

# BACHELORS IN PUBLIC HEALTH



**Rajiv Gandhi University of Health Sciences, Karnataka  
4<sup>th</sup> 'T' Block, Jayanagar, Bangalore - 560 041**



# **BACHELORS IN PUBLIC HEALTH**

## **Regulations and Curriculum**



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**Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore**

**The Emblem**

The Emblem of the Rajiv Gandhi University of Health Sciences is a symbolic expression of the confluence of both Eastern and Western Health Sciences. A central wand with entwined snakes symbolises Greek and Roman Gods of Health called Hermis and Mercury is adapted as symbol of modern medical science. The pot above depicts Amrutha Kalasham of Dhanvanthri the father of all Health Sciences. The wings above it depict Human Soul called Hamsa (Swan) in Indian philosophy. The rising Sun at the top symbolises knowledge and enlightenment. The two twigs of leaves in western philosophy symbolises Olive branches, which is an expression of Peace, Love and Harmony. In Hindu Philosophy it depicts the Vanaspathi (also called as Oushadi) held in the hands of Dhanvanthri, which are the source of all Medicines. The lamp at the bottom depicts human energy (kundalini). The script “Devahitham Yadayahu” inside the lamp is taken from Upanishath Shanthi Manthram (Bhadram Karnebhi Shrunuyanadev...), which says “**May we live the full span of our lives allotted by God in perfect health**” which is the motto of the Rajiv Gandhi University of Health Sciences.

**Rajiv Gandhi University of Health Sciences, Karnataka, Bangalore**

**Vision Statement**

The Rajiv Gandhi University of Health Sciences, Karnataka, aims at bringing about a confluence of both Eastern and Western Health Sciences to enable the humankind “Live the full span of our lives allotted by God in Perfect Health”

It would strive for achievement of academic excellence by Educating and Training

Health Professionals who

- ❖ Shall recognize health needs of community,
- ❖ Carry out professional obligations Ethically and Equitably and in keeping with National Health Policy,

It would promote development of scientific temper and Health Sciences Research.

It would encourage inculcation of Social Accountability amongst students, teachers and Institutions.

It would Support Quality Assurance for all its educational programmes.

**Motto**

**Right for Rightful Health Sciences Education**

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## **SECTION I**

### **Regulations**

#### **Eligibility**

Candidates for admission to BPH course should have completed higher secondary level or pre-university college (10 +2) in science stream with Physics, Chemistry and Biology as basic courses or equivalent course established under law considered equivalent thereto by RGUHS. The minimum 50% marks obtained. In case of SC/ST candidates the minimum marks shall be 45%.

#### **Medium of Instruction**

English shall be the medium of instruction for the subjects of study as well as for the examination.

#### **Duration of study**

The duration of the course shall be on full time basis for a period of **four (Eight Semesters)** years from the commencement of the academic term.

#### **Course of study**

The course shall be pursued on full time basis. No candidate shall be permitted to work in a health care facility or a related organization or laboratory or any other organizations outside the institution while studying the course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.

## **Pedagogical Approaches**

Books are the best teachers, but experience makes man perfect. The proficient and lively theory classes shall be equally blended with various practical applications and group activities such as:

1. Assignment
2. Group Discussions
3. Role Plays
4. Case Studies
5. Seminar Presentations
6. Concurrent Placement
7. Management Games
8. Extempore Sessions
9. Self assessment and Transactional analysis
10. Negotiations
11. O.B. Lab experiments
12. Workshop
13. Field Studies
14. O.B. Quiz
15. In basket exercises
16. Brain Storming

All these aimed for the overall development of the emerging health system administrators, especially in decision making, critical analysis and assessment of situations, creative thinking and proactive measures towards system management.



## Subjects

Table – I. Subjects prescribed for the eight semesters

<b>Semester</b>	<b>Code</b>	<b>Subject</b>
<b>Semester 1</b>		Introduction to Public Health
		Human Biology 1 (Anatomy, Biochemistry & Physiology)
		Human Biology 2 ( Microbiology & Pathology)
		Epidemiology 1
<b>Semester 2</b>		Biostatistics
		Demography
		Environmental Health
		Social & Behavioral Health
		Research Methodology (Subsidiary)
<b>Semester 3</b>		Epidemiology 2
		Occupational Health
		Infectious & Chronic Diseases
		Public Health Nutrition 1
		Exposure visits
<b>Semester 4</b>		Women’s Health
		Child & Adolescent Health
		Health Systems Management
		Health Economics 1
		Exposure visits

*Bachelors in Public Health Curriculum*

<b>Semester</b>	<b>Code</b>	<b>Subject</b>
<b>Semester 5</b>		Health Education & Communication
		Public Health Policy
		Public Health Ethics & Law
		Public Health Informatics
		Exposure visits
<b>Semester 6</b>		Global Health
		Ageing of population
		Health Economics 2
		Public Health Nutrition 2
		Exposure visits
<b>Semester 7</b>		Disaster & Emergency Management
		Monitoring & Evaluation in Public Health
		Public Health Project Management
		Public Health Leadership & Managing Healthcare Organization
<b>Semester 8</b>		Recent Advances in Public Health -1
		Recent Advances in Public Health -2
		Field Experience

## Teaching hours

The teaching hours for first to eight semesters are shown in Table II.

### Teaching hours

The BPH program follows the credit system, and it involves a total of 224 credit hours. Each course is assigned with certain number of credit hours depending on lecture, laboratory, and practical hours. Each credit hour is equivalent to 15 hours of lecture, laboratory, and practicum per week

#### Calculation of credit hours: For example, Theory

3 hours per week X 4 weeks X 6 months = 72 hours

#### Practical

2 hours per week X 4 weeks X 6 months = 48 hours

#### 4 subjects per semester for 8 semester, + final semester project/ field experience

#### Credit Hours by Semester (theory and Practicals)

Semester I (29 Credits) + Semester II (30 Credits) + Semester III (29 Credits) + Semester IV (28 Credits) + Semester V (27 Credits) + Semester VI (24 Credits) + Semester VII (26 Credits) + Semester VIII (31 Credits) = 224 Credits

1 credit hour= 15 hours

#### Total 2205 + 1155 = 3360 hours

Semester	Theory	Healthcare organization/practical training / Field Visit	Total
<b>First</b>	240	195	435
<b>Second</b>	270	180	450
<b>Third</b>	270	165	435
<b>Fourth</b>	300	120	420
<b>Fifth</b>	315	90	405
<b>Sixth</b>	300	60	360
<b>Seventh</b>	270	120	390
<b>Eighth</b>	240	225	465
<b>Total</b>	2205	1155	3360

Table II. Distribution of Teaching hours for Theory, Hospital / Practical training and Field Visit

**Theory:** 15 theory classes per week and 10 hours of practical per week.

***Practical exposure***

***Healthcare organization/ Community centres / Practical training:***

The students shall spend 2 hours per day training. All candidates shall undergo training in various PHC's, NGO's, and Government Healthcare Organizations. They will prepare a report at the end of each posting and the same should be evaluated by the faculty. Practical hours may be used also for interactive sessions, seminars and symposia.

**Attendance**

Every candidate shall have attended at least 80% of the total number of theory and hospital/practical training classes conducted from the date of commencement of the term to the last working day as notified by university in each of the subjects prescribed for that semester separately, in theory and hospital/practical training. Only such candidates are eligible to appear for the university examination in their first attempt. A candidate lacking the prescribed percentage of attendance in any subject either in theory or hospital/practical training in the first appearance will not be eligible to appear for the University Examination in that particular subject.

**Monitoring Progress of Studies**

Work Diary/Record Book- Every candidate shall attend symposia, seminars, conferences, journal review meetings and lectures during each semester as prescribed by the department and not absent him/her from work without valid reasons. Every candidate shall maintain a work diary and record of his/her participation in the training programme. Special mention may be made of the presentations by the candidate as well as details of Hospital /practical training work conducted by the candidate. The work diary and record shall be scrutinized and certified by the concerned faculty members.

## Teaching Faculty

Qualification and Experience required for appointment as teachers on full time basis for BPH course

### For an intake of 10 students:

Sl No	Staff Description	Number	Remarks
1	Principal	1	MD in Community Medicine with minimum 3 years work/teaching experience  Or  MPH graduate from a recognized University with minimum 5 years work/teaching experience in relevant field
2	Associate or Assistant Professor	1	MPH graduate from a recognized University with minimum 4 years work/teaching experience in relevant field

### For an intake of 10 - 30 students:

Sl No	Staff Description	No.	Remarks
1	Principal	1	MD in Community Medicine with minimum 3 years work/teaching experience  Or  MPH graduate from a recognized University with minimum 5 years work/teaching experience in relevant field
2	Associate or Assistant Professor	1	MPH graduate from a recognized University with minimum 4 years work/teaching experience in relevant Field  OR  MD Community Medicine with minimum 1 years work/teaching experience in relevant field
3	Lecturer	2	MPH graduate from a recognized University

### **Project Supervisor/Academic Advisors**

Qualified teaching staff as per the guidelines are eligible to be used as Project Supervisors/Academic Advisors

### **Change of Project Supervisor/Academic Advisors**

The event of project supervisor/Academic Advisors leaving the Institute/ college due to any reason or in the event of death of the guide or any other valid reasons, project supervisor/academic advisors may be changed with prior permission from the university.

### **Scheme of Examinations**

The University conducts two examinations in a year at an interval of not less than four to six months.

### **Internal Assessment**

*Theory: 20 marks per subject*

Institutions running the course shall conduct two tests for each subject in each semester for Internal Assessment. The second test shall be conducted one month prior to the university examination so that it also serves as preparatory examination. Average of the marks obtained in the two tests shall be computed for internal assessment and shall be sent to the university as per the notification issued by Registrar (Evaluation) before each university examination.

*Hospital / Practical training: 10 marks are allotted for assignment during each departmental posting and every candidate shall prepare a brief report on the assignment which forms part of the records.*

Records and marks obtained in tests will be maintained by the college and made available to the university. Marks of periodic tests shall be displayed on the notice board by the Principals without fail.

If a candidate is absent from a test due to genuine and satisfactory reason, such a candidate may be given a re-test within a fortnight.

Table- III. Distribution of Internal Assessment marks

Semester	Code	Subject	IA Marks
Semester 1		Introduction to Public Health	20
		Human Biology 1 (Anatomy, Biochemistry & Physiology)	20
		Human Biology 2 ( Microbiology & Pathology)	20
		Epidemiology 1	20
Semester 2		Biostatistics	20
		Demography	20
		Environmental Health	20
		Social & Behavioral Health	20
		Research Methodology (Subsidiary)	
Semester 3		Epidemiology 2	20
		Occupational Health	20
		Infectious & Chronic Diseases	20
		Public Health Nutrition 1	20
		Exposure visits	
Semester 4		Women's Health	20
		Child & Adolescent Health	20
		Health Systems Management	20
		Health Economics 1	20
		Exposure visits	

Semester	Code	Subject	IA marks
Semester 5		Health Education & Communication	20
		Public Health Policy	20
		Public Health Ethics & Law	20
		Public Health Informatics	20
		Exposure visits	
Semester 6		Global Health	20
		Ageing of population	20
		Health Economics 2	20
		Public Health Nutrition 2	20
		Exposure visits	
Semester 7		Disaster & Emergency Management	20
		Monitoring & Evaluation in Public Health	20
		Public Health Project Management	20
		Public Health Leadership & Managing Healthcare Organization	20
Semester 8		Recent Advances in Public Health -1	20
		Recent Advances in Public Health -2	20
		Field Experience	

To be eligible to appear for the university examination the student should get minimum 50% marks in internal assessment in each subject.

**Internal assessment marks shall be added to the final marks awarded by the University.**



## **University examination**

- i. University conducts two examinations in a year at an interval of not less than four to six months.
- ii. Number of examiners for theory and viva voce shall be two, comprising of one internal and one external examiner appointed by the university.
- iii. Qualification and teaching experience required for appointment as an examiner for viva shall be the same as that of Professor or Associate Professor.
- iv. Theory papers will be evaluated by subject experts who are on the approved panel of examiners in RGUHS.

Eligibility to appear in university examination: A candidate shall be eligible to appear for first university examination at the end of six months from the commencement of the course and for subsequent year university examination at an interval of six months provided he/she has satisfactorily completed the prescribed course and fulfilled the prescribed attendance at the end of each semester.

**Theory (Written) examination:** Theory examination shall be conducted at the end of every semester. The theory papers each will be of three hours duration. Each paper shall carry 80 marks.

The question paper pattern shall be as follows: Long essays – 5 questions of 5 marks each and Short essay – 15 questions of 3 marks each and 5 objective type questions ( MCQs, one word, true or false or one sentence) of 2 marks each.

**Viva- voce:** (50 marks). This shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. Both internal and external examiners shall conduct the viva-voce. A detailed viva voce examination comprising of syllabi and discussion on the project work shall be conducted after the final semester theory examinations by a panel of two university appointed examiners, of who one will be internal and the other external examiner.

The particulars of subjects for University examination and distribution of marks are shown in the Table –IV

Table- IV. Subject wise Distribution of Marks for Theory and Viva Voce Examinations.

Semester	No of Theory Papers	Subject	Theory Marks	Viva Marks	Total
Semester 1	Paper 1	Introduction to Public Health	80		320
	Paper 2	Human Biology 1(Anatomy, Biochemistry & Physiology)	80		
	paper 3	Human Biology 2 ( Microbiology & Pathology)	80		
	Paper 4	Epidemiology 1	80		
Semester 2	Paper 1	Biostatistics	80		320
	Paper 2	Demography	80		
	paper 3	Environmental Health	80		
	Paper 4	Social & Behavioral Health	80		
semester 3	Paper 1	Epidemiology 2	80		320
	Paper 2	Occupational Health	80		
	paper 3	Infectious & Chronic Diseases	80		
	Paper 4	Public Health Nutrition 1	80		
Semester 4	Paper 1	Women's Health	80		320
	Paper 2	Child & Adolescent Health	80		
	paper 3	Health Systems Management	80		
	Paper 4	Health Economics 1	80		
Semester 5	Paper 1	Health Education & Communication	80		320
	Paper 2	Public Health Policy	80		
	paper 3	Public Health Ethics & Law	80		
	Paper 4	Public Health Informatics	80		
Semester 6	Paper 1	Global Health	80		320
	Paper 2	Ageing of population	80		
	paper 3	Health Economics 2	80		
	Paper 4	Public Health Nutrition 2	80		
Semester 7	Paper 1	Disaster & Emergency Management	80		320
	Paper 2	Monitoring & Evaluation in Public Health	80		
	paper 3	Public Health Project Management	80		
	Paper 4	Public Health Leadership & Managing Healthcare Organization	80		
Semester 8	Paper 1	Recent Advances in Public Health -1	80		260
	Paper 2	Recent Advances in Public Health -2	80		
		Field Experience	50	50	
		<b>Total</b>	<b>2450</b>	<b>50</b>	<b>2500</b>

## **Declaration of pass**

For I to VII semester a candidate shall secure a minimum of 50% marks in each paper in university examination to be declared as pass. In case of VIII semester a candidate shall secure a minimum of 50% marks in each paper and 50% of marks in viva voce to be declared as pass. A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in subsequent examination after paying fresh fee to the university.

Class/ Rank shall be declared for the examinations on the basis of aggregate marks secured by a candidate at each of these examinations.

- A successful candidate obtaining 60% and more and less than 75% of the marks of the grand total aggregate in the first attempt shall be declared to have passed these subjects in first class.
- A successful candidate obtaining 50% and more and less than 60% of the marks of the grand total aggregate in the first attempt shall be declared to have passed these subjects in Second class.
- A candidate who passes an examination in more than one attempt shall be placed in Pass Class irrespective of the percentage of marks secured.

### **Carry over**

A candidate who has appeared in all subjects of a semester in the university examination is eligible to go to the next semester provided he/she has passed in 3 subjects in the current semester. However a candidate has to clear all subjects in order to appear for the final semester exam and has to clear all subject in final semester to be eligible to receive the degree.

### **Number of attempts**

A candidate is permitted not more than three attempts (actual appearance) to pass the examination or within two academic years from the year of admission whichever is earlier. A candidate will not be allowed to continue the course if he/she fails to comply with the above stipulation.

**Maximum duration for completion of course:** A candidate shall complete the course within eight years from date of admission failing which the candidate will be discharged.

### **Eligibility for award of degree**

A candidate shall have passed in all the subjects of first to fourth year (All 8 semesters) to be eligible for award of degree

## **SECTION II**

### **Curriculum**

#### **Scope of Public Health**

Public Health is the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of the society. Scientific basis for public health practice is provided by study of epidemiology, bio-statistics, environment, demography, nutrition, economics, social and biological sciences. While epidemiology plays a central role, social sciences make essential contributions in the study of determinants of health, and in the development and evaluation of effective public health interventions. Public health actions are directed at whole populations so as to provide safe environment, healthier food and accessible health care.

Despite the successes of the past, current challenges for public health are plentiful. There is a great need for development of public health policies and programs for prolonging healthy life expectancy. Emerging health transition shows that while old threats of communicable diseases continue, new infectious diseases may appear, and increasing incidence of non-communicable disease will overburden the health system in future. A cadre of Public Health Specialists who have sound scientific knowledge and skills to practice public health are required to tackle these emerging problems.

Government of India has highlighted in the National Health Policy 2002 that a large number of specialists should be trained in Public Health. World Health Organization has also emphasized in Calcutta Declaration, the need for Public Health Training.

It is a well-known fact that underlying causes of various diseases very often lie in socio-economic, environmental and behavioural domains rather than in the biomedicine. Thus, with training, both non-medical and medical persons can make contribution to develop Public Health. As physicians have to attend to the pressing needs of the ailing persons, there is acute shortage of public health physicians throughout the world including India. Therefore, in several countries postgraduate courses in public health are being offered for both medical and non-medical graduates. The emphasis in such educational programs as recommended by WHO is on a thorough training in public health administration as well as in epidemiology along with the study of relevant aspects of environmental and social sciences, i.e., health economics, health psychology and sociology.

**SOCIAL RELEVANCE** Planned improvement in Health system performance can be facilitated by training adequate numbers of policy making and management personnel, including public health specialties, policy analysis, hospital administrators and managers and drug management specialties. These skills are in short supply in most developing countries including India. Public Health often receives little attention in basic medical curricula, specialty training is often inadequate and courses in Medical Schools may be too academic and not relevant to local problems and needs in India. Many countries are exploring and implementing multidisciplinary training programs that include management and communication techniques as well as the traditional public health sciences. An innovative example of public health training designed to produce future leaders is the Union School of Public health in Beijing, Peoples Republic of China, established in 1989 to stimulate public health training in the entire Country. The Beijing School offers a Masters Degree in Public Health (MPH) and draws students and teachers both from health disciplines and from economics management and the social, biological and environmental sciences. The training is also based on problem solving and more than half of the educational exposure and experience is in the form of community service. The Mahatma Gandhi University recognized the importance of starting the MPH Programme in India also and pioneering the programme as a self finance venture under the School of Medical Education.

The mission of the BPH program is to provide leadership and expertise in the fields of public health and epidemiology, health education, developing, health promotion, research and service and endorses the perspective on health promotion as defined by the World Health Organisation (WHO) "Health promotion is the process of enabling individuals, groups and communities to Increase control over the determinants of their health and thereby improve their health".

As public health professionals must act as linking pins between theory and practice, between research and reality, they must be able to communicate effectively with a wide variety of other professionals and people from academia, bureaucracies and service organization in health and development. Therefore the BPH Programme is designed with strong foundation in core subjects such as biostatistics, epidemiology, social and behavioural sciences, health policy, environmental and occupational health as well as other subjects. For accomplishing the mission of the division, various disciplines are involved in the understanding of societal, cultural, biochemical and socio-psychological factors that maintain health or cause disease. The curriculum and the learning process are thus drawn by recognition of multilayered multidisciplinary dimension of public health and development issues in a global perspective.

## **Objectives of BPH Programme**

The program is designed to focus on the acquisition of knowledge and skills applicable to a career in Public Health, for catalyzing the “Health for all revolution”. Upon completion of the programme, the postgraduate will be:

1. Aware of the origin and evolution of the field of public health;
2. Able to use concepts and principles associated with health and development problems;
3. Able to understand epidemiological principles and statistical techniques;
4. Able apply these methods in the measurement and assessment of health and development needs of a community;
5. Able to plan, implement and evaluate health and development programme;
6. Able to understand the influences of social, cultural, biochemical and socio psychological factors on health and disease;
7. Able to apply the principles of health promotion in health and development strategies;
8. Able to conduct empirical studies, by formulation of a question of social relevance, collection of reliable and valid data, documentation of the findings, preparing project proposals and its management;
9. Able to professionally manage a health/development system.

## **The Focus**

The BPH program is designed to meet the demand of professionally competent public health graduates in organizations associated with health, and development. The course imparts specialized skills and promotes conceptual and analytical, understanding of management within the unique circumstances prevailing in the health system.

To attain knowledge and practical skills on the subjects of the syllabus as well as to attain a firsthand familiarity of the present health scenario, the curriculum provides ample opportunities by concurrent and supervised internship in all the four semesters. Most significant aspect of this method of training is that the scholars will enjoy adequate professional development and thereby equip themselves with modern techniques in the area of specialization.

The training enables the BPH graduates to assume entry level and mid level managerial, leadership and teaching responsibilities in a wide range of organizations and areas, for instance:

- Hospital with community projects
- Voluntary agencies involved in health and development
- International organization and assist/sponsor projects and programs in health and development
- Industrial concerns maintaining community health projects
- In colleges and schools as life style education/Health education, lecturers/Teachers
- In the central state health systems as a Health educators/Media officers/Technical officers etc.

## Subjects

The subjects to be perused during the Eight semesters are shown in Table

Table – v. Subjects prescribed for the eight semesters

Semester	Subject	No of Hours		
		Theory	practical	Total
Semester 1	Introduction to Public Health	45	0	45
	Human Biology 1 (Anatomy, Biochemistry & Physiology)	75	75	150
	Human Biology 2 ( Microbiology & Pathology)	75	75	150
	Epidemiology 1	45	45	90
Semester 2	Biostatistics	45	45	90
	Demography	45	45	90
	Environmental Health	60	45	105
	Social & Behavioral Health	60	45	105
	Research Methodology (Subsidiary)	60	0	60
Semester 3	Epidemiology 2	45	45	90
	Occupational Health	45	45	90
	Infectious & Chronic Diseases	75	45	120
	Public Health Nutrition 1	45	30	75
	Exposure visits	60	0	60
Semester 4	Women's Health	75	45	120
	Child & Adolescent Health	45	30	75
	Health Systems Management	75	45	120
	Health Economics 1	45	0	45
	Exposure visits	60	0	60



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Semester	Subject	No of Hours		
		Theory	Practical	Total
Semester 5	Health Education & Communication	60	45	105
	Public Health Policy	60	0	60
	Public Health Ethics & Law	75	0	75
	Public Health Informatics	60	45	105
	Exposure visits	60	0	60
Semester 6	Global Health	60	0	60
	Ageing of population	60	0	60
	Health Economics 2	75	30	105
	Public Health Nutrition 2	45	30	75
	Exposure visits	60	0	60
Semester 7	Disaster & Emergency Management	60	30	90
	Monitoring & Evaluation in Public Health	60	45	105
	Public Health Project Management	75	45	120
	Public Health Leadership & Managing Healthcare Organization	75	0	75
Semester 8	Recent Advances in Public Health -1	120	0	120
	Recent Advances in Public Health -2	120	0	120
	Field Experience	225	0	225
<b>Total Hours</b>		<b>2205</b>	<b>1155</b>	<b>3360</b>

## **Syllabus and Contents**

### **Semester 1 Paper 1**

#### **Introduction to public health**

#### **Course description**

This course provides the students with broad overview of public health and its various activities.

#### **Objectives**

##### **At the conclusion of the course, the student will be able to:**

- List and describe the vision, mission, functions and essential services of public health
- Discuss the development in the field of public health
- Understand health disparities
- Identify factors that influence health and determine ways in which health status is measured
- Identify public health's core functions and discuss how these are translated into practice

#### **Contents**

- **Basics of public health**
  - What is public health
  - History of public health
  - Evolution of public health
  - Public health as a system
  - Features of public health
  - Scope of public health
  - Difference between community health, medical care, and clinical medicine, public health
  - Changing concepts in public health
  - Social control of medicine

- **Concept of health, illness and diseases**
  - Concept of health: Biomedical concept, Ecological concept, psychosocial concept and holistic concept.
  - Dimensions of health and disease
  - Determinants of health and disease
  - Concept of disease, natural history of disease
  - Concept of causation
  - Ecology of health
  - Measure health- Indicators of health
  - Concept of prevention
  - Modes of intervention
  - Changing pattern of diseases; transition
- **Measuring health and disease**
  - Morbidity
  - Mortality
  - Various measures
  - Comparisons of health indicators of selected developed and developing countries
  - Economic dimension of health outcomes
- **Core function of public health practices**
  - Relationship between public health and medical care system
  - Role of public health in global society
  - Impact of health disparities on public health
- **Orientations to Public health problems**
  - Communicable diseases
  - Non communicable diseases
  - Preventable diseases

- **Resources of public health**
  - Infrastructure of public health
  - Human resources in public health
  - Organizations- resources
  - Challenges in public health
- **Indian public health system**
  - Public health hospital system
  - Primary care system
  - Integration issues
  - Health programs
- **International health**
  - History of International health
  - International health agencies- WHO, UNICEF, World Bank, UN, UNDP, ILO and other agencies

**Practicum**

Visits to sub centres, anganwadi, primary health centre, community health centers, district hospitals to observe their functions, structure and identify problems

**Reference**

- Public health: What it is and how it works, - Burnord J, Turnock, Jones and Bartlet Publishers
- Oxford textbook of public health
- Oxford handbook of public health
- Park's Textbook of Preventive and social Medicine, - K.Park, Banarsidas Bhanot (publishers)

## **Semester 1-Paper 2**

### **Human Biology 1 (Anatomy, Physiology and Biochemistry)**

#### **Course description**

This course provides basic concept and knowledge on Anatomy, Physiology and Biochemistry. The course focus on the basic biological concepts of structure and function of the human body and the mechanisms of maintaining homeostasis within it

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Recognize body parts and functions.
- Demonstrate understanding of body mechanics
- Explain the structures and functions of different system of human body, relation to health and disease and actions
- Describe structures and functions of the cells, tissue, organ system, and types and their relation to each other as well as the physiological homeostasis.

#### **Course Content**

##### **Anatomy**

- **General anatomy and physiology:**
  - Introduction to anatomy and physiology
  - Anatomical positions, body cavities and terminologies
  - Units of the Body :Cells , Tissues , Organs , Organ Systems
- **Anatomy and physiology of Organ system: Identify parts and its functions**
  - Gastro intestinal system
  - Respiratory system
  - Cardiovascular system

- Central Nervous system
- Musculokeletal system
- Lymphatic system
- Urinary and Reproductive system
- Endocrine system
- Sense organs

**Biochemistry**

Water, blood, thermodynamic, amino acids, proteins, nucleotides, carbohydrates, lipids membranes, metabolism.

**Semester 1-Paper 3**

**Human Biology 2 (Microbiology and Pathology)**

**Course description**

This course designed to serve as an introduction to the basic principles of Pathology, microbiology , virology, microbial parasitology, infection, pathogenicity, epidemiology, and host immunity.

**Content:**

**Introduction to pathology**

**Basic definitions, terminologies in pathology**

**Immuno pathology**

- Introduction
- Immune system
- Types of immunity

**General Pathology**

- Cells, tissue, organ system
- Cell injury, repair, cell death
- Homeostasis
- Disturbances of bloody fluids
- Inflammation and healing

**Infectious and parasitic diseases**

- Diseases caused by bacteria, fungus, virus and parasites.

Neoplasm's and tumours

Systemic pathology

Respiratory system, GI System, CNS, Reproductive system, Sense organs, cardiovascular system.

Microbiology

- Introduction
- Morphology and physiology of bacteria, virus, fungus, parasites
- Sterilization,
- Disinfection
- Infection
- Antigen, antibody
- Hypersensitivity

Parasite: life cycle of common parasites.



## **Semester 1-Paper 4**

### **Epidemiology 1**

#### **Course description**

This course introduces the basic principles, concepts, methods of epidemiology with emphasis on critical thinking, epidemiological investigations and its application in public health practice.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Describe and apply epidemiological concepts and strategies in planning and implementing health programs
- Understand the basic epidemiological methods and study designs
- Learn the basic concepts of screening and outbreak investigations.
- Able to critically review published epidemiological studies.

#### **Contents**

- **Introduction to Epidemiology**
  - Definitons, scope and uses of epidemiology
  - Historical development of epidemiology
- **Dynamics of Disease Transmission**
  - Definition of health and disease
  - Sprectrum of diseases
  - Determinants of health and disease
  - Natural history of disease
  - Causation
  - Epidemiological triad
  - Modes of transmission

- Epidemic, Endemic and Pandemic
- **Measures of frequency of diseases or disease occurrence**
  - Measures of morbidity: incidence, prevalence , rate, ratio, proportions
  - Disability
  - Relationship between incidence and prevalence
  - Measures of mortality : mortality rates: death rates, crude death rate, specific death rate, birth rate, infant mortality rate, maternal mortality, case fatality rate, proportional mortality, standardization.
  - YPLL, DALYs
- **Measures of Risk**
  - Hazard,
  - Risk Ratio
  - Odds Ratio
- **Association and causation**
- **Descriptive epidemiology**
- **Introduction to epidemiological studies**
- **Bias, Confounding factors, Errors, Precision.**

**Reference**

- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers
- Oleckno, William, Essential Epidemiology: Principles and Applications , Waveland Press, Inc., 2002
- Leon Gordis , Epidemiology,
- Ann Aschengrau, Essentials of Epidemiology in Public Health, Jones & Bartlett Publishers

**BPH - FIRST SEMESTER (THEORY EXAMINATION) QUESTION  
PATTERN**

Duration: 3 Hours

Maximum Marks: 80      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 2-Paper 1**

### **Biostatistics**

#### **Course Description**

This course provides students with basic statistical concepts and techniques that are used in public health.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand the basic concepts in biostatistics
- Apply statistical knowledge to designing research studies.
- Determine the proper method to be used in analyzing data sets

#### **Contents**

- **Introduction**
  - Basic concepts of biostatistics
  - Definition, scope and uses
  - Measurement and measurement scale
  - Variable and types
- **Data**
  - Definition and types of data
  - Scales of data
  - Data collection:
    - Sources of data
    - Collection methods
    - Merits and demerits
    - Tabulation of data and classification
    - Graphical representation of data
- **Measures of central tendency**
  - Calculation of Measures of Central tendency- ungrouped and grouped data
  - Mean, Median and Mode
- **Measures of Dispersion**
  - Range,
  - Variance,
  - Degrees of freedom
  - Standard deviation
  - Coefficient of variation
- **Probability concepts**
  - Concepts of probability

- Properties of probability
- Calculating probability of an event
- Probability distribution and their application in public health
- Probability distribution and discrete variables
- Normal distribution
- Binomial distribution
- Poisson distribution
  
- **Sample Distribution**
  - Population
  - Sample
  - Concepts of sampling
  - Estimation of population and sample size
  
- **Testing of hypothesis**
  - Concept of hypothesis
  - Tests of significance
  - Errors
  - Estimation of test of significance
  - Z-test, t-test, Chi square test, Non parametric tests
  - Confidence interval
  
- **Analysis of variance**
- **Simple liner regression and correlation**
- **Multiple regression and correlation**
- **Regression analysis.**

### **Reference**

- Rao NSN : Applied statistics in health sciences, JP publishers
- Mahajan B.K: Methods of biostatistics, Kothari book depot, A.D Marg, Bombay
- Potti L.R : A text book of statistics, Yamuna publications, Sreekanteshwaram, Trivandrum.
- Lancaster H.O: Introduction to medical statistics, Johnwiley & sons, New York.
- Leius A.E : Biostatistics, Reinhold publishing Co, New York.
- Cotton T : Statistics in medicine, Little Brown & Co, Boston.
- Hill A.B : Principles of medical statistics, Oxford University press, New York.

## **Semester 2- Paper 2**

### **Demography**

#### **Course description**

This course introduces the students to demography, basic techniques of demographic analysis. Students will familiarize in source of data available for demographic research, how population is changed by fertility, mortality and migration and how these affect population structure of a country.

#### **Course Objectives:**

**At the conclusion of the course, the student will be able to:**

- Identify appropriate sources of data
- Perform basic demographic analysis
- Compare population and projections, interpret data using demographic methods.

#### **Contents**

- **Introduction to demography**
  - Definition , concept and importance, Scope of demography
  - Population growth and consequences – at global and national level.
- **Sources of demographic data**
  - Population data- scope, objectives, and importance
  - Sources of data,
  - Advantages and disadvantages of various sources of data
  - Collection and processing of demographic data
- **Population composition**
  - Population size and structure
  - Population distribution using demographic characteristics such age, sex, race, marital status, education, economic status.
  - Population distribution-geographic areas

- Classification of residence
- Age composition, sex composition
- Racial and ethnic composition
- **Demographic measures and methods**
  - Mortality and its measures ( crude rates, age specific, cause specific, standardized, life table, survival rates)
  - Fertility, Reproduction and family planning
  - Define and calculate measures of reproduction, fertility,
  - Family planning indication and models
  - Birth interval
  - Marriage and Divorce
  - Census
  - Surveys
- Migration
  - Migration and types
  - Estimate net migration using different assumptions
  - Indicators of migration
  - Population Change
  - Population change
- **Population growth;**
  - World, India and other countries
  - Future trend
  - Estimate rates of change in population
  - Doubling time
  - Relationship between age distribution and demographic rates
  - Book keeping
  - Evaluate different population projection
  - Socio economic consequences of population growth
- **Population theories**

- Mathematical methods
- Neo Malthusians and cornucopias doctrines
- Population momentum
- Baby boom syndrome
- Decaying of population
- Young and old population
- Aging of population
- **Population Policy**
  - Population policy and policy making
  - Population change: past, present and future
  - Population growth and economic development
  - Tools for population policy
  - National population policy

### **Practicum**

Survey, estimating various rates and trends, census data , NFHS questionnaire

### **Reference**

- Bouge Donald: Principles of Demography, Johnwiley & Sons, New York
- Srivastava S.C: Studies in Demography, Jai Prakashnath & Co, Subash Bazar, Meerut, India
- Asha A Bhende & Thara Kanitkar : Principles of population studies, Himalaya Publishing Hse.
- Agarwal S.N: India's population problems, Tata McGrew Hill, New Delhi
- Rao NSN: Elements of health statistics, Tata book agency, Varanasi
- Neelakantan N: A modern treatise in preventive medicine & Community health, Neela publishers, Venu Vilas, Poojapura, Thiruvanathapuram
- Park K: Text book of preventive and social medicine, M/s Banarasidas, Jabalpur



- Barclay G.W.: Techniques of population analysis, Wiley, New York

### **Semester 2-Paper 3**

#### **Environmental Health**

##### **Course Description**

This course will provide students a broad introduction to the scientific basis of environmental health from a public health perspective. The course intends to address the issues in environmental health, using tools, concepts & methods used in environmental health. Students on completion will be able develop skills on critical analysis of current environmental health problems.

##### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Learn the basic concepts of environmental health sciences and key environmental health issues.
- Understand the risk assessment concepts, used to describe, asses, control and make decision about the environmental health issues.
- Develop skills in analyzing, managing and community about environmental health issues.
- Identify some of the major environmental health hazard.

##### **Contents**

- **Introduction to environmental health**
  - Ecosystem,
  - Climate,
  - biomes,
  - Links between environment and human health.
- **Water:**
  - Introduction
  - Properties of water
  - Hydrological cycles

- Uses of water
- Water resources- Sources of water supply
- Water and health
- Water shortage and scarcity
- Water consumption and management
- Sources of drinking water
- Water pollution
- Types of pollution, sources of pollution
- Water treatment
- Purification of water
- Water quality – critical and standards
- Surveillance of drinking water quality.
- **Waste water disposal and treatment**
  - Sewage system
  - Sewage disposal
  - Biological oxygen Demand
  - Public health aspects of sewage
  - Types of disposal
  - Pits privies, septic systems etc
  - Municipal sewage treatment- modern sewage treatment, sulabh souchalay etc
- **Solid and hazardous waste**
  - Definition and characterization of municipal solid waste
  - Sources of waste/ refuse
  - Collection and disposal of solid waster
  - Types of latrines
  - Management of solid waste

- Dumping, landfills, incinerator, composting manure pits, burial etc
- Hazardous waste, - sources of hazardous waste
- Management and disposal of hazardous waste
- Sanitation and excreta disposal
  - in fairs, festivals and public gathering
- Excreta disposal- public health importance
- **Air, Noise and Radiation**
  - Air- Composition
  - Atmosphere and methods of dispersion
  - Chemical and physical characteristics
  - Health implications of air pollution
  - Air pollution- air pollutants
  - Outdoor and indoor air pollution
  - Prevention of air pollution
  - Ventilation
  - Noise- properties, health effects of noise, control, and regulations
  - Light
  - Radiation- sources, types, and health effects of radiations.
  - Public health importance of air, noise, light, ventilation and radiation

**Reference:**

1. Essential Environmental Health by Fries, Jones & Bartlett Publishers – 2007
2. Living with the Earth- Concepts of Environmental Health Science- Gary S Morare- Lavis Publications
3. Environmental Science- Toward a Sustainable future - Richard T Wright, Dorothy F Boors

PHI learning Private ltd- New Delhi, Pearson Education

4. Environmental Health by Moeller D.W, Harward University press.
5. Park's Textbook of Preventive and Social Medicine, K.Park. Banarsidas Bhanot publishers.

## **Semester 2- Paper 4**

### **Social and Behavioural Health**

#### **Course description**

This course provides students with basics in behavioral and social science theory, research, and interventions pertaining to public health. Course will provide exposure to a broad range of theories, including the theoretical foundations of social science applications.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand the behavioral, social, and cultural factors associated with health and illness.
- Apply relevant social and behavioral theories to diagnose and understand individual, social network, organizational, community, and policy-maker behaviors associated with the planning, implementation, evaluation, and maintenance of community-based primary health care programs

#### **Contents**

Introduction to Sociology and Anthropology

Origin, definition, and scope

Role of sociology and anthropology in public health

Introduction to social and behavioural health

- Importance of social and behavioural factors in public health
- Historical perspectives on population and diseases

Basic concepts of society, community and family

- Social institutions: marriage and family
- Industrialization, urbanization on social health

Health and illness behaviour

- Conceptual frameworks
- Health belief model
- Theory of planned behaviour
- Models of behaviour changes

- Transtheoretical and adoption process model.
- Health behavior,
- units of identity
- The change process
- The ecological model

#### Social and Cultural context of health

- Social cognitive theory
- Social network theory
- Diffusion of innovation and social marketing
- Social reaction to diseases
- Comparative health cultures
- Health disparities,
- Diversity and cultural competencies
- Deviance and social control

#### **Reference**

- Social and Behavioural – Foundations of public health- by Jeannie Coreil
- Essentials of health behavior: Social and behavioural theory in public health by Mark Edberg ( Jones and Bartlett publishers
- Foster and Anderson: Medical Anthropology, Wiley, New York
- Related web resource
- Green LW and MW Kreuter. Health Promotion Planning. Mayfield Publishing Company (ISBN: 0767405242, Hardcover 3rd edition, February 1999).
- Anderson & Taylor, Sociology: Understanding a Diverse Society.
- Neubeck and Glasberg, Selected Material from Sociology: Diversity, Conflict, and Change.

## **Semester 2- Subsidiary subject**

### **Research Methodology**

#### **Course description**

This course will introduce students to the characteristics and various approaches to designing and conducting research projects in public health and health services research.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- To become familiar with the characteristics, language and logic of research methods.
- To understand the available techniques for designing a research study;
- To understand the available techniques for qualitative data analysis;
- To be able to recognize and assess quality and rigor in evaluating a research study.

#### **Introduction –**

- **Meaning - Objectives**

- Types of Research
- Research Approaches
- Research methods Vs Research Methodology
- Steps in Research
- Defining the Research Problem
- Meaning - Selecting the Problem
- Techniques involved in defining the problem

- **Research Design**

- Meaning - Need –
- Features –Important concepts relating to Research Design
- Types of Research Design –
- basic Principles of Experimental Designs

### **Sampling and Data collection**

- Sampling - Meaning - Need
- Sampling Designs
- Probability Sampling
- (Simple Random - Systematic - Stratified - Cluster – Area Multistage - Sequential Sampling Methods) –
- Data Collection and Processing Collection of Primary data
- Collection of data through Questionnaire & Schedules
- Secondary data – Qualitative techniques of data collection
- Interview, Observation
- Tabulation of Data

#### **• Analysis and Report**

- Analysis and Interpretation of Data and Research Reporting –
- Meaning of Interpretation – Technique of Interpretation –
- Significance of Report writing –
- Steps - Layout of the Research Report - Types of Reports –
- Precautions while writing Research Reports.

#### **• Ethics in research**

### **Reference**

- O.R. Krishna Swamy, Research Methodology
- CR. Kothari, Research Methodology
- Wilkinson & Bhandarkar, Methodology and Techniques of Social Research
- Sadhu Singh, Research Methodology in social science
- V.P. Michael, Research Methodology in Management
- William M.K. Trochim, Research Methods, Bizantra
- Kapoor, V.K., operations Research, New Delhi : Sultan chand & Sons. Khandelwal M.C., Gupta & Quantitative Techniques.



**BPH – SECOND SEMESTER (THEORY EXAMINATION) QUESTION  
PATTERN**

Duration: 3 Hours

Maximum Marks: 80      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 3-Paper 1**

### **Epidemiology-2**

#### **Course description**

This course is designed to introduce the students to epidemiological concepts and methods used to evaluate the distribution and determinants of health and disease in population. Emphasis is placed on the principles and methods of epidemiologic investigation, appropriate summaries and displays of data, and the use of classical statistical approaches to describe the health of populations.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Demonstrate a basic understanding of epidemiologic methods and study design.
- Combine appropriate epidemiological concepts and statistical methods
- Discuss the ethical issues in epidemiological research.
- Learn the basic concepts of screening and outbreak investigations.

#### **Contents**

- **Epidemiological Methods**
  - Observational and Experimental studies
  - Descriptive studies
  - Ecological studies
  - Cross-sectional studies
  - Case control studies
  - Cohort studies
  - Randomised control trials
- **Disease Out breaks**
  - Framework for investigation of disease outbreak

- Epidemic curve
- Types of outbreak
- Testing hypothesis
- Managing outbreaks
- **Screening of diseases**
  - Concept of screening
  - Types screening'
  - Criteria and uses
  - Accuracy of screening tests
  - Sensitivity and specificity
  - Ice berg phenomenon
- **Surveillance**
  - Types of surveillance
  - Surveillance methods
  - Importance of surveillance
- **Filed Epidemiology**
- **Introduction to Epi info and other statistical instruments**

**Practicum**

- Investigation of epidemic
- Designing epidemiologic study
- Survey and field visits

**Reference**

- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers
- Oleckno, William, Essential Epidemiology: Principles and Applications , Waveland Press, Inc., 2002
- Leon Gordis , Epidemiology,
- Ann Aschengrau, Essentials of Epidemiology in Public Health, Jones & Bartlett Publishers

**Semester 3-Paper 2**

**Occupational Health**

**Course description**

The course provides an introduction to basic core concepts of occupational health. Work-related health disorders and diseases that arise in their working environment. Students will be introduced to major occupational health related diseases including those of the musculoskeletal system, the lungs, and the skin, as well as accidents. Overall, this course is intended to allow students to understand the interaction of the workplace and environment on the health and well-being of the workforce.

**Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand the occupational environment and diseases related to it.
- Appraise the role of Public Health professionals in occupational health risk assessment
- Understand and describe occupational hazards and its prevention

**Contents**

- **Fundamentals of Occupational health and work safety**
  - Meaning and Scope
  - Evolution
  - Basic principles in the application of Occupational Health and Safety at the workplace
  - Promotion of healthy and safe workplaces,

- Prevention of diseases,
- Protection of workers' health and well being and early diagnosis of work related disorders and diseases.
- Taking an Occupational History from a Worker or Patient with case examples.
- Basic concepts in screening of occupational diseases are presented.
- Occupations hazards and Diseases
  - Occupational Lung Diseases ( pneumoconioses (asbestosis, silicosis and coal worker's pneumoconiosis); asthma, hypersensitivity pneumonitis, byssinosis and inhalation fevers.)
  - **Occupational Cancers and Occupational Exposure to Solvents**
  - Basic concepts of carcinogenesis, major occupational cancers.
  - **Metals in the Workplace**
  - Exposure and toxicity from major workplace metals.
  - Sick Building Syndrome vs. Building - related Illness.
  - Idiopathic Environmental Intolerance and other subjective syndromes.
  - **Hazardous Materials and Chemical Emergencies**
  - Exposure to hazardous materials and acute health effects from exposures.
  - Chemical emergencies at the workplace.
  - Emergency measures and first aid.
  - Basic initial treatment of chemical emergencies.
  - **Cardiovascular Diseases and Workplace Health & Productivity**
  - How does the working environment influence the risk of cardiovascular diseases?
  - What occupations and occupational factors have been associated with a higher risk for cardiovascular diseases?

- Health productivity management.
- Definition of absenteeism and presenteeism.
- Justification for workplace health promotion activities.
- Popular workplace health promotion programs: preventive screenings, smoking cessation, fitness, weight management, disease management.
- **Occupational Dermatology and Shift Work and Sleep Disorders** and Work
- Occupational noise exposure and hearing loss.
- Exposure to and health effects from extremes of temperature, pressure, vibration, radiation, etc.
- **Musculoskeletal Disorders**
- Low back pain, neck pain, cumulative trauma disorders, rotator cuff disorders, epicondylitis, carpal tunnel syndrome.

**Reference**

- Current Occupational & Environmental Medicine, 4th Edition, 2007, by Joseph Ladou
  
- Occupational Health: Recognizing and Preventing Work-Related Disease and Injury, 5th Edition, 2006, by Barry S. Levy (Editor), David H. Wegman (Editor)
  
- A Practical Approach to Occupational and Environmental Medicine, 3rd Edition, by Robert J. McCunney (Editor-in Chief)
  
- Textbook of Clinical and Environmental Medicine, 2nd Edition, 2004, by Linda Rosenstock, Mark Cullen, Carl Brodtkin, and Carrie Redlich
  
- Environmental & Occupational Medicine, 4th Edition, 2007, by William N. Rom (Editor)

- Clinical Environmental Health and Toxic Exposures, 2nd Edition, 2001 (Lippincott Williams &Wilkins), by John B. Sullivan, and Gary R. Krieger

### **Semester 3-Paper 3**

#### **Infectious and Chronic Disease**

##### **Course description**

The course is designed to provide students with competencies in addressing critical problems in control and prevention of infectious and chronic diseases

##### **Objectives:**

**At the conclusion of the course, the student will be able to:**

- Understand the disease burden and impact of infectious and chronic disease in the society.
- Understand the modes of transmission and pathogenesis of infectious disease and the host, environment relationship.
- Understand and discuss the strategies for diagnosis, prevention and control of diseases
- Familiarize with certain infectious and chronic diseases.

##### **Contents**

- **Introduction to health and disease**
  - Classification of diseases
  - Disease burden
  - Diseases transmission
  - Disease cycle

- **Immunology**
  - Immune system
  - Types of immunity
  
- **Epidemiology of infectious diseases**
  - Respiratory infections ( Small pox, chicken pox, measles, rubella, mumps, influenza, diphtheria, whooping cough, meningococcal meningitis, acute respiratory infections, SARS, Tuberculosis.)
  - Intestinal infections ( Poliomyelitis, viral hepatitis, acute diarrheal diseases, Cholera, typhoid fever, food poisoning, amoebiasis, ascariasis, hookworm infection)
  - Arthropod-borne infections ( Dengue, malaria, filariasis, )
  - Zoonoses ( Rabies, yellow fever, Japanese encephalitis, chickungunya fever, leptospirosis, plague, salmonellosis
  - Rickettsial diseases
  - Parasitic zoonosis- ( hydatid diseases, leishmaniasis)
  - Other infection ( Tetanus, leprosy, STD, AIDS )
  
- **Epidemiology of Chronic and non communicable diseases**
  - Cardiovascular diseases
  - Coronary heart diseases
  - Hypertension
  - Stroke
  - Rheumatic heart diseases
  - Cancer
  - Diabetes
  - Obesity
  - Blindness
  - Accidents and Injuries
  - Mental health



**Practicum**

- Visit to infectious disease hospitals
- Outbreak investigation
- Survey of Non Communicable Diseases

**Reference**

- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers
- Preventive and community medicine by Mathur
- Davidson's Medicine text book

**Semester 3-Paper 4**

**Public Health Nutrition 1**

**Course Description:**

This course provides an overview of concepts, principles, and scope of practice of public health nutrition. Course focuses Principles of nutrition in health and disease provides an integrated overview of the physiological requirements and functions of protein, energy, and the major vitamins and minerals that are determinants of health and diseases in human populations.

**Objectives:**

**At the conclusion of the course, the student will be able to:**

- Understand the role of nutrients in the body.
- Explain the importance of food and nutrition in public health.
- Provide an overview of the major macro and micronutrients relevant to human health.

**Contents**

- **Introduction to basics concepts of food and nutrition**
  - Introduction: the relationship between nutrition, health and disease
  - Importance of food and nutrition
  - Classification of food
  - Sources, Digestion , absorption, metabolism, deficiency of
    - carbohydrates,

- proteins
  - lipids
  - Energy
  - Water
  - Minerals
  - Vitamins
- 
- Balanced Diet
  - Recommended dietary allowances,
  - basis of their formulation,
  - used and limitations,
  - Balanced diet,
  - use of five food groups,
  - estimating adequacy of diet,
  - Diet modifications in diseases of public health importance
  - Nutritive disorders, protein Energy Malnutrition, poverty and nutrition

**References**

- Park K: Park's textbook of preventive and social medicine, M/s Banarasidas Bhanot, Jabalpur
- Shah P.M.: Early detection and prevention of protein caloric malnutrition, Popular Prakash, Bombay.
- ICMR (1981): Recommended dietary intake for Indians, New Delhi
- Advanced textbook on food and Nutrition : Dr. M Swaminathan,, The Bangalore Publishing Co. Ltd. Bangalore, 1974
- Recent Trends in Nutrition : C Gopalan ,Oxford University Press, New York 1993. Nutrition for Developing Countries : E. Savage King , Oxford University Press, Oxford, 1992.
- Perspective in Nutrition : Gordon M. Wardlaw, Paul M. Injel, Time/Mosby College Publishing, St. Louis, 1990.

- Fundamentals of food and Nutrition : Sumati R. Mudambi, M.V. Rajagopal, V.R. Damodharn, Wiley Eastern Ltd. New Delhi, 1982.
- Clinical Dietetics and Nutrition, F.P. Antia, Oxford University Press, Delhi, 1993.
- Human Nutrition and Dietetics, J.S. Garrods & W.P.T. James, Churchill Livingstone, London, 1993.
- Nutrition problems and Programmes in South East Asia : Dr. C. Gopalan, World Health Organization, New Delhi, 1987.

BPH – THIRD SEMESTER (THEORY EXAMINATION) QUESTION PATTERN

Duration: 3 Hours

Maximum Marks: 80                      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 4-Paper 1**

### **Women's Health**

#### **Course Description**

This course provides an overview of key women's health issues in entire life span of women. Health issues starting from birth, childhood, adolescence, reproductive life and old age will be dealt focusing on programs, services and policies as well.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- To introduce students to critical health issues affecting women globally.
- Understand and analyse women's health problem in relation to public health practice
- Identify major health problem that affect women.
- Describe historical background and contemporary trends in women's health.
- Understand women's health programs, policies and practices

#### **Content**

- **Introduction**
  - Basic anatomy and physiology of female body: orientation
  - History of women's health
  - Define women's health : what and why
  - Women's development: physical, mental and social
  - Childhood, adolescence, adulthood, old age
- **Reproduction and Sexual health**
  - Menarche
  - Marriage- preconception, conception, pregnancy
  - Contraception and family planning methods

- Pregnancy its social health issues.
- Parity, gravida, birth order, birth spacing
- Antenatal care,
- Child birth
- Post partum care
- Breast feeding
- Abortion, MTP
- Reproductive tract infections
- Early pregnancy
- Maternal mortality
- **Women's health and nutrition**
  - Nutritional requirements in all stages of life
  - Life style diseases
  - Mental health issues
  - Disability
- **Women and human rights**
  - Violence against women
  - Domestic violence
  - Honor killing
  - Dowry death
  - Trafficking
- **Women's health policies : MCH and RCH**
- **Women and MDG**

**Reference**

- Radhika Ramasubban, Shiren J.Jyebhoy, Women's Reproductive health in India, Rawat Publications.
- Anthony R. Meashan, Richard: India's Family Welfare Program.
- Venkatachalam P.S. Nutrition for mother and child, ICMR, New Delhi.
- Murray, Anne Firth, From Outrage to Courage: Women Taking Action for Health and Justice,

## **Semester 4-Paper 2**

### **Child and Adolescent Health**

#### **Course Description**

This course provides an overview of key child and adolescent health issues including growth and development, childhood illness, child health practices, risk groups, nutritional services. This course will focus on health conditions, epidemiological implications, disparities, determinants of health and diseases in relation to programs, services and policies of child and adolescent population.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand the growth and development from infancy to adolescence
- Describe major health conditions that affect children and adolescence.
- Understand social determinants, policies that impact child health
- Understand the relationship between nutrition and growth and development during childhood and adolescence
- Become familiar with nutritional interventions, programs, policies that impact on children health.

#### **Contents**

##### **Basic introduction to Child and Adolescent health**

- **New born care**
  - Principles of new born care
  - Care at birth
  - Post natal care
  - Low birth weight babies
  - Premature babies

- Infant mortality: definition causes and trends, policies and prevention.
- Birth defects/ childhood disabilities: causes, types, prevention, policy and social determinants of childhood disabilities
  
- **Child hood and illness**
  - Common infectious diseases of public health importance such as diarrhoea, fevers, malaria, dengue, measles, poliomyelitis, typhoid, etc
  - Malnutrition
  - Growth and development disorders : normal development and abnormal development
  - Immunization
  - Child immunization schedule
  - Universal immunization program
  
- **Childhood and adolescence nutrition**
  - Nutritional needs of children and adolescence
  - Breast milk and weaning
  - Early feeding habits
  - Eating habits of children and adolescent
  - Factors influencing eating behaviour
  - Midday meal program
  - Programs and policy: IDD, ICDS etc
  
- **Adolescent Health**
  - Definition, phase in life



- Social and emotional development aspects of adolescent
- Epidemiology of adolescent health issues
- Role of education, poverty, family relations, environment, social, culture and politics on adolescent health
- **Sexual health**
  - Physiological and pathological
  - Sexual behavior
  - Early pregnancy and early marriage
  - Sex education
  - Adolescent and health issues related to Lesbian, Gay, Bisexual and Transgender community.
- **Substance abuse and social crime**
- **Mental health**
- **Adolescent and special children.**

### **Reference**

- Berk, Laura (2008). *Exploring Lifespan Development* (First Edition). Boston: Allyn and Bacon, a division of Pearson Education, Inc.

## **Semester 4 -Paper 3**

### **Health Systems Management**

#### **Course Description**

This course provides a broad overview of health system and its management.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand modern concepts, principles of management
- Understand various health systems
- Analyse the problem, issues in health systems management at various levels of care

#### **Contents**

- Introduction to health systems
  - Concept of health system development /management
  - Principles of health systems management
  - Evolution of health system in India and selected developed and developing countries.
- Healthcare delivery system in India
  - Components of health services
  - Primary health care
  - Urban areas
  - Rural areas
  - Service models
  - AYUSH systems
  - Voluntary health agencies
  - Public health services

- Private health services

Organizational structure of health care

- Centre, state, district and local government or panchayat raj

Planning in health services/ programs

- Planning: elements of planning
- Methods of planning: top down, bottom up planning process
- Setting objectives
- Strategy formulation
- Staffing aspects
- Budgeting
- Needs assessment
- Proposal writing,
- Five year plans

Health schemes

- Various health schemes ( Rastriya Swasthya Bima Yojana, Pradhan mantra swasthya yojana, janani suraksha yojana etc)
- Public Private Partnership
- Accreditation of health systems ( NABH, JCI)

Health programs

- National health programs
- NRHM
- NUHM
- MDG

- Health insurance and types
- Healthcare reforms
- Decentralization
- Universalization of health
- Accessibility of health care services
- Disparity in health care services
- Resource allocation
- Role of international organization in health systems.

**Reference**

- Jugal Kishore; National Health Programs of India; Century publication, New Delhi.
- H.Peters et.al; Health Systems for India's Poor. World Bank.
- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers

## **Semester 4- Paper 4**

### **Health Economics 1**

#### **Course Description**

This course introduces students to basic concepts of economics important for the study in health economics, microeconomics that covers a variety of topics concerning the determinants of health, the supply and demand for health care services, , the role of government in health, emergence and impact of insurance on the demand for health care services.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand conceptual tools and theoretical ideas of economics for better understanding of issues in health care systems
- understand the demand for health, supply of health & health care, costs, cost-effectiveness, health insurance, markets, market imperfections and failure

#### **Contents**

- Introduction: the relevance of economics in health and medical care
  - Basics of economics
  - Definition, concepts and framework of health economics
  - Significance of health economics in planning
- Health care spending
  - Trends-patterns,
  - Spending growth Vs Spending levels
  - Models of spending
  - Economic models in health care: Demand Side and Supply side

- Health care expenditure
  
- Introduction to micro and macro approach in health economics
  - Application of micro and macro economics in health
  - Demand and supply consumption
  - Definition, importance and limitations
  - National income accounts: GNP, GDP, NNP, and Inflation.
  - Real Vs Nominal price
  
- Health care markets: Introduction, developing country and developed country
  - Analysis of health care markets with economist perspective
  - Demand for health care, health insurance
  - Supply: health care professionals, hospital services
  
- Government role in health economics
  
- Health care cost concept
  - Capital cost, recurrent cost, opportunity cost, analysis, direct and indirect cost, fixed and variable cost, marginal, average and total cost, unit cost etc.
  
- Economic evaluation
  - Cost benefit, cost effectiveness, cost effective analysis in health
  - Cost utility analysis.

Reference

Sherry Glied and Peter.C Smitt; The Oxford Handbook of Health Economics; Oxford University Press.

Mark V.Panly, Thomas G Mequire, Pedro P. Barros; Handbook of Health Economics.





**BPH - FOURTH SEMESTER (THEORY EXAMINATION) QUESTION  
PATTERN**

Duration: 3 Hours

Maximum Marks: 80      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 5- Paper 1**

### **Health Education and Communication**

#### **Course Description**

This course has been designed to introduce students to fundamental concepts of health education and communication. The course provides conceptual framework for health education practice. Students will be able to apply the theoretical foundations of health education in schools, communities, work site and hospital settings as well as deal with practical problems associated with it.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Identify the role of health education and communication in public health.
- Describe the tools used in health education
- Design effective health education program for community, school and work place.

#### **Content**

- **Introduction to health education**
  - Health education: historical development
  - Aims and basic principles, approach to health education
  - Targets for health education
  - Health education settings
  - Role of health educator
- **Health Promotion**
  - Concept, definition, objective and strategies of health promotion
  - International perspective of health promotion

- Ottawa charter, Jakarta declaration, SEARO charter on health development.
  
- **Approach in health education**
  - Interpersonal propagandist approach
  - Pedagogy Vs Andragogy approach
  - Behaviour change approach
  - Social marketing approach
  - Child to child approach
  - Education and propaganda
  
- **Health and human behaviour**
  - Concept, definition of human behaviour and change process other related terms
  - Factors affecting human behaviours
  - Effects of human behaviour: cognitive, affective and psychomotor domain and their relationship with educational process
  - Role of human behaviour for prevention of diseases
  - EM Roger, Adoption process and its application health education.
  
- **Working with communities**
  - Community: Definiton, concept of community participation
  - Benefits of community participation
  
- **Health communication**
  - Communication: Definition, scope and requirements
  - Types of communication

- Components of communication
- Communication stages
- Common communication approach
- Methods of communication
- Characteristics of effective communication
- Barriers of effective communication
- **Health education methods and materials**
  - Education methods
    - Individual, group, mass methods
    - Principles, theories and criteria for selection , and use of appropriate methods of health education
    - Types of health education media ( posters, flash cards, flip charts, hand puppets, handbills, pamphlets, slide, skits, films, video, models, hoardings, folk media, songs, story, radio, television, internet, newspapers etc.)
    - Advantages and disadvantages of each methods
- **Role of agencies in health education and promotion**
  - NGOs
  - Government
  - Professional health organizations
  - Private agencies etc

**Reference**

- Ramachandran & Dharmalingam: Health education – a new approach, Vikas publishing
- Park K, Park's Textbook of preventive and social medicine, M/s Banarasidas, Jabalpur
- Banerji D, Poverty, class and health promotion and protection WHO, Copenhagen
- Health education: creating strategies for school and community health By Glen Gordon Gilbert, Robin G. Sawyer
- Randall R.Cottrell, James T.Girvan and James F.Mc Kenzine: Principles and foundation of health promotion.
- J.Thomas Butlers: Principles of health education and health promotion: Wadsworth Publishing.

## **Semester 5- Paper 2**

### **Public Health Policy**

#### **Course Description**

This course provides an overview of health policy making and analysis. Course also describes Indian Health policy and its implications on public health.

#### **Objectives**

**At the conclusion of the course, the student will be able to:**

- Understand the policy development process
- Critically access and analyse policy
- Understand social and political dimensions of decision making in policy development

#### **Contents**

- **Introduction to health policy**
  - Health policy : definition, scope and types
  - Evolution of health policy
- **Methods to assess the need for policy development**
  - Policy development process
  - Evidence based policy
  - Systems thinking
  - Policy categorization
  - Policy making process
  - Policy analysis
  - Policy interventions
  - Political process

- Rules/ law makers
- Timeframes
  
- **Policy analysis framework**
  - Health for all 2000
  - Health committees
  - National health policy 1983, 2002
  
- **Policy related to healthcare**
  - IPH standards
  - Women and Child policy
  - National Nutrition policy
  - Maternal health policy
  - New born and child health policy
  - Immunization policy
  - Infection management and environment policy framework
  - Health tourism policy
  - National Population policy
  - National AIDS Prevention and Control policy
  - National Blood policy
  - National policy of the empowerment of women
  - National youth policy
  - National policy for older persons
  - National policy for persons with disability
  - National policy on Indian systems of medicine and homeopathy
  - National policy on water

**Reference**

- Jugal Kishore; National Health Programs of India; Century publication, New Delhi.
- H.Peters et.al; Health Systems for India's Poor. World Bank.
- K.Parks's Textbook of Preventive and social medicine M/S Banarasidas Bhanot publishers
- Kent Buse, Nicolas Mays and Gill Watt: Making Health policy: Tata McGraw Hill, New Delhi edition.



## **Semester 5- Paper 3**

### **Public Health Ethics and Law**

#### **Course Description**

This course provides an overview of ethical framework, guidelines, moral issues and legal issues relation to public health practice. The course examines the major ethical and legal concepts and their impact in public health practice.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Describe and appreciate the value of understanding the history and evolution of health care ethics.
- Demonstrate the understanding of the various philosophical foundations for health care ethics.
- Identify and critically analyze ethical issues in health care.
- Critique various decision making frameworks and formulate one based on ethical philosophical foundations.
- Discuss the application of legal and ethical concepts and principals in his/her capacity and responsibility as a health care professional.
- Recognize the integrative role of organizational ethics in health care facilities

#### Content

##### Basics of Ethics

- History of ethics in health practice and research
- Theories and principles of research ethics
- Theories and principles of public health ethics
- An Introduction to the Course: the Language and Logic of Bioethics.
- Ethics in Student and Professional Life
- Organizational Ethics

- Patient Relationships: Confidentiality & Truth-Telling
- Patient Relationships: Informed Consent
- Chronic & Long-Term Care
- End of Life Care
- Distributive & Compensatory Justice: Claims for Health Care
- Ethical decision making
- Social Justice and the Right to Health Care
- The Ethics of Measuring Health
- Poverty, Power, and Health Inequalities
- Ethical review process
- Institutional ethics committees, IRB

**Legislations related to health in India**

- Legislation related to Health
  - National Legal Literacy Mission
  - National Health Bill 2009
- Legislation related to Quality of Professional Education and Services  
The Indian Medical Council (Professional Conduct and Ethics) Act 1956 and Regulations 2002
  - The Indian Nursing Council Act 1947
  - The Dentists Act 1948
  - The Pharmacy Act, 1948
  - The Rehabilitation Council of India Act, 1992
  - The Indian Medicine Central Council Act, 1970, 84/95
  - The Homeopathy Central Council Act, 1973
  - The Indian Medicine and Homeopathy Council Bill 2005
  - The Delhi Nursing Homes Registration Act 1953
  - The Consumer Protection Act (CPA) 1986
- Legislation related to Census, Birth and Death

- The Census of India 2001
- The Registration of Births and Deaths Act 1969

Legislation related to Control of Epidemics

- The Epidemic Disease Act 1897
- The Maharashtra Prevention of the Infection and Spread of Epidemic Disease (Plague) Regulation 1994
- Indian Air Craft (Public Health) Rules 1975

Legislation related to Tobacco and Drug Control

- The Cigarettes and Other Tobacco Products (Prohibition of Trade and Commerce, Production, Supply and Distribution) Act 2003
- Delhi Anti-Smoking & Non-Smoker's Health Protection Act 1996
- The Narcotic Drugs and Psychotropic Substances Act 1985
- The Drugs and Cosmetics Act 1940
- The Drugs and Magic Remedies (Objectionable Advertisements) Act 1955 692

Legislation related to Other Public Health Problems

- The Transplantation of Human Organs Act 1994
- The Prevention of Food Adulteration Act 1959
- Food safety and standards Act 2006
- The Protection of Human Rights Act 1993
- Legislation for Women Empowerment and Health
- The Medical Termination of Pregnancy (MTP) Act 1971
- The MTP Rules and Regulations 2003
- The Maternity Benefit Act 1961
- The Family Court Act 1984
- The Dowry Prohibition Act 1961
- The Commission of Sati (Prevention) Act 1987
- The Immoral Traffic (Prevention) Act 1956

- Violence Against Women
- The Protection of Women From Domestic Violence Act 2005

#### Legislation for Child Protection and Health

- The Pre-Conception and Pre-Natal Diagnostic Techniques(Prohibition of Sex Selection) Act 1994
- The Infant Milk Substitutes, Feeding Bottles and Infant Food (Regulation of Production supply and Distribution) Act 1992
- The Juvenile Justice (Care and Protection of Children) Act 2000
- The Child Labor (Prohibition and Regulation) Act 1986
- The Child Marriage Restraint Act 1929
- The Right to Education Act

#### Legislation for the Welfare of Older Persons

- Maintenance and Welfare of Parents and Senior Citizens Act 2007

#### Legislation related to the Welfare Rehabilitation of Disadvantaged

- The Persons with Disabilities (Equal Opportunity, Protection of Rights and Full Participation) Act 1995
- The National Trust for Welfare of Persons with Autism, Cerebral palsy, Mental retardation and Multiple Disabilities Act 1999 and Rules 2000
- Mental Health Act 1987
- National Rural Employment Guarantee Act 2005
- The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act 1989
- Welfare of Scavengers
- The Employment of Manual Scavengers and Construction of Dru Latrine (Prohibition) Act

#### Occupational Health & Legislation

- Legislation for Female Workers
- The Factories Act 1948
- The Mines Act 1952

- The Employees States Insurance Act 1948 & Regulations 1950
- The Workmen's Compensation Act 1923
- The Minimum Wages Act 1948
- Contract Labor (Regulation and Abolition) Act 1970 and Contract Labor (Regulation & Abolition) Central Rules 1971; Construction and Maintenance of Creches
- The Plantation Labor Act 1951
- The Unorganized Sectors Workers's Social Security Act
- The Bonded Labor System (abolition) Act 1976
- The Trade Union Act 1926
- The Dangerous Machine (Regulation) Act 1983

#### Environment Health Legislations

- The Environment (Protection) Act 1986
- Biomedical Waste (Management & Handling) Rules 1998
- Municipal Solid Waste (Management & Handling) Rules 2000
- Hazardous Waste (Management & Handling) Rules 1989 766
- Chemical Accidents (Emergency Planning, Preparedness and response) Rules 1996
- Public Liability Insurance Act 1991
- The National Environment Tribunal Act 1995
- Air Pollution ,Air (Prevention and Control of Pollution) Act 1981
- Water (Prevention and Control of Pollution) Act 1974
- The Atomic Energy Act 1962 and Safety Related Rules
- The Insecticides Act 1962; The Insecticides Rules 1993
- Delhi Municipal Corporation Act 1957
- The Motor Vehicles Act 1988
- Noise Pollution (Regulation and Control) Rules 2000
- The Disaster Management Act 2005
- The Red Cross Society (Allocation of Property) Act 1936

- International Health Regulation

## **Semester 5- Paper 4**

### **Public Health Informatics**

#### **Course Description**

This course introduces students to the field public health informatics; as well examine the impact of information technology upon the practice of healthcare and public health. It will look at the entire process, from systems conceptualization and design, to project planning and development, to system implementation and use

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Understand basics of public health informatics
- Identify, evaluate, and utilize health care and public health data and information sources and resources
- Describe issues related to information ethics, including privacy, confidentiality, security, and data and information
- Design, development , and implementation of public health information systems
- Develop skills to evaluate and manage information systems projects

#### **Contents**

##### Public Health Informatics

- origins and definition of public health informatics
- Scope and importance
- informatics competencies
- sub disciplines within informatics
- Fundamentals of computers
  - Basic elements of computer system- CPU, Input devices, Output devices, hardware, software etc
  - Storage devices
  - Introduction to computer networks

- Internet and world wide web
- data, information, knowledge
- Privacy, confidentiality and security of public health information
- Data standards in public health informatics
- Informatics project planning and programmes
- Geographic information systems
- Telemedicine: role in delivering health care.
- the electronic health record (EHR)
- Public health information systems (registries, disease surveillance)

### **Practicum**

Basic computers

### **Reference**

- Public health informatics and Information systems, Patric.W.O'Carroll et al, Springer's publishers
- Health care information system- A practical approach for health care management-, Fances Wickham Lee, Karen A Wager
- E-health care information systems
- Introduction to computers, Peter Norton, Tata McGraw-Hill



**BPH – FIFTH SEMESTER (THEORY EXAMINATION) QUESTION  
PATTERN**

Duration: 3 Hours

Maximum Marks: 80      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 6- Paper 1**

### **Global Health**

#### **Course Description**

This course introduces the global context of public health. The course also examines major illness, policies health issues and challenges in global perspectives.

#### **Objectives**

##### **At the conclusion of the course, the student will be able to**

- Understand strategic developments in global health from a historical perspective.
- Discuss the emergence and re-emergence of infectious diseases
- Assess the international health policies in public health.

#### **Contents**

- Introduction to internal health/ global health
- What is global health?
- World health report
- Millennium Development Goals
- Health determinants
- Global burden of diseases
- Nutrition and global health
- Infectious diseases
- Culture, behaviour and health
- Health care reforms
- Emergencies and disaster globally and its management
- Global cooperation in international public health

- International organizations
- Leadership and public health
- Global health NGOs and challenges
- Partnering with various government agencies and challenges
- Global health challenges
- Future of global health

## **Semester 6- Paper 2**

### **Aging of Population**

#### **Course Description**

This provides an overview of issues related to public health and aging population. The course introduces the study of aging and its implication for individuals and society. There is special focus on demographic and epidemiology of aging population.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Understand and describe basic demographic trends in aging population/ older population.
- Describe major health problems and issues for older population and their implication on public health
- Understand the government's role on aging population and their policies

#### **Contents**

- Introduction to geriatrics and aging population
- Demography and epidemiology of aging
- Theories of aging
- Biological ( physiological) changes of aging
- Major diseases of aging
- Hypertension, diabetes, joint disorders, caratact, neurological disorders
- Aging and Disability

- Services available
- Mental disorders of older persons
- Health behaviour and health promotion
- Nutritional requirements of older population
- Prevention of injuries and diseases
  
- Health services of older population
- Ambulatory, hospital, end of life care
  
- Social aspects related to aging population
- Policy for old and elderly

## **Semester 6 – Paper 3**

### **Health Economics 2**

#### **Course Description**

This course gives an overview of budgeting, health budgeting and health financing.

- Health Budget
  - Concepts, types of budget: regular, development program, and operating budget.
  - Principles of budgeting
  - Preparation, screening, sanction and receipt of budget
  - Budget release and disbursement
  - Agencies involved in budgetary process
  - Overview of national budget and five year plans
  - Health service resource allocation
- Book keeping
  - Methods, single and double entry
  - Concept of entry
  - Credit, debit, balance , assets, liabilities
- Audit
  - Concept of audit, internal and external audit
- Health Financing
  - Meaning and scope of healthcare financing
  - Alternative health care financing
  - Equity: Concept of equity, vertical equity, horizontal equity,
  - Measuring disparities in health

- Gini coefficient and kakwani index
  
- Efficiency: concept of economic efficiency, allocative efficiency, technical efficiency
  
- Sustainability of health care financing.

**Reference**

Sherry Glied and Peter.C Smitt; The Oxford Handbook of Health Economics; Oxford University Press.

Mark V.Panly, Thomas G Mequire, Pedro P. Barros; Handbook of Health Economics.

## **Semester 6 – Paper 4**

### **Public Health Nutrition 2**

#### **Course Description**

To provide an overview of the critical role of diet as a determinant of health, nutritional status of the Indian population, community nutrition needs, food distribution system and intervention programs, and special focus on maternal and child health nutrition.

- Understand epidemiology, etiology, and consequences of under nutrition, with particular focus on the nutritional problems of children and women in low income populations
- Appreciate nutritional status of the Indian population, influencing factors
- Recognize and understand Community based nutrition interventions, Objectives and operations of feeding programmes in the country

#### **Content**

##### **Community Nutrition**

- **Basics of community nutrition**
  - Recommended dietary allowances
  - Nutrition throughout life cycle
  - Malnutrition and Chronic Energy Deficit
  - Micronutrient disorders
  - Methods of promoting dietary change
- **Maternal Health Nutrition**
  - Nutritional requirements during pregnancy



- Physiology and special needs during pregnancy, lactation,
- caloric requirements, iron and folic acid supplementation.
- Relationship between maternal diet and pregnancy outcome.
- **Child Nutrition**
  - Role of nutritional factors in embryonic and postnatal development.
  - Relationship among nutrition, growth, and development during childhood
  - Link between mortality and malnutrition;
  - Nutritional needs and interventions for special groups, including obese children, adolescents, athletes, and eating disordered.
  - Breast feeding, weaning and supplementary feeding.
- Nutritional assessment for normal and high-risk groups; psychological, social, and economic factors contributing to nutritional status.

### **Practicum**

- Anthropometry - Growth charts. Height and weight measurements, BMR, BMI
- calculations, interpretations
- Nutrient intake analysis – Energy expenditure, Diet recall, Food frequency, Weight management method etc.
- Nutritional questionnaires
- Nutritional screens - Physical examinations, Biochemical and biophysical assessment methods
- Standards for comparison – RDA, NCHS standards, ICMR standards

**Reference**

- Gopalan.C, 1996, Nutrition research in South-East Asia, The emerging agenda for future. WHO, AITBS publishers, New Delhi.
- Seshadri Malini, Siddhu Anupa, 2003, Nutrition goals for Asia – Vision 2020, Proceedings of IX Asian Congress Of Nutrition, NFI Publishers New Delhi

**BPH - SIXTH SEMESTER (THEORY EXAMINATION) QUESTION  
PATTERN**

Duration: 3 Hours

Maximum Marks: 80      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

## **Semester 7-Paper 1**

### **Disaster and Emergency Management**

#### **Course Description**

This course introduces students to the process and practice of emergency disaster planning and management. The goal is to create broad experience that includes the many elements of planning as the primary path to preparedness. Students will learn the relationship of emergency planning to the field of disaster management.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Describe the history and context of emergency / disaster planning;
- Identify steps in the emergency planning process
- Recognize structures for managing emergency response

#### **Content**

##### **Introduction to Disaster management**

- Disaster definition, types of disasters
- Disasters in history
- Disaster trends
- Modern disaster management

##### **Hazards**

- Hazards identification and profiling
- Hazard analysis

##### **Risk**

- Risk and vulnerability
- Components of risk

- Risk perception and evaluation

### **Mitigation**

- Types of mitigation: structural and non structural
- Obstacles
- Assessing and selecting mitigation options
- Emergency response and risk mitigation

### **Preparedness**

- Overview of disaster preparedness
- Government Preparedness
- Public preparedness
- Media
- Obstacles

### **Response**

- What is response
- Response to emergency,
- Recognition pre disaster action
- Recognition –post disaster
- Provision of water, food, shelter, healthcare
- Water management
- Media response

### **Recovery**

- Effects of disaster on society
- Components of recovery
- Types of recovery

**Agencies**

- Role of government in disaster management
- Government disaster management agencies
- Organization structure
- International organization
- Bilateral organizations
- Role of NGOs and individuals

**Introduction to Emergency Planning**

- Contexts of Emergency Planning.
- Emergency Planning Process: Mandates, Structure and Guidelines.
- Human Behaviour in Disasters: What a Planner Must Know
- Emergency Planning Conditions and considerations.
- Analyzing and Selecting Protective Actions: How to Make Effective Choices.
- The Content and Format of Emergency Plans
- Continuity of Operations Plans
- Population Warning: Behavioral Foundations and Practical Applications.
- Planning for Hazard Adjustment: Protection Adoption, Hazard Awareness and Risk Communication.
- Structures for Managing Emergency Response: Executing Emergency Plan Provisions

**Reference**

Damon coppola: Introduction to Internal Disaster management

Renold N.Perry, Michael Klindell: Emergency planning.

## **Semester 7 – Paper 2**

### **Monitoring and Evaluation**

#### **Course Description**

This course provides an overview of the key concepts, methods and approaches in the field of monitoring and evaluation with special focus on public health programs. The student will familiarize in different types of monitoring and evaluation programs, needs assessments, process evaluation, monitoring of outputs and outcomes, impact assessments as well as cost analysis.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Understand theoretical approaches and techniques in monitoring and evaluation
- Design conceptual framework in monitoring and evaluation
- Understand the relationship between evaluation and program

#### **Contents**

- **Introduction to monitoring and evaluation**
  - Definition, purpose of monitoring and evaluation
  - Principles and paradigm of evaluation
- **Developing monitoring and evaluation system**
  - Needs assessment/situational analysis
  - Developing problem tree
  - Goals and objectives
  - Activities: input and output
- **Process evaluation and program monitoring**
  - Principles of process evaluation
  - Indicators
  - Program monitoring methods

- Monitoring and evaluation systems
- **Data collection**
  - Primary and secondary data
  - Advantages and disadvantages
  - Assessing data quality
  - Quantitative and qualitative data
  - Data management
  - Data analysis and reporting
- Evaluation models and frameworks
- Evaluation standards
- Reporting
- Dissemination



## **Semester 7 – Paper 3**

### **Public Health Project Management**

#### **Course Description**

This course provides an overview of theories and practical skills pertaining to public health project or program management. The course focuses on strategic planning, design, organizing, implementing and evaluation of public health programs or projects.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Understand the basic concepts of project cycle and project planning cycle.
- Design a project using logical framework approach
- Develop skills in developing project ideas
- Understand the implementation process and evaluation of project

#### **Contents**

##### **Introduction to Project management**

- Management concepts and basics
- Principles of project management
- Project management: approach-Classical Vs Behaviour
- Systems theory
- Organizational theory and concepts
- **Project planning**
  - Concept of project planning
    - Concept of strategic planning for project / programs
      - Need for strategic planning
      - Principles of strategic planning
      - Executive involvement

- Organizational factors, quantitative and qualitative.
- Strategic planning marketing
- Project planning cycle
- Generation of project ideas
- Environmental scanning
- Needs assessment
- Sources of data
- **Project feasibility analysis**
  - Economic and financial feasibility
  - Technical and managerial feasibility
  - Environmental feasibility
- **Functions of project management**
  - Vision communicating vision, motivating people, team building and statement

**Project planning and design process using Logical framework approach**

- Concept of LFA
- Stakeholders analysis
- Problem tree and objectives
- Analysis of strategies
- Fixing project output and activities
- Assumptions, risk monitoring and evaluation indicators

**Project Appraisal**

- Concept of project appraisal
- Process of appraisal
- Appraisal techniques: Discounted and non discounted
- Cost
- Cost benefit analysis
- Analysis of risk

**Project Implementation**

- Operational planning
- Concept, need of project implementation plan
- Pre requisites
- Project of project implementation planning
- Networking techniques for project
- PERT, CPM Mode, Gantt chart and others
- Project review and control

**Budgeting and cost calculation**

**Risk management**

- Contingency planning
- Scheduling resources
- Reducing project duration
- Project documentation, procedures
- Team building and human resource planning
- Managing changes to the project
- Quality assurance
- Project closure

**Proposal writing**

- Concept note and grant writing.

**Reference**

- Gopalakrishnan P and V.E.Ramamurthy: Textbook of project management: Mac Millan India Ltd.
- Cedric Saldhana and John Whittle: Using the Logical Framework for sector analysis and project design: A user guide: Asian Development Bank
- David L. Cleland: Project Management –Strategic design and implementation. McGraw Hill Inc
- Ralph L.Klein and Irwin Schudin: Project management practioners handbook:

- Stucken.L.C: The implementation of project management-A professional handbook: Addison-Wesley USA
- Meredith.J.R and Mantel S.J: Project management- a management approach, 6<sup>th</sup> edition New Delhi Wiley
- Chandra, Prasanna : Project management- planning, analysis selection implementation and review: Tata McGraw Hill. NewDelhi edition.

## **Semester 7- Paper 4**

### **Public Health Leadership and Managing Health Care Organization**

#### **Course Description**

This course provides an introduction and overview to leadership management and organizational behaviour in health care setting. The students will acquire leadership skills and apply it in managing health care organization at several levels: individual, interpersonal, group, system and inter-organizational levels. The course is organized in two parts, Leadership and Organizational Management.

#### **Objectives**

**At the conclusion of the course, the student will be able to**

- Understand health care organization
- Understand and explain the different roles and challenges of leadership and management in healthcare setting
- Understand and demonstrate key organizational behaviour theories and concepts related to leadership
- Develop and understand better personal leadership strengths and areas of improvements

#### **Contents**

- **Leadership**
  - Introduction to leadership
  - Definition
  - Principles of leadership
  - Leadership styles and traits
  - Levels of leadership
  - Systems thinking
  - Leadership theories
  - Leadership skills
  - Manager Vs Leader
- Management

- Introduction to healthcare management
- Classical management and healthcare services management
- Organizational theories
- Evolution of management
- Managerial role
- Motivation
- Organizational Learning, Innovation and change
- Developing organization
  - Health care organization
  - The environment of healthcare organization
  - Organizational structure
  - Groups and team building
  - Human resource development , staffing pattern and hiring, retaining , training, Exit and termination
  - Law and regulation
  - Organizational culture and ethics
- Decision making and problem solving: methods, trends and conflict resolution
- Change management
  - Change in healthcare organization
  - Resistance and barriers to change.

**Reference**

- Peter C.Olden; Management of Health Care Organization: An introduction.
- Stuart A. Capper, Perter M.Ginter, Linda E.Swane; Public Health Leadership and Management: Case and Context.; Sage Publication.
- Luiz Rowitz; Public Health Leadership: Putting Principles into Practices; Jones and Barlett Learning.
- Sharaon B.Buchibinder and Nancy H Shanks; Introduction to Health Care Management; Jones and Bartlett Publishers

**BPH – SEVENTH SEMESTER (THEORY EXAMINATION)  
QUESTION PATTERN**

Duration: 3 Hours

Maximum Marks: 80                      Marks

Type of Questions	No. of Questions	Marks for each question	Total Marks
Long Essays*	5	5	25
Short Essays	15	3	45
MCQ's	5	2	10

\*: Students are required to attempt 5 out of 7 long essays

Semester 8 – Paper 1

Recent Advance in Public Health 1



## **Semester 8**

### **Course: Internship/ Field Experience**

#### **Course description:**

Bachelor in Public Health students must complete 15 credits of internship. Each credit hour equals 15 hours of field work. Fifteen credits are equal to 225 hours. Students must get their internships approved prior to registering for the credits.

#### **Overview of Undergraduate Internship**

##### **What is the purpose of the undergraduate internship?**

The purpose of the undergraduate internship is to provide students with a work-related experience designed to integrate theory and practice in an applied setting under supervision. The internship experience permits the student to demonstrate her/his ability to apply knowledge of theory and practice to specific activities in a real-world setting.

The internship provides students with a professional experience where they can apply existing and new skills and become more socialized into the field of community/public health. Existing skills are those the student brings from their life experience and previous education. New skills include those the student has gained through their educational experience. Socialization occurs through mentoring of the student in the work site and professional arena by the worksite supervisor for the internship.

##### **What does the internship experience involve?**

The internship experience typically involves the student working on a health related issue confronting a public, not-for-profit or health services organization. It is an opportunity for the student to relate her/his academic experience to the issue that is the focus of the experience. Typical activities conducted by students in internship settings include public health activities at a not-for-profit, a hospital, state/county health agency, or academic institutions.

The student should spend a minimum of 240 hours of work in the internship experience. This should be conducted during the last term in one-ten week or across the 6 months. During the internship, students are expected to keep a weekly journal of work-related experiences and reflections about the internship. Students should report to their faculty advisor on a periodic basis about their experience. At the end of the internship the student prepares and submits an internship summary report and an internship evaluation report.

**Responsibilities of Students, Faculty Advisors and Worksite Supervisors**

There is a shared responsibility in selecting, monitoring and evaluating an internship:

Students:

- Articulate the kinds of skills or experiences looking to develop or enhance as a result of the internship.
- Identify possible internship sites to discuss with internship advisor.
- Complete the Application/Learning Contract and return to faculty advisor with the worksite supervisor's signature.
- Provide a copy of the Application/Learning Contract to your worksite supervisor
- Maintain weekly internship journal.
- Fulfill the Learning Contract as specified
- Submit Internship Summary Report and Internship Evaluation Report to internship coordinator advisor, and the option follow-up survey
- Request that worksite supervisor complete the Student Evaluation Form and return to their faculty advisor in the School of Public Health

**Internship Advisors:**

- Develop internship opportunities through contacts in research, practice and service activities
- Assist student advisee in identifying appropriate internship sites
- Meet with advisee to review the Application/Learning Contract (note: this may require more than one meeting)
- Approve and sign off on advisee's Application/Learning Contract
- Meet or communicate with advisee periodically during their internship experience as needed
- Review the Student Evaluation Form and discuss internship experience with worksite supervisor as needed
- Be available to debrief advisee on their internship experience to review their evaluation results and discuss future career options

**Worksite Supervisors:**

- Sign the student's Application/Learning Contract and ensure that the learning contract is fulfilled
- Supervise the student throughout the internship experience; confer with the student's internship advisor as necessary
- Complete the Student Evaluation Form and return to the School of Public Health; debrief with internship advisor on student's performance

**Description of the Internship Process**

**When should the internship experience occur?**

Students generally are in their senior year (i.e. 135 or more credits). The credit requirement helps to ensure that students have sufficient academic experience to use their internship as an integrative and reflective activity.

**How do I identify an internship location?**

Sites for internships are identified in a number of ways:

- Students' own ideas and contacts
- Announcements of internships posted
- Sites identified in consultation with the internship advisor

Students should discuss their prospective internship site with their faculty advisor early in the term prior to the term when they want to begin their internship. Students **MUST** get approval from an adviser before registering for an internship.

**How do I get permission for the Internship?**

Once an internship site has been identified, the student will complete the Application/Learning Contract. The learning contract sets out identifying information about the site, student's learning objectives, and skill requirements. The student, the worksite supervisor, and the internship advisor sign the contract. The internship advisor sees that the signed Application/Learning Contract is placed in the student's academic advising file in the School of Public Health office. Students should provide a copy of the completed Application/Learning Contract to their site supervisor. After a student gets approval from his/her advisor and the contract is signed by the worksite supervisor, the student will need to go to the School of Public Health to get permission into the internship by Principal.

**What do I include as the goals and objectives of the internship?**

The student will need to include with his/her learning contract a short list of goals and or objectives that they wish to gain from their internship experience. Some sites will provide a detailed list of the student responsibilities and can be submitted to advising.

The goal/objective list may include: (For example)

- To participate in a public health, health education, & health promotion programs being implemented locally.
- Understand how health promotion policies form and/or become law.

**What should I do once the internship begins?**

As the internship experience begins, students should start a weekly journal of activities and reflections on the experience. The internship experience is meant to provide students with a real life experience. As in real life, sometimes there are problems at the selected site for the internship. Students are encouraged to contact their internship advisor if there is a problem.

Working closely with the worksite supervisor and the internship advisor, most problems can be resolved if addressed early. In rare instances, it may be necessary to find another, more appropriate placement.

**How do I complete the internship?**

At the end of the internship experience, the student requests that their worksite supervisor complete the Student Evaluation Form and send the form to the student's internship advisor.

The student's Internship Summary Report and log are submitted to their internship advisor as evidence of completion of the internship requirement by the end of the last week of classes. The report is graded on a pass/no pass basis. If students choose to fill out the optional follow-up survey they should submit it with their summary report.

**Guidelines for Internship Summary Report**

**Section I.** Fill out 'Site Information Contract' and attach it to your answers from Section II & III.

**Section II. Evaluation of Learning Objectives**

Answer the following questions:

1. Did this internship provide you with a good overall learning experience? Why or why not? What experiences were the most helpful? Why? What experiences were the least helpful? Why?
2. Were you able to accomplish your learning objectives?
3. Do you feel you received adequate supervision from your worksite supervisor?
4. What feedback or recommendations do you have to improve the internship experience at this placement site?
5. Would you recommend this internship site to other students? Please explain.
6. Has this internship experience influenced your career goals?
7. Any additional comments.

**Section III.** Also include your weekly logs.