



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: **0810**

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.



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

Q. No.	Sub Q. N.	Answer	Marking Scheme
Q.1		Answer any EIGHT of the following	16M (8x2)
1	a)	Define the following: (1)Indicators of Health Health indicators are the factors which give information and are required to access the health of Community. (2)Epidemiology: Epidemiology is the study of the distribution and determinants of health related events and diseases in the population and also the application of knowledge to control health problems.	2M (1M each)
1	b)	Define the term: (1)Fertility Ability to produce child is known as Fertility. (2)Communicable disease: It an illness due to a specific infectious agent or its toxic product capable of being directly or indirectly transmitted from man to man, animal to animal or from environment to man and animal.	2M (1M each)
1	c)	Name the deficiency disease of the following: (1) Ascorbic acid – Scurvy (2) Iron – Anaemia (3) Niacin – Pellagra (4) Vitamin D – Rickets, Osteomalacia	2M (0.5M each)
1	d)	Name one disease caused by following arthropod: (1) Mosquito – Malaria, Dengue fever, yellow fever, chickenguniyaetc. (2) Sandfly – Sandfly fever, kalaazar, oriental fever etc.	2M (1M each)



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

1	e)	Give full form of the following: (1) DPT : Diphtheria Pertussis Tetanus (2) CVS : Cardio Vascular System (3) ORS: Oral Rehydration Salts/Solution (4) BBT: Basal Body Temperature	2M (0.5M each)
1	f)	Name the causative agent for the following: (1) Chicken Pox : <i>Varicella zoster</i> (2) Tuberculosis : <i>Mycobacterium tuberculosis</i> (3) Whooping Cough : <i>Bordetella pertussis</i> (4) Syphilis : <i>Treponemapalladium</i>	2M (0.5M each)
1	g)	Name the characteristic of an ideal health indicator. The characteristics of an ideal health indicator are:(Any 4 of the following) 1. Validity 2. Reliability 3. Sensitivity 4. Specificity 5. Feasibility 6. Relevance	2M
1	h)	Define (1) Immunity : Immunity is defined as any means of host defences to prevent entry of the germ in body and/or recognize, destroy and eliminate any foreign material so as to protect body against disease. OR The power of the body to resist the effects of invasion of pathogens is known as immunity (2) Immunisation:	2M (1M each)



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		It is the action of making a person or animal immune to infection typically by inoculation. OR It is the process of administration of an immunizing agent to develop an immunity in an individual.	
1	i)	Name one example of each: (1) Air borne disease: Chickenpox, Influenza, Measles, Smallpox, Tuberculosis etc. (2) Water borne disease: Amoebiasis, Shigellosis, Cholera, Typhoid, Polio, Hepatitis A, Giardia etc.	2M (1M each)
1	j)	Define the term : Incubation Period: It is a time period between invasion of microorganism in body and appearance of first symptom.	2M
1	k)	Define: (1) Contraceptive – It is a method or a device used to prevent pregnancy. (2) Zoonotic disease – These are the diseases which are transmitted from animals to human beings	2M (1 M each)
1	l)	Explain why “Drink milk after boiling”? i. Boiling milk kill pathogen that causes illness. ii. Milk boils at the temperature at or above the boiling point of water depending upon the fat and sugar content in milk. iii. This boiling temperature kills all bacteria and other micro organisms which are present in milk, this make milk safe to drink.	2M
Q. 2		Attempt any FOUR of the followings	12M (4x3)
2	a)	Define the term antigen and antibody. Classify Immunity. Antigen – These are the substances which stimulate the body to produce antibodies. Antibody- These are the substances produced in the body against the pathogenic	3M (1M each)



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>microorganisms or their toxins.</p> <p>Classification:</p> <pre> graph TD Immunity --> NaturalImmunity[Natural Immunity] Immunity --> AcquiredImmunity[Acquired Immunity] NaturalImmunity --> Age[1)Age] NaturalImmunity --> Race[2)Race] NaturalImmunity --> Species[3)Species] NaturalImmunity --> Individual[4)Individual] AcquiredImmunity --> Active[Active] AcquiredImmunity --> Passive[Passive] Active --> ActiveNatural[Natural] Active --> ActiveArtificial[Artificial] Passive --> PassiveNatural[Natural] Passive --> PassiveArtificial[Artificial] </pre>	
2	b)	<p>Define coronary heart disease. Give causes, prevention, and control of coronary heart disease.</p> <p>Definition: (1Mark)</p> <p>CHD is defined as the Impairment of heart function due to an inadequate blood supply to the heart.</p> <p>Causes:(1Mark for any four of the following causes)</p> <ol style="list-style-type: none"> i. Smoking ii. Hypertension iii. High level of serum cholesterol iv. Diabetes v. Hereditary vi. Lack of physical activity vii. Alcohol consumption viii. Use of oral contraceptive ix. Ethnic factor <p>Prevention and control::(1Mark for any four of the following points)</p> <ol style="list-style-type: none"> i. Reduction of fat intake. 	3M



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<ul style="list-style-type: none">ii. Maintaining cholesterol levels.iii. Increase consumption of vegetable, fruits and whole grains/Balanced dietiv. Reduction in salt intake.v. Avoidance of alcohol and smoking.vi. Increase in physical activity.vii. Regular medication and health check ups	
2	c)	<p>Give the causative agent, transmission and prevention and control of malaria.</p> <p>Causative agent: (1Mark)</p> <p>Malaria is communicable disease caused by a parasitic protozoa belonging to the genus plasmodium.</p> <p>Transmission:(1Mark)</p> <p>It is transmitted through bite of female Anopheles mosquito.</p> <p>Prevention and control: (1Mark for any 4 points)</p> <ol style="list-style-type: none">1. Early diagnosis through examination of blood smears.2. Immediate notification to health authorities.3. Preventing stagnation of water where mosquitoes breeding take place.4. Destruction of mosquitoes by spraying insecticides.5. Prevention of mosquito bite by mosquito repellents or using mosquito nets.6. Treatment with antimalarial.7. Health education about proper drainage and related sanitary measures.	3M
2	d)	<p>Give systematic classification of fungi.</p> <p>Classification of fungi-</p> <p>This classification depends on sexual spore formation of fungi and is divided into –</p> <ol style="list-style-type: none">1. Lower fungi<ul style="list-style-type: none">• Phycomycetes.2. Higher fungi<ul style="list-style-type: none">• Ascomycetes• Basidiomycetes ; and• Fungi imperfecti (Deuteromycetes or Hyphomycetes).	3M



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

2	e)	<p>Classify rodent borne disease. Give control measures of rodents.</p> <p>They are classified as :</p> <p>1.Directly transmitted: E.g.: Leptospirosis,Rat bite fever , Salmonellosis</p> <p>2.Indirectly transmitted: E.g.: Plague, Colorado Tick fever, leishmaniasis</p> <p>Control measures :</p> <ul style="list-style-type: none">i. Environmental sanitation.ii. Food should be stored properly.iii. The building should be made rat proofiv. Trapping of rodents by use of cagesv. Use of rodenticides.	<p>3M</p> <p>(1M)</p> <p>(2M)</p>
2	f)	<p>Define noise. Give ill effects of noise and noise control measures.</p> <p>Definition: (1 Mark)</p> <p>It is defined as unacceptable sound i.e. the sound not pleasant to hear.</p> <p>OR</p> <p>It is defined as wrong sound at wrong place at wrong time.</p> <p>Effects of Noise: (1 Mark)</p> <p>A) Auditory Effects:</p> <ul style="list-style-type: none">i) Whistling and buzzing sounds in ears.iii) Temporary hearing loss which may lead to deafness. <p>B) Non-auditory Effects:</p> <ul style="list-style-type: none">i) Difficulty in concentrationii) Feeling of fatigue.iii) Annoyanceiv) Decreased efficiencyvi) Physiological changes as – Headache, hypertension, increased heart rate, sweating, nausea, giddiness, sleep disturbances etc. <p>Noise control measures: (1 Mark)</p>	<p>3M</p> <p>(1M</p> <p>each)</p>



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>a) Control of noise at source: It can be achieved by segregating noisy machines and, by using mufflers or other noise reducers to machines.</p> <p>b) Control of transmission: This can be achieved by building enclosures and covering walls with sound absorbing material.</p> <p>c) Protection of exposed persons: It is recommended for all workers who are consistently exposed to noise louder than 85 dB in the frequency band above 150 HZ. Periodical audiogram checkups, use of ear plugs, ear muffs is also essential.</p> <p>d) Education: Education of people through available media is required to highlight the importance of noise as a community hazards.</p>	
Q. 3		Attempt any FOUR of the followings	12M (4x3)
3	a)	Define splint. Explain types of splint. Definition: A splint is a device used for support or immobilization of a limb or the spine. Or Splint is defined as a strip of rigid material used for supporting and immobilizing a broken bone. Types of Splints: 1. Hard Splints: It is used for extremity injuries. These are hard texture and provide maximum support. Hard splints are made up of cardboard box, paddedboard, fiberglass or plaster. 2.Soft Splints: These are soft in nature and allow movement of part or area where it used. The simplest form of splinting is soft splinting, which can be provided with the use of a pillow or blankets which are held in place with tape or ties. 3.Air or Vacuum Splint: These are used for treating orthopedic injuries. Air or vacuum splints fit well to the injured extremity. 4.Traction Splints:	3M (1M) (2M)



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		These are used to support a broken bone such as femur or mid-shaft lower leg.	
3	b)	<p>Define burns & scalds. How to treat chemical burns?</p> <p>Definition:</p> <p>Burns:</p> <p>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>Or</p> <p>A type of injury to skin, or other tissues, caused by heat, cold, electricity, chemicals, friction, or radiation is known as burns.</p> <p>Scalds:</p> <p>Scalds are defined as a burn or other injury caused by hot liquid or steam.</p> <p>Treatment of first aid of chemical burns:</p> <ol style="list-style-type: none">1. Remove the cause of the burn. Flush the chemical off the skin with cool running water up to removal of chemical from site or for at least 10 minutes. For dry chemicals, brush off any remaining material before flushing. Wear gloves or use a towel or other suitable object, such as a brush. For acidic burns alkaline solutions can be used and for alkaline burns mild acids can be used to neutralise the effect.2. Remove clothing or jewellery that has been contaminated by the chemical.3. Bandage the burn. Cover the burn with a sterile gauze bandage or a clean cloth. Wrap it loosely to avoid putting pressure on burned skin.4. Flush again if needed.5. Transfer victim immediately to the hospital.	3M (1M each)
3	c)	<p>Describe population problem in India.</p> <p>Population Problem of India:</p> <p>India has only 2.4 % of total land area of the world and possesses more than 16. % of total world population. Present population of India is about 125 crores.</p> <p>The population growth causes following consequences on the society.</p> <p>Biological consequences: Young population is growing tremendously. This causes a great pressure on pediatric care, education and health and other such facilities.</p>	3M



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>Economic consequences: Population adversely affects the rate of per capita income. Majority of India's total population lives below poverty line. Poverty is one of the important causative factors in the epidemiology of diseases.</p> <p>Social consequences: More population means less job opportunities, inadequate education facilities, increased illiteracy, inadequate and poor housing facilities, overcrowding which can lead to deterioration in law and order situations.</p> <p>Health consequences: Malnutrition, inadequate medical facilities can cause higher death rates in infants and children. There can be high maternal deaths. Increased population leads to increased industrialization, which finally causes pollution problems.</p>	
3	d)	<p>Explain classification of food & state functions of food.</p> <p>Classification of food:- (Any 2 classes)</p> <p>I) By origin</p> <p>A) Vegetable origin :- Green leafy vegetables, fruits</p> <p>B) Animal origin :- Meat, Milk, fish, eggs.</p> <p>II) Classification by function :-</p> <p>a) Energy giving food :- cereals, dried fruits, sugars, roots, tubers</p> <p>b) Body building food :- milk, meat, fish poultry, eggs</p> <p>c) Protective food: - Green leafy vegetable, fruits, milk, eggs, liver.</p> <p>III) Classification by chemical composition:- Carbohydrates, fats, proteins, vitamins, minerals</p> <p>Functions of food:</p> <ol style="list-style-type: none">1. To provide energy for day to day activities.2. To build new cells and tissues for growth3. For maintenance of body system.4. To prevent and fight infections.5.	<p>3M (2M)</p> <p>(1M)</p>



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

3	e)	<p>Explain Natural history of Disease.</p> <p>Natural history of diseases signifies the way in which the disease evolves over time from the earliest stage to its termination as recovery, disability or death.</p> <p>The various phases of natural history of disease are discussed as below:</p> <p>1. Prepathogenesis:</p> <p>This refers to the period before the onset of the disease. The causative agent has not yet entered the host, but the factors which favour the interaction with the human host already exist in the environment. Interaction of environment, agent and host is necessary to initiate the disease process.</p> <p>2. Pathogenesis Phase:</p> <p>In this phase disease agent is entered in the body of host and sign and symptoms of disease starts appearing</p> <p>Incubation period is the Period from the entry of causative agent into the body to the appearance of first symptom of disease.</p> <p>After incubation period it takes some more time to produce clear cut sign and symptoms this time is pathogenesis period. In this period if proper treatment is not given then it leads to illness, disability and even death.</p> <p>By knowing the natural history of disease one can take firm steps in the prevention and the treatment of the disease.</p>	3M (1.5 Marks) (1.5 Marks)
3	f)	<p>Define balanced diet. Give its composition.</p> <p>Definition:</p> <p>Balanced diet is defined as diet that contains different types of foods in correct proportions so that body demand for amino acids, fats, carbohydrates, minerals, vitamins, other nutrients is sufficed; so that promotion, protection and maintenance of health is done.</p> <p>Composition:</p> <p>Balanced diet should contain adequate amount of carbohydrate, proteins, fats, vitamins, minerals, fibers and water.</p>	3M (1 M) (2 M)



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

Q. 4		Answer any Four of the following	12M (3x4)
4	a)	<p>Describe the term Demography. Explain demographic cycle.</p> <p>Definition: Demography is the scientific study of human population.</p> <p>Demographic Cycle : It comprises of following 5 stages –</p> <p>i) First Stage: 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> <p>ii) Second Stage: 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>iii) Third Stage: 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>iv) Fourth Stage: 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>v) Fifth Stage: 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>	3M (1 Mark) (2 Marks)



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>1. Temporary hardness.</p> <p>2. Permanent hardness.</p> <p>Disadvantages of hardness of water:</p> <p>1. It is harmful to the health as in certain cases it may lead to diarrhoea and other disorders.</p> <p>2. Higher quantity of soap and detergents is required.</p> <p>3. It is unsuitable for cooking certain vegetables and meat. They take very long time to cook in hard water.</p> <p>4. It is harmful for industrial purposes and also shortens the life of pipes and fixtures in the industries.</p> <p>Process of removal of hardness:</p> <p>Temporary hardness present in the water can be removed by heating or by treating with lime water:</p>	<p>(1M)</p> <p>(0.5 M)</p>
4	d)	<p>Define staining. Describe techniques of staining.</p> <p>Definition:</p> <p>Staining is defined as imparting colour to the specimen with the purpose of its identification.</p> <p>Or</p> <p>Staining is a artificial coloration of a specimen to facilitate examination of tissues, microorganisms, or other cells under the microscope.</p> <p>Techniques of staining: (Any two staining techniques for 2 Marks)</p> <p>1. Simple staining:</p> <p>2. Differential staining:</p> <p>a) Gram staining</p> <p>b) Acid fast</p> <p>c) ZiehlNeelsen</p> <p>1. Simple staining</p> <p>It is also called as monochrome technique. In this method only one stain is used.</p> <p>Procedure:</p> <ul style="list-style-type: none">Smear is fixed, stain is put, stain is allowed to react for 30 sec to 3 min, wash smear	



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

with stream of cool water, dry and examine under oil immersion lens

- It is used to study morphology, size, shape of microbes

2. Differential staining

a) Gram staining

Grams staining method is a differential staining method for bacteria.

Procedure:

- Smear (thin microbial film) is prepared on clean glass slide. Smear is air dried and fixed by gentle heating.
- Crystal violet solution is applied on smear as primary stain for about 1 to 2 min.
- Potassium iodide solution (Gram's iodine solution) is applied on smear for 1 to 2 min. Slide is gently washed with water.
- Alcohol (95% soln.) now is applied on smear as decoloriser. The secondary stain as counter stain like eosin or saffranin is applied on smear for 20 to 30 sec.
- Finally slide is washed with water, air dried and observed under oil-immersion lens of microscope.

Observation: Gram positive bacterial cells appear violet colored while Gram negative bacterial cells appear pink colored.

b) Acid fast

- This method differentiates bacteria as acid fast or non acid fast
- Dyes used- methylene green, methylene blue
- Acid fast- not decolorized by acid and alcohol
- Non acid fast- loose stain, decolorized by acid and alcohol

c) Ziehl-Neelsen

- The Ziehl-Neelsen stain is a type of differential bacteriological stain used to identify acid-fast organisms, mainly Mycobacteria tuberculosis and M. Leprae
- It is a modification of acid fast staining
- Dye used- Ziehl's carbolfuchsin
- Decolorization is done by 20% sulfuric acid
- methylene blue is used as counter stain
- Acid fast bacteria- appear pink or red.



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<ul style="list-style-type: none">• Non acid fast bacteria appear- blue.	
4	e)	<p>Name respiratory infections. Give causative agent, transmission, control & prevention of any one.</p> <p>Respiratory infections: (1 Mark for any 4 examples)</p> <p>Chicken pox, Measles, Influenza, Diphtheria, Whooping cough and Tuberculosis</p> <p>Causative Agent, Transmission, Control & Prevention of Respiratory infections (Any one) (2 Marks)</p> <p>1. Chicken pox:</p> <p>Causative agent:Varicella Zoster Virus</p> <p>Mode of Transmission:</p> <ol style="list-style-type: none">1. Droplet infection2. discharge from the ruptured lesion of the skin <p>Prevention & Control:</p> <p>Varicella Zoster immunoglobulin (VZ Ig) is given within 72 hrs of exposure</p> <p>2. Measles:</p> <p>Causative agents: RNA paramyxovirus commonly called as Rubeola virus.</p> <p>Mode of transmission:</p> <p>Airborne transmission occurs directly from person to person mainly by droplet infection,</p> <p>Prevention& Control:</p> <ol style="list-style-type: none">1. Use of measles vaccine: A single dose of vaccine is administered subcutaneously in children of 9-12 month age group.2. Isolate the patient as soon as the signs and symptoms appear.3. Disinfect the discharges from nose and throat. <p>3. Influenza:</p> <p>Causative agent:</p>	3M



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

Influenza is an acute respiratory tract infection. It is caused by influenza virus.

Mode of Transmission:

It is by droplet infection or droplet nuclei created by sneezing, coughing or talking. The virus enters through the respiratory tract.

Prevention & Control :

There is no specific treatment for influenza. Bed rest is advised until fever subsides, analgesic - antipyretic like paracetamol 0.5-1gm every 6 hours can be given. Antiviral drugs amantadine, rimantidine can be given for the treatment and prophylaxis of influenza. The currently available influenza virus vaccine - Trivalent can be used for immunization.

4. Diphtheria:

Causative Agent : *Corynebacterium diphtheriae*

Modes of Transmission:

1. Most common spread by droplets released by patient or carrier.
2. Transmission also takes place through bacilli contaminated droplet nuclei.
3. Spread by direct contact with infectious cutaneous lesions.
4. Cups, handkerchiefs, toys, thermometers, etc. contaminated by nasopharyngeal secretion of patient or carrier can also spread this infection.

Prevention & Control :

1. Most effective way is to give DPT vaccine
2. Early detection of disease, followed by complete treatment.
3. Treatment with antibiotics such as Erythromycin
4. The isolation of detected cases prevents effectively the disease spread.

5. Whooping cough:

Causative agent:

It is an infectious disease caused by *Bordetella pertussis* .

Mode of Transmission:

The source of infection is infected patient. The disease spreads by droplet infection &



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

through fomites.

Prevention :

1. Early diagnosis by bacteriological examination of noses & throat secretions.
2. Isolation of contacts & cases.
3. Treatment with erythromycin.
4. Active immunization with pertussis vaccine or DPT vaccine
5. Passive immunization with hyper immunoglobulin.

6. Tuberculosis:

Causative agent: Mycobacterium tuberculosis

Modes of Transmission: Airborne infection transmitted by droplet from sputum of patient through coughing, sneezing and talking of the patient.

Prevention & Control:

1. Early diagnosis
2. Treatment for complete duration
3. Isolation of patient
4. Immunization by BCG vaccine
5. Balanced diet and health education



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>5% of all human cancers.</p> <p>5.Viruses: Many viruses have been found to be responsible for cancers.</p> <p>6.Others: Numerous environmental factors such as sunlight, radiation, air and water pollution, pesticides are related to cancer.</p> <p>Prevention and Control of cancer:</p> <p>It is possible to control many of the causative factors of the cancer in the general population as well as in particular occupational groups by following measures:</p> <ol style="list-style-type: none">1. Control of tobacco and alcohol consumption.2. Improvement of personal hygiene.3. Reduction in the exposure to the amount of radiation.4. Protection of workers from industrial carcinogenic chemicals.5. Immunization against hepatitis B virus.6. Testing of food, drugs and cosmetics for their carcinogenic activity.7. Control of air pollution.8. Balanced diet9. Early detection and treatment of precancerous lesions such as warts, chronic gastritis, chronic cervicitis, etc.10. Cancer education to motivate people for early diagnosis and early treatment.11. Treatment facilities should be available to all cancer patients.	<p>(0.5 M)</p>
Q.5		<p>Attempt any FOUR of the followings</p>	<p>12M (4x3)</p>
5	a)	<p>What is Hospital Acquired Infection? Give its types, prevention and control.</p> <p>Hospital Acquired Infection/ Nosocomial Infections:</p> <p>These are also called Hospital Acquired Infections and defined as infection that appears in patient because he/she visited hospital and which is not related with disease or cause for which patient is not admitted to the hospital.</p> <p>Types of Nosocomial Infections: (1 Mark)</p> <p>Surgical wound infections, tetanus, Serum Hepatitis, HIV infection, UTI, certain RTI, etc.</p> <p>Prevention and Control:(1 Mark)</p>	<p>3M (1M)</p>



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<ol style="list-style-type: none">1. Strict sterilization measures during surgery.2. Frequent check-up of hospital staff attending patient for any communicable infection.3. Proper and immediate disinfection of urine, stools and sputum of patient.4. Sanitation actions promptly and regularly taken.5. Disinfection of operation theatre as regular required.6. Disinfecting room after patient is discharged or after death of patient.7. Supply of safe water and food to the patients.	
5	b)	<p>Define diabetes. Give types, causes, prevention and control</p> <p>Definition: Diabetes is a metabolic disorder where there is increase in blood sugar levels due to less or lack of insulin.</p> <p>Types:</p> <ol style="list-style-type: none">a) IDDM type 1 i.e. Insulin Dependent Diabetes Mellitus or Juvenile diabetesb) NIDDM type 2 i.e. Non-insulin Dependent Diabetes Mellitus or Maturity onsetc) GDM i.e. Gastrointestinal Diabetes Mellitus <p>Causes:</p> <ol style="list-style-type: none">1) Pancreatic disease: defect in the synthesis of insulin or decrease in the number of beta cells.2) Heredity3) Sedentary life style: Lack of exercise.4) Diet: Rich in carbohydrate and fats5) Obesity6) Viral infections: This may lead to beta cells destruction.7) Stress <p>Prevention and Control: Though diabetes cannot be cured it can be effectively controlled by adopting following measures:</p> <ol style="list-style-type: none">1) Maintenance of normal body weight by exercise and dietary control.2) Regular check up of urine sugar and blood sugar should be done.	<p>3M</p> <p>(1 M)</p> <p>(0.5 M)</p> <p>(0.5 M)</p> <p>(1 M)</p>



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>3) Personal hygiene including care of feet and skin should be taken care of.</p> <p>4) Treatment with insulin and oral anti diabetic agents like Tolbutamide, Glipizide, Glibenclamide etc.</p> <p>Since NIDDM appears to be linked with sedentary life style, over nutrition, obesity, correction of these may reduce the risk of diabetes and its complications.</p> <p>6) Alcohol should be avoided, as it indirectly increases the risk of diabetes.</p>	
5	c)	<p>Define Food poisoning. Give its types, prevention and control.</p> <p>Definition:(1Mark)</p> <p>Food poisoning is an acute gastroenteritis caused by ingestion of food or drink contaminated either by bacteria or their toxins or inorganic substances or poisons derived from plants or animals. Its symptoms include vomiting, diarrhoea, nausea, giddiness, GI upset etc</p> <p>Types of food poisoning:(1Mark)</p> <p>Two types as</p> <p>a. Nonbacterial food poisoning – It is caused by chemicals as fertilizers or pesticides or by metals such as cadmium or mercury etc.</p> <p>b. Bacterial food poisoning – It is caused by ingestion of live bacteria or their toxins. E.g. Salmonella, Staphylococci, Cl. botulinum , B. cereus.</p> <p>Prevention and Control:(1Mark)</p> <p>1) Food sanitation:</p> <ul style="list-style-type: none">• It includes inspection of meat and food animals to be free from infection.• Food handlers and cooks should maintain personal hygiene. <p>2) Refrigeration of food.</p> <p>3) Surveillance: Periodic inspection of food samples.</p>	3M
5	d)	<p>Define Gram Staining. Write procedure and principle of Gram staining.</p> <p>Definition: (1 Mark)</p> <p>Gram staining is a differential staining procedure and helps to identify different types of bacteria.</p>	3M



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>Principle:(0.5M)</p> <p>Bacteria which retain primary stain and appear violet colour are Gram positive bacteria and which do not retain primary stain and take up secondary stain, appear red coloured under the microscope are called Gram negative.</p> <p>Gram stain is commonly used differential staining technique for bacteria.</p> <p>Procedure:(1.5M)</p> <ol style="list-style-type: none">1. Prepare thin film or smear of a test bacterium on slide in aseptic conditions.2. Heats fix the film by passing through flame 2-3 times. If heat fixation iscontraindicated then dip the film in alcohol for fixation.3. Cover the fixed smear with gentian violet. Stain & allow the stain to act about onemin.4. Cover the whole slide with fresh Gram's Iodine solution & leave it as such for 1min.5. Wash the slide with alcohol or acetone in order to decolorize the slide.6. Wash the slide till no color comes out. This process is very rapid & completes it in2-3 secs.7. Wash slide under running tap water & counter stain it with an aqueous solution offuchsin for 30 secs.8. Wash the slide with tap water, make it dry & examine it under oil immersion lenswithout mounting. <p>Those bacteria which cannot be decolorized with alcohol or acetone and retainviolet color are known as Gram positive bacteria & those which are decolorized byalcohol or acetone and stains red due to fuchsin solution are known as gramnegative bacteria.</p>	
5	e)	<p>Define insecticides. Classify insecticides with examples.</p> <p>Definition:</p> <p>Insecticides are the agents which kill insects.</p> <p>Classification:</p> <p>Natural Insecticides: Neem extract, pyrethrum etc.</p> <p>Synthetic insecticides: Organophosphates like malathion, parathion, DDT etc.</p>	<p>3M</p> <p>(1M)</p> <p>(2M)</p>
5	f)	<p>Define Fracture. Name causes of fracture and types of fracture.</p> <p>Definition: (1M)</p> <p>Breaking or Cracking of the bone is called as Fracture.</p>	<p>3M</p>



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>Causes: (1M)</p> <ul style="list-style-type: none">• Accident• Violence• Old age, fragile bones <p>Types of fractures:(1M)</p> <ol style="list-style-type: none">a) Simple Fracture (Closed Fracture)b) Compound Fracture (Open Fracture)c) Complicated Fractured) Comminuted fracturee) Greenstick fracture.	
Q.6		<p>Answer any FOUR of the following:</p>	<p>16M (4x4)</p>
6	a)	<p>Explain Behavioural and Natural Family Planning Methods.</p> <p>These are the methods which do not use any appliances/medicines.</p> <p>Different Methods:</p> <p>a) Safe Period/Rhythm method:</p> <p>It is based on the premise that coitus should be avoided during the fertile period of the women as determined by calculating time of ovulation.(most fertile period of a woman is from 10th to the 18th day provided cycle is of 28 days) .</p> <p>b)Basal body temperature method:</p> <p>It is based on fact that after ovulation temperature rises by 0.5-0.8 degree F and coitus to be avoided around that time.</p> <p>The temperature to be noted before getting up from the bed in the morning , before any food/tea.</p> <p>c) Cervical mucous method:</p> <p>It is based on recognizing the changes that occur in cervical mucus due to effect of Oestrogen & progesterone at different times of menstrual cycle.</p> <p>d) Symptothermal method:</p> <p>It is based on observations of Basal body temperature + cervical mucus & other manifestation of fertile period such as midcycle pain, spotting/bleeding.</p>	<p>4M</p> <p>(Any 3 Methods: 3 M)</p>



WINTER– 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>e)Withdrawal method/coitus interruptus: Means discharge of semen outside the female genitalia at the end of intercourse.</p> <p>Advantages:(0.5 M)</p> <ol style="list-style-type: none">1. No physical side effects.2. Natural menstruation not affected.3. No financial cost. <p>Disadvantages:(0.5 M)</p> <ol style="list-style-type: none">1. Require training, motivation required.2. Effectiveness less.	
6	b)	<p>Explain Protein Deficiency diseases Protein deficiency is a common health problem in India.It is more common in children due to inadequate diet and infections.</p> <p>Two forms:</p> <p>Kwashiorkor: Signs and symptoms: Edema, mental changes, poor appetite, diarrhoea, diffuse depigmentation of skin and hairs, enlargement of liver,muscle wasting, growth retardation.</p> <p>Marasmus: severe muscle wasting, severe growth retardation, marked wasting of skin and bones, diarrhoea, and modified hair texture</p> <p>Treatment: Adequate diet, treating infections and by promoting health education.</p>	4M (1M) (2M) (1 M)
6	c)	<p>Describe Concept of Prevention of diseases Concept of Prevention of diseases: 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>Concept of prevention of diseases: Prevention can be done at 3 levels:</p> <p>I) Primary prevention: It can be defined as “action taken prior to the onset of disease, which removes thepossibility that a disease will ever occur”.</p>	4M (1 M) (3M) (1 M for each level)



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		<p>This involves:</p> <ol style="list-style-type: none">1) Primordial prevention2) Population or mass strategy3) High risk strategy <p>II) Secondary prevention:</p> <p>It can be defined as the “action which halts the progress of a disease at its incipient stages and prevent complications.”</p> <p>This involves early detection and treatment of the disease.</p> <p>III) Tertiary prevention:</p> <p>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.</p> <p>Rehabilitation is the main mode of intervention.</p>	
6	d)	<p>Give sources and deficiency diseases of Vitamin B1,B2 and B3</p> <p>B1 (Thiamine)</p> <p>Sources :</p> <p>Yeast, liver, peas pulses, nuts, rice, egg and fruits.</p> <p>Deficiency:</p> <p>Beriberi, general fatigue and loss of muscle tone.</p> <p>B2 (Riboflavin)</p> <p>Sources:</p> <p>Egg, liver, milk, kidney, fish, green leafy vegetables, meat.</p> <p>Deficiency:</p> <p>Dermatitis, angular stomatitis, eye lesions, delayed wound healing. Impaired neuromotor function. Increase chances of cataract.</p> <p>B3 (Niacin)</p> <p>Sources:</p> <p>Yeast, fish, pulses, cereals.</p> <p>Deficiency:</p>	4M



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

		Pellagra, dermatitis,dementia, diarrhoea, tongue,inflammation.													
6	e)	<p>Write Disinfection Procedure for :</p> <p>i)Room: The floors and hard surfaces of the rooms can be disinfected with chemical agents like phenol,formalin bleaching powder etc.,</p> <p>ii) SputumDisinfection :</p> <p>a. Sputum is collected in paper cups and disinfected by burning in case when amount is small.</p> <p>b. Sputum in large amount is disinfected by boiling under pressure 20 lbs. For 1 or 1 and ½ hrs and then is buried.</p> <p>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.</p> <p>iii)Faces: Agents suitable for disinfecting urine and faeces are:</p> <table><tr><td>1)Bleaching powder</td><td>50gm/lit</td><td>5%</td></tr><tr><td>2)Crude phenol</td><td>100ml/lit</td><td>10%</td></tr><tr><td>3)Cresol</td><td>50ml/lit</td><td>5%</td></tr><tr><td>4)Formalin</td><td>100ml/lit</td><td>10%</td></tr></table> <p>If the above agents are not available milk of lime can be used. Even a bucket of boiling water added to the feaces, kept covered until cool can be used.</p> <p>iv) Instruments: Instruments should be washed, cleaned with alkaline detergent and then should be sterilised by suitable sterilisation method like hot air over,autoclave etc.</p>	1)Bleaching powder	50gm/lit	5%	2)Crude phenol	100ml/lit	10%	3)Cresol	50ml/lit	5%	4)Formalin	100ml/lit	10%	4M (1 M for each)
1)Bleaching powder	50gm/lit	5%													
2)Crude phenol	100ml/lit	10%													
3)Cresol	50ml/lit	5%													
4)Formalin	100ml/lit	10%													
6	f)	<p>Discuss methods of solid waste disposal.</p> <p>Solid waste is disposed of by using following methods.</p> <p>1. Dumping: Dry refuse is mainly dumped in low lying areas which help not only in disposal but also in reclamation of land. By the action of bacteria, the volume of the refuse decreases considerably in volume and is converted gradually into humus. It is not an ideal method.</p> <p>2. Controlled tipping or sanitary landfill:</p>	(4M) (4M for any 4 methods)												



WINTER- 18 EXAMINATION

Subject Title: Health Education and community Pharmacy

Subject Code: 0810

This is the most satisfactory method of refuse disposal. In this method a trench is dug. The refuse is compactly dumped in these pits and at the end of each working day is covered with earth, when the trench is full, again it is covered with earth and is compacted. In this method the chemical and bacteriological processes decompose the refuse into simple substances with generation of heat.

3. Burning:

Refuse can be disposed off hygienically by burning. Hospital refuse which is particularly dangerous is best disposed of by burning.

4. Composting:

It is a method of combined disposal of refuse and night soil. The basic principle is, when the refuse and night soil (excreta) are dumped in a pit and covered with earth there is anaerobic decomposition. The heat produced during decomposition kills the organisms and ultimately we get compost, which is used as manure.

5. Burial:

It is useful for small scale disposal like camps. In a small trench or pit the refuse is collected and at the end of each day it is covered with 20-30 cm of earth. The contents of the pit may be taken out after 4-6 months and used on the fields.