.
8. Explain dynamics of transmission of vector borne diseases
9. Explain pest control measures
10. Explain environmental health issues in urban and rural areas
11. Understand functioning of public sector measures to safeguard environmental health e.g water purification plant
12. 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 co-relation 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. 8

viii. Deliver the provisions of various health schemes to eligible be 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.

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.

1. **Health Policy, Medical Education, Integrating Alternative system of Medicine**
2. **9 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, intersectoral 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.

3. **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.
4. **11. 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.
5. 12**. International Health Learning Objectives: At the end of this course, the student should be able to:-** 10 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.

6. **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.
7. **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.

8. **15. Health Economics Learning Objectives:** At the end of this course, the student should be able to: - i. Describe the scope of health economics. 11 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 alocation of resources appropriately in their work area.

Assessment

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 13
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 The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

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. There shall be four theory papers as follows:

Paper I : 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. 14

Paper II: Nutrition, Environmental Health, Primary Health Care system, Panchayat Raj system, National health Programs, RCH, Demography and Family Welfare, Health Care Administration, Health Management and Public Health Leadership.

Paper III: Social & Behavioral sciences- applied aspects, Scientific communications & Medical writing, Research Methodology, Public Health Legislations, International Health & Global Diseases surveillance.

Paper IV: 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: 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), 2 short cases (20 minutes 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) 4. Public Health Spots (5) : including interpretation of analytical reports of water, food, environmental assessment and public health micro-biology 5. Viva-voce Examination Oral/ Viva-Voce Examination shall be comprehensive enough to test the post graduate student's overall knowledge of the subject.

Recommended reading:

A. Books (latest edition) 15 1. Public Health and Preventive Medicine (Maxcy-Rosenau-Last Public Health and Preventive Medicine) by Robert B. Wallace 2. Basic Epidemiology. R Bonita, R Beaglehole, T

Kjellstrom. World Health Organization Geneva. 3. Epidemiology, by Leon Gordis. 4. Oxford Textbook of Public Health. Holland W, Detel R, Know G. 5. Practical Epidemiology, by D.J.P Barker 6. Park's Textbook of Preventive and Social Medicine, by K.Park 7. Principles of Medical Statistics, by A. Bradford Hill 8. Interpretation and Uses of Medical Statistics, by Leslie E Daly, Geoffrey J Bourke, James MC Gilvray. 9. Epidemiology, Principles and Methods, by B. MacMahon, D. Trichopoulos 10. Hunter's Diseases of Occupations, by Donald Hunter, PAB Raffle, PH Adams, Peter J. Baxter, WR Lee. 11. Epidemiology and Management for Health Care,, by Sathe PV and Doke PP. 12. Vaccines, by Stanley A. Plotkin. 13. All reports and documents related to all National Programmes from the Ministry of Health and Family Welfare. B. Journals 03-05 international Journals and 02 national (all indexed) journals

B. Annexure I

C. Postgraduate Students Appraisal Form Pre / Para /Clinical Disciplines

D. Name of the Department/Unit :

E. Name of the PG Student :

F. Period of Training : FROM……TO……

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
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 /				
6	CMEs				
7	Thesis / Research work				
8	Log Book Maintenance				

G.

H. **Publications**

Yes/ No

Remarks*_____

_____

_____

_____

_____

_____ _____ *REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

I.

J.

K. SIGNATURE OF ASSESSEE SIGNATURE OF CONSULTANT SIGNATURE OF HOD