



**Important Instructions to examiners:**

- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling errors should not be given more Importance (Not applicable for subject English and Communication Skills).
- 4) While assessing figures, examiner may give credit for principal components indicated in the figure. The figures drawn by candidate and model answer may vary. The examiner may give credit for anyequivalent figure drawn.
- 5) Credits may be given step wise for numerical problems. In some cases, the assumed constant values may vary and there may be some difference in the candidate's answers and model answer.
- 6) In case of some questions credit may be given by judgement on part of examiner of relevant answer based on candidate's understanding.
- 7) For programming language papers, credit may be given to any other program based on equivalent concept.



**MODEL ANSWER**  
**WINTER- 19 EXAMINATION**

Subject Title: HEALTH EDUCATION AND COMMUNITY PHARMACY

Subject Code: **0810**

Q. No.	Sub Q. N.	Answer	Marking Scheme
1		<b>Answer any Eight of the followings:</b>	<b>16M</b> <b>(8X2)</b>
1	a)	<b>Define Health.</b> Health is a state of complete physical, mental and social wellbeing and not only an absence of disease or infirmity.	<b>2M</b>
1	b)	<b>Name the deficiency disease of following nutrients:</b> (i) Vit.C-Scurvy (ii) Iron-Microcytic /Iron deficiency Anaemia (iii) Vit.B <sub>12</sub> -Pernicious anemia, Megaloblastic anemia (iv) Calcium-Osteomalacia , Osteoporosis	<b>2M</b> <b>(0.5 X 4)</b>
1	c)	<b>Write one advantage and disadvantage of terminal method of family planning.</b> <b>Advantages :</b> 1. Failure rate is very less. 2. Available for both sexes. 3. Very highly effective., no side effects 4. Convenient surgical methods. <b>Disadvantages:</b> 1. No reversal is possible as it is permanent method of contraception. 2. Method adoption requires trained surgeon.	<b>2M</b> <b>(1+1)</b>
1	d)	<b>Write scope of first aid.</b> Emergency and immediate treatment given at the spot to the accident victim or a patient of sudden illness till the medical help becomes available. 1. Preserve life 2. Prevent complications and 3. Minimize sufferings	<b>2M</b>
1	e)	<b>Write causes of air pollution.</b> 1. Respiration of human beings and animals. 2. Combustion of coal, gas, oil etc.	<b>2M</b> <b>(0.5 X 4)</b>

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		<p>3. Decomposition of organic matter.</p> <p>4. Traffic, industries - which give off dust, fumes, vapours, harmful gases.</p> <p>5. Industrial and domestic combustion of coal, oil and other fuel is the source of smoke, dust, and sulphur dioxide.</p> <p>6. Chemical industries, textile industries, oil refineries, fertilizer factories etc. contribute to air pollution.</p> <p>7. Automobiles like heavy and light vehicles, aircrafts, trains and other forms of transport.</p>	
<b>1</b>	<b>f)</b>	<p><b>Define Microbiology.</b></p> <p>It is the study of microorganisms with respect to their cytology, physiology, reproduction and useful activities or harms caused.</p> <p><b>OR</b></p> <p>Microbiology is the study of microscopic organisms It is derived from three greek words - mikros ("small"), bios ("life") and logos (science")</p>	<b>2M</b>
<b>1</b>	<b>g)</b>	<p><b>Give long form of following abbreviations:</b></p> <p>(i) AIDS-Acquired Immuno Deficiency Syndrome</p> <p>(ii) BMI-Body Mass Index</p> <p>(iii)DT- Diphtheria &amp; Tetanus</p> <p>(iv)OPV-Oral Polio Vaccine</p>	<b>2M</b> <b>(0.5 X 4)</b>
<b>1</b>	<b>h)</b>	<p><b>Define Stroke.</b></p> <p>A <b>stroke</b> is a medical condition in which rupture of blood vessels or blockade in blood vessels causes poor blood flow to the brain resulting in cell death which may lead to sudden weakness, unconsciousness, paralysis etc</p>	<b>2M</b>
<b>1</b>	<b>i)</b>	<p><b>Differentiate between Natural immunity and Artificial immunity.</b></p> <p>Natural immunity is the immunity which is by birth or developed in body after exposure to the infectious agents.</p> <p>Artificial immunity is developed by the body in response to the use of vaccination.</p>	<b>2M</b>
<b>1</b>	<b>j)</b>	<p><b>Classify Protozoa.</b></p> <ul style="list-style-type: none"><li>• Flagellates, or Mastigophora- e.g. <i>Giardia lamblia</i></li><li>• Amoebae or Sarcodina-e.g. <i>Entamoeba histolytica</i></li></ul>	<b>2M</b>

		<ul style="list-style-type: none"> <li>• Sporozoans, or Sporozoa-e.g. <i>Plasmodium knowlesi</i></li> <li>• Ciliates, or Ciliophora e.g. <i>Balantidium coli</i></li> </ul>	
1	k)	<p><b>Draw well labelled diagram of virus.</b></p> <p style="text-align: center;"><b>OR</b></p>	2M
1	l)	<p><b>Name any one disease transmitted by following :</b></p> <p>(1) <b>Mosquito</b> – Malaria, Dengue fever, yellow fever, chickenguniya etc.</p> <p>(2) <b>Rat</b>- Plague , Tularaemia , Salmonellosis , Lassa fever, Haemorrhagic fever , Scrub typhus , Murine typhus , Amoebiasis , Leishmaniasis , Rat bite fever , Leptospirosis</p>	2M (1+1)
2		<p><b>Answer any FOUR of the following:</b></p>	12M (4X3)
2	a)	<p><b>Explain levels of prevention of disease.</b></p> <p><b>Concept of Prevention of diseases:</b> Prevention of disease is defined as ways/methods to promote and preserve health, restore it when it is impaired and to minimize the sufferings.</p> <p>Prevention can be done at 3 levels:</p> <p>I) <b>Primary prevention:</b> It can be defined as “action taken prior to the onset of</p>	3M (1+1+1)



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		<p>disease, which removes the possibility that a disease will ever occur". This involves:</p> <ol style="list-style-type: none"><li>1) Primordial prevention</li><li>2) Population or mass strategy</li><li>3) High risk strategy</li></ol> <p><b>II) Secondary prevention:</b> It can be defined as the "action which halts the progress of a disease at its incipient stages and prevent complications." This involves early detection and treatment of the disease.</p> <p><b>III) Tertiary prevention:</b> It is taking the steps when disease has already progressed i.e. late pathogenesis phase. It includes measures to reduce or limit impairments and disabilities, minimizes sufferings caused by diseases and to promote the patient's adjustment to untreatable conditions. Rehabilitation is the main mode of intervention.</p>	
2	b)	<p><b>Write sources, functions and deficiency diseases of Iodine.</b></p> <p><b>Sources :</b> Sea food as fishes, sea salt, sea weeds, cod liver oil, milk, meat, vegetables etc.</p> <p><b>Functions-</b> Required for synthesis of Thyroid hormones which helps regulate growth, development, and metabolism.</p> <p><b>Deficiency diseases:</b> Simple goiter (most common), hypothyroidism, cretinism, myxoedema.</p>	<b>3M</b> <b>(1+1+1)</b>
2	c)	<p><b>Define the term Demography. Explain demographic cycle.</b></p> <p><b>Definition:</b> Demography is the scientific study of human population.</p> <p><b>Demographic Cycle :</b> It comprises of following 5 stages –</p> <p><b>i) First Stage:</b> It is "High Stationary Stage ". The feature of this phase is both natality i.e. birth rate and mortality i.e. death rate are very high. Both cancel each other keeping population steady. India was in this phase till 1920.</p>	<b>3M</b> <b>(0.5+2.5)</b>



		<p><b>ii) Second Stage:</b> It is “Early Expanding Stage “. Here mortality starts falling down but birth rate remains same i.e. higher. As a result population starts increasing. At present African and South Asian countries are in this phase.</p> <p><b>iii) Third Stage:</b> It is “Late Expanding Stage “. Her mortality continues to fall but birth rate also started decreasing. But yet birth rate remains higher than death rate. So population continues to increase. China, India, Singapore are at this stage.</p> <p><b>iv) Fourth Stage:</b> It is “Low Stationary Stage “. It is also called Zero Growth stage as birth rate equals death rate and both are lowered. So net population growth is zero. Many developed countries have reached this stage in last 20 years.</p> <p><b>v) Fifth Stage:</b> It is “Negative Growth Stage”. Here death rate is higher than birth rate. So there is decline in population size. Reasons behind are advancement in medical science and facing problems of population increase. Germany and Hungary are presently at this stage.</p>	
2	d)	<p><b>What are burns? Write symptoms and first aid for burns.</b></p> <p><b>Definition:</b> Burns are defined as injuries caused by dry heat such as flame, fire or hot metal; or by chemicals as strong acids or strong bases, or by electricity or radiation.</p> <p><b>Or</b> A type of injury to skin, or other tissues, caused by heat, cold, electricity, chemicals, friction, or radiation is known as burns.</p> <p><b>Symptoms:</b> The symptoms of burns depend on the cause and type of burn. They can include:</p> <ul style="list-style-type: none"><li>• Blisters</li><li>• Pain (The degree of pain is not related to the severity of the burn, as the most serious burns can be painless.)</li><li>• Peeling skin</li></ul>	<b>3M</b> <b>(1+1+1)</b>

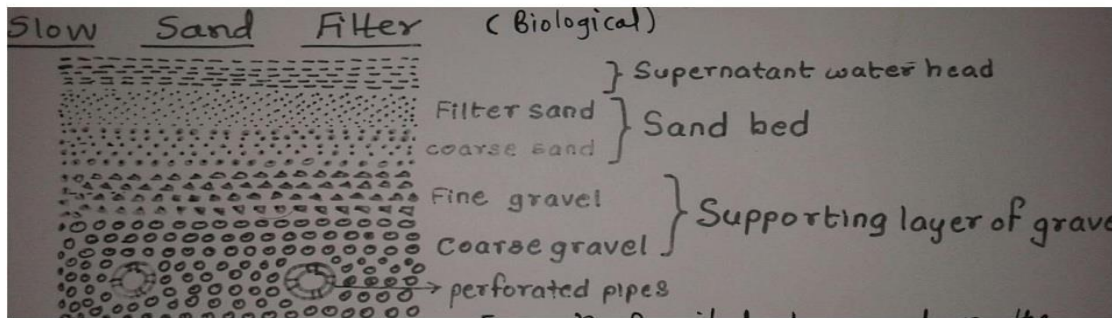


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		<ul style="list-style-type: none"><li>• Red skin</li><li>• Shock (Symptoms of shock may include pale and clammy skin, weakness, bluish lips and fingernails, and a drop in alertness.)</li><li>• Swelling</li><li>• White or charred skin</li></ul> <p><b>First aid for burns:</b></p> <ol style="list-style-type: none"><li>1) Assure casualty of life being saved, casualty if conscious.</li><li>2) Burnt area should be cooled by putting plenty of water or cloth soaked in cold water.</li><li>3) Remove clothing of casualty by cutting around, if possible.</li><li>4) Keep casualty in lie down position.</li><li>5) Do not disturb blisters.</li><li>6) Cover burnt area by large dressings or clean bed sheet.</li><li>7) Antiseptic lotion, ink, oil, flour, baking soda, etc. should not be applied on burnt area. In fact burnt area should not be touched unless it is most necessary.</li><li>8) Ornaments, belt, shoes, etc. should be removed immediately from body of casualty, since if limbs swell, such articles may cause gangrene.</li><li>9) If conscious, give to the casualty frequent sips of water.</li><li>10) In case of chemical affected burns, to wash-off all chemical wash affected area with plenty of water.</li><li>11) If there is delay in hospitalization, normal saline or Ringer lactate solution may be given by IV route. This prevents patient from shock. Suitable analgesic may be given by IV route.</li></ol>	
2	e)	<p><b>Name any two water borne diseases. Write about slow sand filter.</b></p> <p><b>Water borne disease:</b> Amoebiasis, Shigellosis, Cholera, Typhoid, Polio, Hepatitis A, Giardia etc.</p>	3M (1+2)



Schematic representation of the slow sand filter bed

Slow sand filtration is a method which uses supernatant raw water, a bed of graded sand, an under drainage system and filter control valves. Under ideal conditions, the filter reduces bacterial count by 99.9 percent.

The steps of a slow sand filter are as follows:

- 1. Supernatant raw water:** The supernatant water above the sand bed measures in depth 1-1.5 metres. It provides an opportunity for natural purification by oxidation and sedimentation, secondly water is forced by the gravity downwards to facilitate filtration.
- 2. Graded sand bed:** The sand bed is the most important component as this is filtering the water. This consists of sand of different particle sizes and the thickness. The finest sand is on the top and comparatively coarse sand is below that. Water percolates through the beds very slowly and during this is subjected to mechanical straining, sedimentation, adsorption, oxidation and bacterial action. This filter is called as biological filter because the surface of the sand gets covered with slimy growth (vital layer or biological layer), which consists of thread like algae and numerous forms of life including plankton, diatoms and bacteria. This vital layer removes organic matter, holds back bacteria and oxidizes ammoniacal nitrogen into nitrogen and helps in yielding bacteria free water.
- 3. Gravel support:** Below the sand bed is the layer of gravel which supports the sand bed. The upper part consists of fine gravel and in the lower part is coarse gravel.
- 4. Under drainage system:** Just below the coarse gravel there is a network of porous or perforated pipes.
- 5. A system of filter control valves:** All the above components are placed inside a box



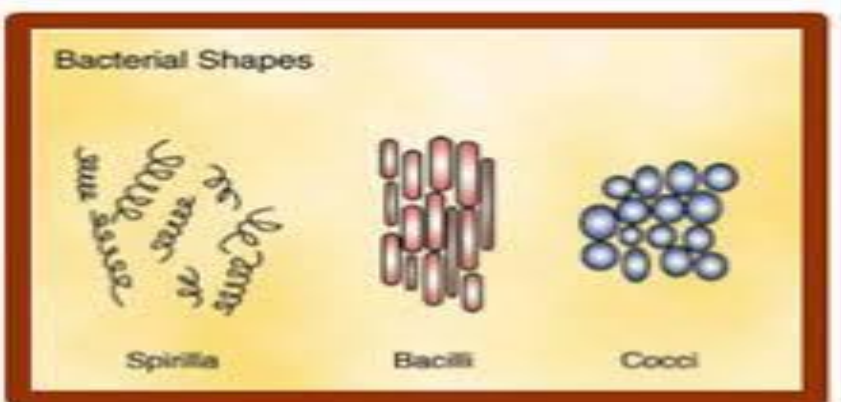


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		called as a filter box. The walls of the box are made of stones, bricks or cement. The whole filtration process is controlled by filter control valves so that filtered water is available at a desirable rate.	
2	f)	<p><b>Classify bacteria depending upon their shape.</b></p> <p>Bacteria depending upon their shape are classified as-</p> <ul style="list-style-type: none"><li>(i) <b>Cocci</b>- Bacteria spherical or round in shape</li><li>(ii) <b>Bacilli</b>- Rod shaped bacteria</li><li>(iii) <b>Spirilla</b> – Rigid spiral or spring shaped bacteria</li><li>(iv) <b>Vibrios</b>- Comma shaped bacteria</li><li>(v) <b>Actinomycetes</b> – Branching filamentous bacteria</li><li>(vi) <b>Mycoplasmas</b> – Round or oval bodies as they lack cell wall. So shape is not fixed.</li></ul> 	3M
3		<b>Answer any FOUR of the following:</b>	12M (4x3)
3	a)	<p><b>Give causes prevention and control of Blindness.</b></p> <p><b>Causes:</b></p> <ul style="list-style-type: none"><li>i) Vitamin A deficiency due to malnutrition and disease like measles can extremely weaken the vision.</li><li>ii) Cataract, glaucoma, trachoma and other eye infections are common causes.</li><li>iii) Congenital disease, tumour of eye, retinal detachment, diabetes, hypertension, and diseases of nervous system.</li><li>iv) Persons working in industries and mines as occupation gets eye injuries often.</li></ul>	3M (1+2)



		<p>v) Use of infected kajal and treatment by quacks can also lead to blindness.</p> <p><b>Prevention and control:</b></p> <p>i) Improving nutrition particularly related to Vitamin A intake.</p> <p>ii) Proper and timely treatment of infectious diseases of eye.</p> <p>iii) Improving safety measures and working conditions at occupation places. iv. Regular eye check-up of children in schools followed by health education helps to prevent blindness.</p>	
3	b)	<p><b>Nosocomial infections. Write prevention and control of Nosocomial infections.</b></p> <p><b>Nosocomial Infections or Hospital Acquired infections:</b></p> <p><b>Hospital acquired or nosocomial infections</b> are the infections acquired by the patients after they have been admitted to the hospital and prior to the hospital admission, the patient do not have the said infection. Common nosocomial infections include infections of urinary tract, respiratory tract, alimentary tracts, wound infections, skin infection, septicaemia etc.</p> <p><b>Control and Prevention:</b></p> <p>To achieve this, a committee needs to be appointed in the hospital and they need to monitor following aspects on regular basis</p> <p>i) Cleanliness in the hospital</p> <p>ii) Proper sterilization of instruments and maintaining aseptic conditions wherever required</p> <p>iii) Controlling overuse of antibiotics</p> <p>iv) Maintaining Health and hygiene of hospital staff</p> <p>v) Avoiding water, food contamination</p> <p>vi) Proper isolation of infectious patients</p>	3M (1+2)
3	c)	<p><b>What is disease agent? Classify them with examples.</b></p> <p>The disease agent is defined as a substance living or non living, or a force tangible or nontangible, the excessive presence or lack of which may initiate or perpetuate a disease process.</p> <p><b>Classification with examples:</b></p>	3M (1+2)



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		<p><b>1. Biological Agents:</b> The living agents like viruses, fungi, bacteria, protozoa, rickettsiae are the biological agents responsible for causation of disease.</p> <p><b>2. Nutrient Agents:</b> These can be proteins, fats, carbohydrates, vitamins, minerals and water. Excess or deficient intake of these leads to nutritional disorders like anemia, obesity, night blindness, beriberi, scurvy, dehydration, and edema. Etc.</p> <p><b>3. Physical Agents:</b> Exposure to excessive heat, cold, humidity, pressure, radiation, electricity, sound results in illness.</p> <p><b>4. Chemical Agents:</b> Certain chemical substances produced in excess by the body because of derangement of metabolic functions lead to diseases. These are the Endogenous agents causing the disease.</p> <p>Eg. Excess of bilirubin leads to Jaundice.</p> <p>a. Excess of uric acid leads to Gout.</p> <p>b. Excess of calcium carbonate forms kidney stones.</p> <p><b>5. Exogenous agents</b> are acquired by the body from the environment by inhalation, ingestion or inoculation; cause various acute or chronic diseases. Various exogenous chemical agents are allergens, metals, fumes, dusts, insecticides etc.</p> <p><b>6. Mechanical Agents:</b> Exposure to frequent or chronic friction and other mechanical forces result in tearing, sprains, dislocation etc.</p> <p><b>7. Social Agents:</b> Poverty, smoking, drug abuse, unhealthy life styles, social isolation and maternal deprivation can act as causative factors for the development of disease.</p>	
3	d)	<p><b>Give source and functions of Vitamin D</b></p> <p><b>Sources:</b> Egg yolks, liver, fatty fish, fortified milk, fortified margarine. When exposed to sunlight, the skin can make vitamin D.</p> <p><b>Functions:</b> Needed for proper absorption of <u>calcium</u>; stored in bones</p>	3M (1.5+1.5)
3	e)	<p><b>What are Intra uterine devices? Classify them.</b></p> <p>Intrauterine devices are the contraceptive devices used by women, being fitted in uterus, which prevent conception either by affecting sperm survival or conditions unfavourable for gametes or making conditions unsuitable for embryo implantation.</p> <p>Intrauterine devices ( IUDs) can be classified as:</p> <p>( a ) Non-medicated IUDs : Loops as Lippes loop</p>	3M (1+2)



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		( b ) Medicated IUDs : i) Metal containing IUDs : Copper- 7, Copper T – 200, T.Cu- 380 A or Ag ii) Hormone containing IUDs : Progestasert	
3	f)	<b>Write a note on ‘cold chain storage of vaccines.’</b> Vaccines are biological products and can lose their potency if not stored appropriately. The vaccines should be stored at low temperature starting from the manufacturer to the point of use. The maintenance of temperature throughout the transportation, storage and up to administration is called the cold chain. The cold chain maintenance is necessary because on exposure to high temperature vaccines lose potency and their life is shortened. Also toxic products may be produced. All the vaccines have different heat sensitivities. Oral polio vaccine is the most sensitive to heat; next in order are measles, BCG, DPT, DT and TT. If polio and measles vaccines are to be stored for a longer period as in the State or district storage centre, it can be kept at a temperature below 0°C or in the freezer compartment of the refrigerator, but it should not be repeatedly frozen and melted. DPT, DT, TT and BCG should not be frozen. No vaccine should be exposed to direct sunlight. Devices used to maintain cold chain: Refrigerators, Walk in coolers, ice bags, thermocol Boxes, freezers etc.	<b>3M</b>
4		<b>Answer any FOUR of the following:</b>	<b>12M</b> <b>(4x3)</b>
4	a)	<b>Define Noise. What are ill effects of Noise pollution?</b> <b>Definition:</b> Noise is defined as wrong sound at wrong place at wrong time. <b>Major ill effects of noise:</b> <b>Auditory Effects:</b> 1. Auditory fatigue, decreased hearing ability 2. Deafness which may be temporary or permanent. <b>Non-auditory effects:</b> 1. Speech interferences due to noise produced by air traffic, industry etc 2. Anger, irritability which is a psychological response.	<b>3M</b> <b>(1+2)</b>



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		<p>3. Lack of mental concentration, decreased efficiency</p> <p>4. Physiological changes like rise in blood pressure heart rate, respiratory rate.</p> <p>5. Headache, Giddiness, nausea, fatigue, insomnia</p>	
4	b)	<p><b>Write a note on Gram staining</b></p> <p>Gram staining: This is widely used differential techniques for bacteria. Technique:</p> <p><b>Procedure:</b></p> <p>i) Smear (thin microbial film) is prepared on clean glass slide.</p> <p>ii) Smear is air dried and fixed by gentle heating.</p> <p>iii) Crystal violet solution is applied on smear as primary stain for about 1 to 2 min.</p> <p>iv) Potassium iodide solution ( grams iodine solution ) is applied on smear for 1 to 2 min</p> <p>v) Slide is gently washed with water.</p> <p>vi) Alcohol (95% soln.) now is applied on smear as decolouriser.</p> <p>vii)The secondary stain as counter stain like eosin or saffranin is applied on smear for 20 to 30 sec.</p> <p>vii) Finally slide is washed with water, air dried and observed under oil-immersion lens of microscope.</p> <p><b>Observation:</b> Gram positive bacterial cells appear violet colour, while Gram negative bacterial cells appear pink colour.</p>	3M (1+2)
4	c)	<p><b>Write about types and risk factors of Diabetes Mellitus</b></p> <p><b>Types of Diabetes mellitus are as follows:</b></p> <p>a) <b>IDDM type 1 i.e.</b> Insulin Dependent Diabetes Mellitus or Juvenile diabetes</p> <p>b)<b>NIDDM type 2 i.e.</b> Non-insulin Dependent Diabetes Mellitus or Maturity onset</p> <p>c) <b>GDM i.e.</b> Gestational Diabetes Mellitus- Diabetes during pregnancy.</p> <p><b>Risk factors of Diabetes mellitus are as follows:</b></p> <p>Some of the risk factors are:</p> <p>1. Pancreatic diseases, defect in the synthesis of insulin or decrease in the number of beta cells.</p> <p>2. Heredity</p> <p>3. Sedentary life style and lack of exercise.</p> <p>4. Diet rich in carbohydrates and fats.</p>	3M (1+2)



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		5. Obesity 6. Infections with viruses like rubella and mumps.	
4	d)	<b>Give disinfection procedure for following:</b> <b>(i) Sputum:</b> a. Sputum is collected in paper cups and disinfected by burning in case when amount is small. b. Sputum in large amount is disinfected by boiling under pressure 20 lbs. For 1 or 1 and ½ hrs and then is buried. c. Readymade paper cups can be given carrying 5% cresol solution to spit sputum into it and after 2 hrs. Contact period and then cups are buried .or disposed by burning. <b>ii) Room:</b> The floors and hard surfaces of the rooms can be disinfected with chemical agents like phenol, formalin bleaching powder etc.,	<b>3M</b> <b>(1.5+1.5)</b>
4	e)	<b>Enumerate different determinants of health. Explain any one</b> <b>Health determinants are:</b> (i) Heredity (ii) Life style, (iii) Environment (iv) Socioeconomic conditions (v) Health and Family welfare services <b>i) Heredity:</b> The genetic makeup of an individual is unique and it cannot be changed. A number of diseases are of genetic origin. eg. Mental retardation, Diabetes. haemophilia <b>(ii)Life style:</b> It is the way people live. It reflects the social values, attitudes and activities of an individual. It is composed of cultural and behavioural patterns and lifelong personal habits like smoking, alcoholism etc. Health requires healthy lifestyles. Many diseases are associated with lifestyles. eg. Obesity, heart diseases,diabetes <b>(iii) Environment:</b> Health of a person depends on the Internal environment and External environment. Internal environment refers to the coordinated, harmonious functions of every component (system) of the body, which is known as homeostasis in the body. External environment refers to all the things in the surrounding of the individual to which he is exposed. Environment has direct impact on the physical, mental and social well-being of those living in it. The environmental factors range from housing, water supply, family structure, stress etc.	<b>3M</b> <b>(1+2)</b>



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		<p>(iv) <b>Socioeconomic conditions:</b> Health status is significantly determined by the socioeconomic levels which are primarily determined by, Economic status, Education, Occupation and Political system.</p> <p>(v) <b>Health and Family welfare services:</b> These services cover a wide spectrum of personal and community services for treatment of disease, prevention of illness and promotion of health. The purpose of health services is to improve the health status of population. eg. (1) Immunization, general screening programmes for infectious diseases. Family planning programmes. (2) Adequate supply of safe drinking water, proper sanitation.</p>	
4	f)	<p><b>Name nutrient causing following disease:</b></p> <p>i) <b>Colour blindness:</b> Colour blindness is a genetic condition caused by a difference in how one or more of the light-sensitive cells found in the retina of the eye respond to certain colors. These cells, called cones, sense wavelengths of light, and enable the retina to distinguish between colors. This difference in sensitivity in one or more cones can make a person color blind. <b>Vitamin A deficiency</b> may also cause colour <b>blindness</b>.</p> <p>ii) <b>Blood clotting disorder:</b> Vitamin K</p> <p>ii) <b>Wilson's disease (Inherited Copper Toxicity):</b> Wilson disease is caused by an excess of copper metabolites.</p>	3M
5		<p><b>Answer any FOUR of the following:</b></p>	12M (4x3)
5	a)	<p><b>Give advantage and disadvantages of condom.</b></p> <p><b>Advantages:</b></p> <ol style="list-style-type: none"><li>1) It is safe, cheap and effective method</li><li>2) It possesses very less side effects.</li><li>3) Condom use does not require medical supervision</li><li>4) It prevents transmission of STDs, including that of HIV infection to the sexual partner.</li></ol> <p><b>Disadvantages:</b></p> <ol style="list-style-type: none"><li>1) It may tear or slip off during sexual intercourse.</li><li>2) It may cause leakage problem leaving semen in vagina</li></ol>	3M (1.5+1.5)



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		3) It may interfere in sexual pleasure during intercourse 4) It is to be used regularly which requires constant motivation.	
5	b)	<b>What is Angina Pectoris? What are risk factors for it?</b> Angina pectoris is chest pain due to an inadequate supply of oxygen to the heart. It is a symptom of coronary artery disease. <b>Risk factors:</b> 1. Tobacco chewing and drinking of alcohol. 2. Diabetes. 3. High blood pressure. 4. High blood cholesterol or triglyceride levels. 5. Lack of exercise. 6. Family history of heart disease. 7. Obesity. 8. Older age.	3M (1+2)
5	c)	<b>What are health hazards due to improper solid waste disposal? Define sewage.</b> <b>Health hazards</b> due to improper solid waste disposal: Improper disposal leads to bad smell and ugly look, it attracts and helps breeding of many insects and rodents, pollution of water, soil and can cause various diseases. Its a public health issue. <b>For example:</b> <ul style="list-style-type: none"><li>• Intestinal infections like Hepatitis, Diarrhoea, Cholera etc.</li><li>• Malaria , leptospirosis</li><li>• Skin diseases</li></ul> <b>Sewage:</b> Sewage is waste water which contains decomposable organic matter and pathogenic microorganisms.	3M (2+1)
5	d)	<b>Write a short note on fungal infection.</b> Fungal Infections are called as Mycoses. 1. Superficial Fungal Infections: these are common infections on skin, nails hair etc E.g.: Ringworm and tinea infections. Causative agents are dermatophytes, candida	3M



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		<p>albicans etc</p> <p>2. Deep seated fungal infections: (Systemic mycoses) these infections vary in severity ranging from asymptomatic infections to fatal diseases. Causative agents are actinomycetes, Histoplasma etc</p> <p>3. Opportunistic fungal infections: These infections occur in patients suffering from diseases such as Cancer, AIDS etc.</p> <p>4. Cleanliness and hygienic habits are important to avoid fungal infections</p> <p>5. Antifungal agents used commonly are griseofulvin, clotrimazole etc</p>	
5	e)	<p><b>Write symptoms &amp; prevention of Hypertension</b></p> <p><b>Symptoms:</b></p> <ol style="list-style-type: none"><li>1. Severe headache</li><li>2. Fatigue or confusion</li><li>3. Vision problems</li><li>4. Chest pain</li><li>5. Difficulty breathing</li><li>6. Irregular heartbeat</li><li>7. Blood in the urine</li><li>8. Pounding in your chest, neck, or ears</li></ol> <p><b>Prevention and control:</b></p> <ol style="list-style-type: none"><li>1. Reduction in consumption of salt, saturated fats in the diet (Balanced diet).</li><li>2. Reduction of weight and taking regular exercise.</li><li>3. Avoid smoking and alcohol.</li><li>4. Avoid stress and strain in life. Meditate and do yogas.</li><li>5. Detected cases of hypertension can be treated with various antihypertensive drugs.</li></ol>	3M (1.5+1.5)
5	f)	<p><b>Write note on National Immunization Schedule</b></p> <p>Each country has its own immunization schedule based on their local needs. The Indian version of National Immunization Schedule to protect the children against six vaccine-preventable diseases -Diphtheria, Whooping Cough, Tetanus, Polio, Tuberculosis, Measles.</p>	3M (1+2)



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		Beneficiaries	Age	Vaccine	No. of doses and route of administration.	
		Infants	6 weeks to	DPT	3 intramuscular	
			9 months	Polio (OPV) BCG	3 oral 1 intradermal	
			9 to 12 months	Measles	subcutaneous	
		Children	16 to 24 months	DPT (I booster) Polio (I booster)	1 intramuscular 1 oral	
			5-6 years	DT (II booster) Typhoid	1 intramuscular, (Two doses if not immunized previously) 2 subcutaneous.	
			10 years	Tetanus toxoid Typhoid	1 intramuscular 1 subcutaneous	
			16 years	Tetanus toxoid Typhoid	1 Intramuscular 1 subcutaneous.	
		Pregnant women	16 to 36 weeks of pregnancy	Tetanus toxoid	2 intramuscular.	
<b>6</b>		<b>Write Causative agent, mode of transmission and symptoms of following:</b> <b>(Any FOUR)</b>				<b>16M</b> <b>(4x4)</b>
<b>6</b>	<b>a)</b>	<b>Leprosy</b> <b>Causative agent:</b> Bacteria Mycobacterium leprae. <b>Mode of Transmission:</b> 1. Leprosy is mainly transmitted by direct or indirect contact of an infected patient. 2. Sometimes it is transmitted by droplet infection through nasal and oral secretion of				<b>4M</b> <b>(1+1.5+1.5)</b>

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		the patient. 3. Through breast milk of lepromatous mother , <b>Symptoms:</b> Skin patches (lesions), partial or total loss of cutaneous sensation in the affected area, thickening of nerve, deformities of toes, fingers ,nose etc, cough and fever.	
6	b)	<b>Hepatitis-A</b> <b>Causative agent:</b> It is also known as infectious hepatitis. It is caused by hepatitis A virus. <b>Mode of Transmission:</b> 1. Faeco-oralroute is the major route of transmission, 2. Contaminated food, water, milk. <b>Symptoms:</b> Fever, chills, headache, weakness and jaundice.	4M (1+1.5+1.5)
6	c)	<b>Rabies</b> <b>Causative Agent :</b> Lyssa virus type 1(Family Rhabdoviridae) <b>Modes of Transmission :</b> 1. Bite of rabied dog or cat, as saliva of such animals carry the virus. 2. Transmission by droplet of patient or carrier, saliva of affected animal or human carries virus in large number. Licks on abraded skin or mucosa can transmit disease. <b>Symptoms :</b> These include headache, malaise, sore throat, slight fever, pain and tingling at the bite site, hydrophobia, intolerance to bright light, noise, aerophobia.	4M (1+1.5+1.5)
6	d)	<b>Filariasis</b> <b>Causative agent:</b> Infection with filarial parasites- W. Bancrofti, B. Malayi, <b>Mode of Transmission:</b> By bite of infected mosquito	4M (1+1.5+1.5)



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		<b>Symptoms:</b> Lymphangitis, elephantiasis of scrotum, legs and arms, pulmonary eosinophilia, filarial arthritis.	
6	e)	<b>Hookworm infection</b> <b>Causative agent:</b> Ancylostoma duodenale or Necator americanus. <b>Mode of Transmission:</b> 1. When a person walks bare foot on the contaminated soil, the infective larvae penetrate the skin and the body of a healthy person. From skin it enters the blood stream and then into the lungs. From lungs it ascends to trachea and then pharynx. 2. From pharynx they are swallowed and get entry into the stomach and finally reach the small intestine. Here these larvae develop into sexually mature form and start laying eggs in about six weeks which appear in faeces. The adult worms attach themselves to the mucus membrane of the intestine. <b>Symptoms:</b> Symptoms start with itchiness and a small rash followed by diarrhea with other symptoms like abdominal pain, colic, or cramping and excessive crying in infants, intestinal cramps, nausea, a fever, blood in your stool, a loss of appetite, itchy rash.	4M (1+1.5+1.5)
6	f)	<b>Chicken pox</b> <b>Causative agent:</b> Varicella Zoster Virus <b>Mode of Transmission:</b> 1. Droplet infection 2. discharge from the ruptured lesion of the skin <b>Symptoms-</b> Fever, Appearance of rash on trunk, face, limbs, pustular (filled with pus) lesions	4M (1+1.5+1.5)