

**SYLLABUS**  
**FOR THE TRADE OF**  
**HEALTH SANITARY INSPECTOR**  
**UNDER**  
***CRAFTSMEN TRAINING SCHEME (CTS)***

***YEAR – 2002***

***Designed By***

Government of India  
Ministry of Labour (D.G.E.&T.)  
**CENTRAL STAFF TRAINING AND RESEARCH INSTITUTE**  
EN-Block, Sector-V, Salt Lake  
Kolkata-700 091

**List of members of the Trade Committee Meeting approved the syllabus for the Trade of “Health Sanitary Inspector” under C.T.S. held on 12.11.2002 at CSTARI**

S/Sri/Smt.

1.	H. Somasundaram, Director	C.S.T.A.R.I., Kolkata	Chairman
2.	Dr. R. C. Srivastava	All India Instt. of Hygiene & Public Health, Kolkata	Member
3.	Dr. B. Dalal, Res. Officer	R.O.H.C. (E), ICMR, Min. of H & FW	Member
4.	Dr. K. L. Mukherjee Consultant Physician	Ramakrishna Mission, Kolkata	Member
5.	Tarak Banerjee	W.B. Volunteers Health Association	Member
6.	Dr.(Mrs.) Uma Ghosh, Principal	Jay Prakash Institute of Social Change	Member
7.	Dr. C. R. Ghose	Jay Prakash Institute of Social Change	Member
8.	B. Banerji	Soft Step, Kolkata	Member
9.	Mrs. D. T. Uba	Soft Step, Kolkata	Member
10.	Mrs. Gayatri Basu, Sr. Faculty	Instt. of Panchayat & Rural Dev., Govt. of W.B.	Member
11.	T. Mukhopadhyay, DDT	CSTARI, Kolkata	Member
12.	S. Kant, DDT	CSTARI, Kolkata	Member
13.	M. S. Ekambaram, ADT	CSTARI, Kolkata	Member
14.	A. K. Samaddar, JTA	CSTARI, Kolkata	Member

## **GENERAL INFORMATION**

1. Name of the Trade : HEALTH SANITARY INSPECTOR
2. N.C.O. Code No. :
3. Duration of Craftsmen Training : One Year
4. Entry Qualification : Passed 12<sup>th</sup> Class Examination under (10+2) System of Education with Physics, Chemistry & Biology.
5. Unit Size : 20
6. Space Requirement : 2 Sq.m. / Trainee

**SYLLABUS FOR THE TRADE OF “HEALTH SANITARY INSPECTOR” UNDER C.T.S.**

**DURATION – ONE YEAR**

**A. FOOD & NUTRITION**

<b>WEEK NO.</b>	<b>PRACTICAL</b>	<b>THEORY</b>
1 – 3	<p><b><u>FOOD &amp; NUTRITION</u></b></p> <ol style="list-style-type: none"> <li>1. Classification of locally available foodstuffs.</li> <li>2. Assessment of nutritional requirement at different physiological status.</li> <li>3. Prescription of balanced diet with locally available food.</li> <li>4. Coding of balanced diet.</li> <li>5. Assessment of nutritional status of individual.</li> <li>6. Identification of nutritional deficiency.</li> <li>7. Diet survey.</li> </ol>	<ol style="list-style-type: none"> <li>1. Introduction to Nutrition, Health &amp; Disease. Classification and function of food – Body building Energy yielding Protective food</li> <li>2. <u>Nutrient</u>: Carbohydrates, Proteins, fats, Vitamins, &amp; Minerals, function, source and diatic requirement of each. Nutritive value of different locally available foodstuffs.  Cereals, Pulse, Fats &amp; Nuts, Vegetables, Milk, Sugar, Fruits, Eggs, Meat &amp; Fish. Condiments, Spices, Beverages.</li> <li>3. <u>Balanced Diet</u>: Definition, factors to be considered on planning meals. Nutritional requirements of special groups. Prescription of diet Menu for Hypertensive persons, Nephritis patients, Diabetic patients, Heart patients.</li> </ol> <p><u>Malnutrition</u> : Causes of Malnutrition, Precaution for malnutrition.</p>

		<p>4. Preparation &amp; Preservation of food. General principles of refrigeration of food. Preservation of food-household method. Inspection of cooked food / food ingredients household &amp; commercial.</p> <p>5. Cultural factors on Nutrition. 6. Introduction to Nutrition and its importance. 7. Dietary survey</p>
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## **B. ENVIRONMENTAL SANITATION AND SANITARY ENGINEERING**

<b>WEEK NO.</b>	<b>PRACTICAL</b>	<b>THEORY</b>
<b>4 – 6</b>	<p><b><u>WATER SANITATION:</u></b></p> <ol style="list-style-type: none"> <li>1. Estimation of chlorine demand and residual chlorine in water.</li> <li>2. Process of chlorination of well.</li> <li>3. Process of disinfections of tube well.</li> <li>4. Demonstration of common unsanitary condition of well.</li> <li>5. Demonstration of filtration processes, visit to water filtration plant.</li> <li>6. Collection and despatch of water sample for chemical arsenic and bacteriological examination. Interpretation of reports received.</li> <li>7. Use of iodine and halogen tablets for disinfections of water in small scale.</li> <li>8. Demonstration of a swimming pool for sanitation and personal hygiene measures.</li> </ol>	<p><b>1. <u>WATER:</u></b></p> <p>Sources of water, various uses of water and its need. Physical, chemical and biological standard for potable water. Sources and nature of pollution of water. Process of purification of water in large scale and small scale. Process of disinfections of water in large and small scale, provisions for sanitary wells and tube wells, plumbing system and its maintenance. Water supply and storage system at the community and domestic level.</p>

7	<p><b><u>AIR SANITATION:</u></b></p> <p>1. Demonstration of an air-conditioning plant for thermal comfort.</p>	<p><b>2. <u>AIR:</u></b></p> <p>Composition of air, sources of air pollution and nature of pollutants, estimation of level of pollutants. Process air purification and disinfections. Green house effect, types of ventilation, thermal comfort, air temperature, humidity, radiation, evaporation and their measurements.</p>
8	<p><b><u>NOISE:</u></b></p> <p>Measurement of intensity of noise pollution.</p>	<p><b>3. <u>SOLID WASTE DISPOSAL:</u></b></p> <p>Classification of solid waste in the community. Polluting affects of different types of solid waste, system of collection of solid waste from the houses and street, sanitary transportation of solid waste, sanitary process of disposal of solid waste such as composting, sanitary land filling, incineration,</p>
9	<p><b><u>REFUSE DISPOSAL:</u></b></p> <p>1. Demonstration of refuse collection and transportation in an urban area.</p> <p>2. Demonstration and operation of compost pits, sanitary land filling and insanitation process.</p>	<p><b>4. <u>LIQUID WASTE DISPOSAL:</u></b></p> <p>Classification of liquid waste, Physical, Chemical and bacteriological quality of different types of liquid waste. Health hazard related to accumulation of liquid waste or in sanitary drainage system. Construction and maintenance of sanitary sewerage system. Use of different types of traps, pollution of water sources from sewerage and its disinfection.</p>
10 - 11	<p><b><u>NIGHT SOIL DISPOSAL :</u></b></p> <p>1. Construction and maintenance of sanitary latrines.</p> <ul style="list-style-type: none"> <li>- bore hole latrine</li> <li>- dug well latrine</li> <li>- RCA latrine</li> <li>- Septic tank latrine</li> <li>- Trench latrine</li> <li>- Sulabh Sauchalaya</li> </ul> <p>2. Maintenance of trenching ground</p>	<p><b>5. <u>NIGHT SOIL DISPOSAL :</u></b></p> <p>Prevalent practices of defecation and its effect on community health, different types of latrines in use. Principles of construction of sanitary latrines and their use, especially berg hole, dug well, RCA and septic tank latrine.</p> <p>Common causes of non-use of latrines and</p>

<p>12 – 13</p>	<p><b><u>SEWAGE DISPOSAL</u></b></p> <ol style="list-style-type: none"> <li>1. Demonstration of sewage system</li> <li>2. Inspection of manholes, inspection chambers and maintenance of gully trap.</li> <li>3. Collection of sewage sample for chemical and bacteriological analysis and interpretation of reports.</li> <li>4. Inspection and maintenance of sewage treatment plants and disinfections of stabilized sewage.</li> <li>5. Organisation of cleaning, minor engineering and oil operation of the sewage system.</li> <li>6. Detection of pollution of water from sewage.</li> </ol>	<p>process of disinfections of the latrines.</p> <p>Sanitation of the trenching ground and its maintenance.</p> <p>Effect of sewage on the eco-system especially in the aquatic life process.</p> <p>Methods and process of treatment of sewage and various types of treatment plants.</p> <p>Methods of disinfections of sewage.</p> <p>Sanitary practices of sewage farming.</p>
<p>14</p>	<p><b><u>BURIAL OF FUNERAL GROUND</u></b></p> <ol style="list-style-type: none"> <li>1. Visit to burial or funeral ground for sanitation, proper process of disposal of dead body and maintenance of records as per legal provision.</li> </ol>	<p><b><u>6. BURIAL AND CREMATION GROUND AND MASS CASUALTY DISPOSAL :</u></b></p> <p>Traditional practices of disposal of dead bodies of various sects.</p> <p>Health hazards associated with the Un-sanitary disposal of dead bodies.</p> <p>Enforcement of legal provisions for disposal of dead bodies and maintenance of their records.</p>

15 – 16	<p><b><u>SOIL SANITATION</u></b></p> <ol style="list-style-type: none"> <li>1. Sampling for assessment of soil pollution.</li> <li>2. Treatment of soil to alter the PH and disinfections.</li> </ol>	<p><b>7. <u>SOIL SANITATION</u> :</b></p> <p>Types of soil, water retention properties of different types of soil, natural drainage of soil, sources of pollution of soil, health hazards associated with soil, pollution, prevention of soil pollution and treatment of soil.</p>
17 – 18	<p><b><u>CONTROL OF BIOLOGICAL ENVIRONMENT</u></b></p> <ol style="list-style-type: none"> <li>1. Identification and use of insecticides, pesticides and disinfections.</li> <li>2. Application of techniques of sterilization and disinfections of various articles.</li> <li>3. Identification of different parts of spraying equipment.</li> <li>4. Operation and maintenance of spraying equipment.</li> <li>5. Use of larvaecidals..</li> <li>6. Use of rodenticides.</li> </ol>	<p>Study on insecticides, pesticides and disinfections.</p> <p>Sterilisation &amp; disinfections of different articles.</p> <p>Various spraying equipments.</p> <p>Uses of rodenticides &amp; larvaecidals.</p>
19	<p><b><u>HOUSING</u></b></p> <p>Survey of housing for assessing sanitary standards and prescriptions of remedial measures.</p>	<p><b>8. <u>HOUSING</u> :</b></p> <p>Requisites of satisfactory and safe housing, sanitary standards for construction of houses and provision of utility services. Assessment of overcrowding.</p>
20 – 21	<p><b><u>FAIRS AND FESTIVALS</u></b></p> <p>Physical survey of fair and planning for organisation of sanitary services.</p>	<p><b>9. <u>SANITATION MEASURES IN FAIRS, FESTIVALS AND NATRUALCALAMITIES –MASS CASULTY DISPOSAL</u> :</b></p>
22 – 25	<p><b><u>OCCUPATIONAL HEALTH</u></b></p> <ol style="list-style-type: none"> <li>1. Demonstration of use of personal protection devices</li> </ol>	<p>Sanitary problems associated with human gatherings and temporary settlements.</p>



	<p>and their maintenance.</p> <ol style="list-style-type: none"> <li>2. Visit to a factory for survey of sanitation problems of the workplace.</li> <li>3. Identification of danger zones and adequacy of safety arrangements.</li> <li>4. Health and sanitation survey of the vicinity of the industrial establishment for identification of health problems emerging from industrial pollution and suggestions for remedial measures.</li> </ol>	<p>Sanitary problems associated with natural calamities, common health problems in unsanitary state of fair, festival, human gathering, planning and anticipatory extra sanitary measures in fairs, festivals and temporary settlements and natural calamities.</p> <p>Alternate emergency sanitary provisions to prevent sanitation crisis for food, housing, water supply, lighting, disposal of community waste and prevention of outbreak of epidemics.</p> <p><b><i>Incorporation of Municipal Rules and Regulation in Sanitation.</i></b></p>
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**C. COMMUNICABLE AND NON-COMMUNICABLE DISEASES  
(PREVENTION AND CONTROL)**

<b>WEEK NO.</b>	<b>PRACTICAL</b>	<b>THEORY</b>
<b>26 – 30</b>	<ol style="list-style-type: none"> <li>1. Conducting health &amp; general survey in a different area and preparation of reports.</li> <li>2. Organising immunisation services.</li> <li>3. Ensuring disinfection of hospital wards, Operation Theatre, Labour Room.</li> <li>4. Participation in various programmes.</li> </ol>	<ol style="list-style-type: none"> <li>1. <u>COMMUNICABLE DISEASES</u> : Introduction, Terminology. Modes of disease transmission, general measures for prevention &amp; control of communicable diseases. Role of Health Worker.</li> <li>2. <u>IMMUNITY &amp; IMMUNISATION</u> : Purpose, types &amp; effects. National Immunisation schedule for prevention of major communicable diseases – BCG, DTP, Polio, Measles &amp; Typhoid Vaccines.</li> <li>3. <u>DISINFECTION &amp; STERILISATION</u>: Effective disinfection by liquid chemical agents like Halogen, Potassium per manganate solution etc. Solid chemical agent – Bleaching powder,</li> </ol>

	<p>5. Conducting programmes on personal hygiene in different areas.</p> <p>6. Arranging First aid treatment in case of emergency.</p>	<p>Lime etc.</p> <p>4. <u>NON-COMMUNICABLE DISEASES</u> :</p> <p>Diagnosis &amp; prevention.</p> <p>5. <u>PERSONAL HYGIENE</u> :</p> <p>Factors influencing health &amp; hygiene.  Health habits &amp; practice.  Maintenance of normal circulation, respiration, digestion etc.  Skin care cleanliness.  Dental care. Care of hands, hand washing.  Exercises-importance.  Food values. Nutrition.</p> <p>6. <u>FIRST AID</u> :</p> <p>Treatment of common ailments.</p>
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**D. HEALTH AND DEATH STATISTICS**

<b>WEEK NO.</b>	<b>PRACTICAL</b>	<b>THEORY</b>
<b>31 – 32</b>	<p><u>HEALTH STATISTICS</u></p> <p>Exercises related to sampling procedure, demography, mean, media and mode, standard deviation, computation of rates and ratio (regarding) fertility, morbidity and mortality), tabulation of data, analysis of data, preparation of groups, charts, and maps and interpretation.</p>	<p><u>HEALTH STATISTICS</u></p> <p>Basic knowledge of statistics, mean, medium, mode, standard deviations.</p> <p>Sampling procedure</p> <p>Tabulation of Data</p> <p>Histogram, Ogive, Pie Chart, Bar chart.</p>
<b>33 – 35</b>	<p><u>PUBLIC HEALTH ACTS</u></p> <p>Collection and despatch of food samples for analysis and preparation of papers for legal proceeding.</p> <p>Performance of simple household tests to identify adulteration in milk, ghee,</p>	<p><u>DEMOGRAPHY AND HEALTH SURVEY</u></p> <p>a. Registration of birth, death and mortality.</p> <p>b. Immunization process</p>

	<p>oil, sugar, tea, etc.</p> <p>Acquaintance with the registration, reporting and documentation process for implementation of different acts.</p>	<p><u>PUBLIC HEALTH ACTS:</u></p> <p>Indian Epidemic Diseases Act.</p> <p>Purification of Air and Water Pollution Acts.</p> <p>Prevention of Food Adulteration act.</p> <p>Birth and Death Registration Act.</p> <p>N T P Act.</p> <p>Suppression of Immoral Traffic Act(SITA) .</p> <p>Municipal and local body Acts related to housing, sanitation etc.</p> <p>Factory Act and Employer’s State Insurance Act.</p>
<p><b>36 – 38</b></p>	<p><u>PUBLIC HEALTH ADMINISTRATION</u></p> <p>Visit to different types of health organization and acquaintance with their system (sub-center) PHC, hospitals, municipality).</p> <p>Study and maintenance of records and reports related to public health practices in different organizations.</p>	<p><u>PUBLIC HEALTH ADMINISTRATION</u></p> <p>Organisation of National Health Care services.</p> <p>System of National Health Care Services Sub-Centre –</p> <ul style="list-style-type: none"> <li>c. Primary Health Care</li> <li>d. Community Health Care</li> <li>e. Specialized Health Institutions</li> </ul>
<p><b>39 – 42</b></p>	<p><u>PRIMARY CARE (First Contact)</u></p> <p>Dressing of wounds, bandaging. –</p> <p>Management of bone injuries with splints, slings.</p>	<p>Operational aspects of National Health Programs –</p> <ul style="list-style-type: none"> <li>f. Family Welfare Program</li> <li>g. Maternity &amp; Child Health Services</li> <li>h. National Malaria</li> </ul>

	<p>Transportation of injured and unconscious cases and their managements.</p> <p>Diagnosis and treatment of minor ailments – diarrhea disorders, gastric problems, pain, cough, fever, skin conditions, conjunctivitis, care of bleeding, toothache.</p> <p>Management of poisoning.</p> <p>Artificial respiration.</p> <p><b>43 – 44</b> <u>PERSONAL HYGIENE</u></p> <p>Inspect school and catering establishments for assessment of personal cleanliness and hygienic practices and ensuring maintenance of desirable standard.</p>	<p>Eradication Program.</p> <ul style="list-style-type: none"> <li>i. National Filaria Control Program</li> <li>j. National Leprosy Program</li> <li>k. Diarrheal Disease Control program</li> <li>l. STD Central Program</li> <li>m. Goiter Control Program</li> <li>n. Blindness Control Program</li> <li>o. Universal Immunization Program</li> </ul> <p><u>BEHAVIOURAL SCIENCE</u></p> <p>Factors influencing human behavior.</p> <p>Change of behavioral pattern in different age groups.</p> <p>Interpersonal relations and defence mechanism.</p> <p>Learning and motivation process in behavior.</p> <p>Special groups &amp; family structure.</p> <p>Social Process and control.</p>
<p><b>45 – 50</b></p>	<p><u>HEALTH EDUCATION</u></p> <p>Practical exercises for designing messages, preparation of audio-visual materials, use of audio-visual aids -</p> <p>Identification of homogenous group, for imparting group health education.</p> <p>Identification of contact person.</p>	<p><u>HEALTH EDUCATION</u></p> <p>Elements of communication system and process.</p> <p>Use of audio visual aids and media.</p> <p>Teaching and Learning process.</p> <p>Planning Health Education activities.</p> <p>Health Education through personal contract, group meetings and indirect</p>

	<p>Leadership for gaining access to the community.</p> <p>Assessment of both desirable and undesirable health practices, and organise health education program to bring about desirable changes.</p> <p>Make personal contact to motivate for the acceptance of health program or healthful practices.</p> <p>Organisation of health education classes in school and industries and other institutions.</p>	<p>approaches.</p> <p>AIDS prevention.</p>
<p><b>51</b></p>	<p><b>Visit to different Hospitals, Municipalities etc.</b></p>	
<p><b>52</b></p>	<p><b>Revision &amp; Test</b></p>	

**LIST OF TOOLS AND EQUIPMENT FOR “HEALTH SANITARY INSPECTOR”**

**(UNIT SIZE - 20)**

**AUDIO-VISUAL AIDS :**

1.	Overhead Projector	-	1 no.
2.	Slide Projector	-	1 no.
3.	P.C.	-	1 no.
4.	V.C.R.	-	1 no.

**MODELS FOR**

1.	Ventilation	-	1 no.
2.	Sewerage system and Treatment Plant	-	1 no.
3.	Water Purification Plant	-	1 no.
4.	Sanitary Latrine	-	1 no.
5.	Waste Disposal unit	-	1 no.

**GENERAL OUTFITS**

1.	Refrigerator	-	1 no.
2.	Autoclave	-	1 no.
3.	Sterilizer	-	1 no.

**HEALTH EDUCATION CHARTS**

Standard charts related to Health and Sanitation – Assorted.

Books/Manuals on Air and Water Pollution Acts, Epidemic diseases Act, Public and Health Acts and Municipal Acts, Factory Acts and State Insurance Act.