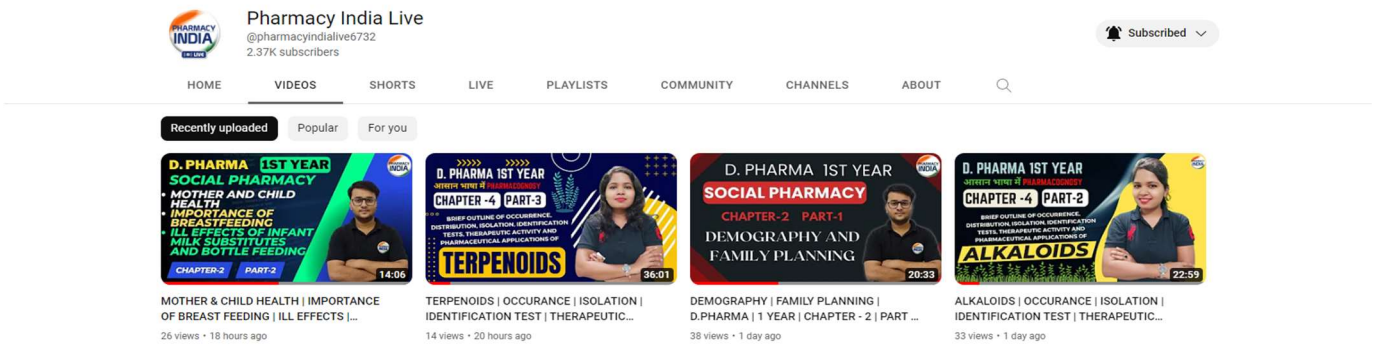
SOCIAL PHARMACY

MODEL PAPER – 1

Syllabus to be covered in this module are-

- ❖Chapter-1 Introduction to Social Pharmacy
- ❖Chapter-2 Preventive Healthcare- Role of Pharmacists in Various Fields



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Questions

Long Questions-

Ques.1 Discuss in detail about health.

Ques.2 Explain in detail about health indicators.

Ques.3 Prepare notes on immunity.

Ques.4 Discuss in detailed about immunological products.

Ques.5 Explain in detailed about psychosocial pharmacy.

Ques.6 Discuss in detailed about mother and child health.

Short Questions

Ques.1 Define social pharmacy. What are the scopes of social pharmacy?

Ques.2 What re the roles of pharmacists in public health?

Ques,3 What is the concept of health?

Ques.4 Write a short note on national health policy.

Ques.5 Enlist the sustainable development goals (SDGs).

Ques.6 Write a short note on preserving health.

Ques.7 Give the indicators of demography.

Ques.8 What are demographic cycle (or population cycle).

Ques.9 Give the types of hormonal contraception.

Ques.10 Write a short note on family planning.

Ques.11 What are the benefits of breast feeding for baby & mother.

Ques.12 What are oral contraceptives. Explain female and male oral contraceptives.

Ques.13 Write a short note on the following-

a. Water Pollution
b. Air Pollution
c. Noise Pollution
d. Pharmaceutical Pollution

Long Answers

Ques.1 Discuss in detail about health.

Ans- Health

The word "health" refers to a state of complete emotional and physical well-being. Healthcare exists to help people maintain this optimal state of health.

In 1948, the **World Health Organization (WHO**) defined health with a phrase that is still used today.

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."-WHO, 1948.

In 1986, the WHO further clarified that health is:

"A resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities."

This means that health is a resource to support an individual's function in wider society. A healthful lifestyle provides the means to lead a full life.

More recently, researchers have defined health as the ability of a body to adapt to new threats and infirmities. They base this on the idea that modern science has dramatically increased awareness of diseases and how they work in the last few decades.

Types

1. Physical Health

In a person who experiences physical health, bodily functions are at peak performance, due not only to a lack of disease, but also to regular exercise, balanced nutrition, and adequate rest. We receive treatment, when necessary, to maintain the balance.

Physical wellbeing involves pursuing a healthful lifestyle to decrease the risk of disease. Maintaining physical fitness, for example, can protect and develop the endurance of a person's breathing and heart function, muscular strength, flexibility, and body composition.

Physical health and well-being also help reduce the risk of an injury or health issue.

Examples include minimizing hazards in the workplace, practising safe sex, practising good hygiene, or avoiding the use of tobacco, alcohol, or illegal drugs.

2. Mental Health

Mental health refers to a person's emotional, social, and psychological wellbeing. Mental health is as important as physical health to a full, active lifestyle.

It is harder to define mental health than physical health, because in many cases, diagnosis depends on the individual's perception of their experience. With improvements in testing, however, some signs of some types of mental illness are now becoming "visible" in CT scans and genetic testing.

Mental health is not only the absence of depression, anxiety, or another disorder. It also depends on the ability to:

- ❖ enjoy life

- bounce back after difficult experiences
- balance
- adapt to adversity
- feel safe and secure
- achieve your potential

Physical and mental health are linked. If chronic illness affects a person's ability to complete their regular tasks, this may lead to depression and stress, for example, due to money problems

A mental illness such as depression or anorexia nervosa can affect body weight and function.

It is important to approach "health", rather than its different types.

3. Social Health

It is defined as the quantity and quality of an individual's interpersonal ties and the extent

of involvement with the community. An example of social health is the amount of interaction a person has with their community. An example of social health for a society is laws and regulations being applied to all citizens equally. An example of social health is public access to the decision making processes.

4. Spiritual Health

Spiritual health is defined as connectedness with self, others, higher power, all life, nature and the universe that transcends and empowers the self.

Component of spiritual health:

- Be quiet
- Be open
- Be inquisitive and curious
- Be receptive to pain and grief
- Be playful

Dimensions of Health

Health is difficult to define but easier to understand. To many of us it may mean absence of disease or infirmity and to many it may mean sound body and sound mind and sound function of the body.

(i) For anatomist: Healthy body means it should confirm to normal anatomical structures. (ii) For physiologist: Health means normal body functions.

(iii) For biochemist: It means normal biochemical levels/values

(iv) For pathologist: It means normal cellular make up.

(v) For geneticist: It means correct existence of genetic potential.

(vi) For clinician: It means no abnormality in structure and function of the body. When a clinician fails to detect anything abnormal by his clinical wisdom and laboratory tests he labels a person no abnormality detected (NAD).

(vii) For psychiatrist: It means well-adjusted and a balanced personality.

Environmental factors play a role. Sometimes the environment alone is enough to impact health. Other times, an environmental trigger can cause illness in a person who is genetically susceptible

Access to healthcare plays a role, but the WHO suggests that the following factors may have a bigger impact on health than this:

- where a person lives
- the state of the surrounding environment
- genetics
- income
- education level
- relationships with friends and family

Ques.2 Explain in detail about health indicators.

Ans- Health Indicators

A health indicator is a measure designed to summarize information about a given priority topic in population health or health system performance.

Health indicators provide comparable and actionable information across different geographic, organizational or administrative boundaries and can track progress over time.

Health indicator is a variable, susceptible to direct measurement, that reflects the state of health of persons or community.

Indicators also help to measure the extent to which the objectives and targets of a programme are being attained.

Health status indicators measure different aspects of the health of a population. e.g. life expectancy, infant mortality, disability or chronic disease rates.

Uses of Indicators of Health

(i) Measurement of the health of the community

(ii) Description of the health of the community.

(iii) Comparison of the health of different communities.

(iv) Evaluation of health services.

(v) Planning and allocation of health resources.

(vi) Measurement of health successes.

The health indicators are as follows:

1. Mortality Indicator or Death rate indicator

2. Morbidity indicator or Disease indicator

3. Health care indicator

1. Mortality (or death rate) indicator

Mortality rate of children of any country is the direct indicator for gauging the state of progress and development of a country.

A low mortality rate of children in a country indicates that the country is developed one. But on the other hand, a high mortality rate of children shows that the country is undeveloped or underdeveloped (poorly developed).

The various measures of mortality published under SRS are:

- Crude death rate (CDR),
- Under 5 mortality rate (U5MR)
- Infant mortality rate (IMR) and its components,
- Age specific Mortality rates (ASMR),
- Still birth rate (SBR) and
- Peri-Natal Mortality rate (PMR).

Infant Mortality rate (IMR) is calculated as follows:

$$\text{IMR} = \frac{nimber\ of\ deaths\ registered\ of\ children\ below\ one\ year\ of\ age\ in\ an\ area}{number\ of\ love\ births\ registerd\ during\ the\ year\ in\ the\ area} \text{ x1000}$$

eg.. Suppose, live birth of children in a country in one year=50,000

Number of deaths in one year = 10,000

Then,

$$\text{IMR} = \frac{10{,}000}{50{,}000} \text{ x1000=200 or IMR=200 per one thousand 50,000}$$

Crude Death Rate (CDR) is also a significant indicator of health. If CDR is high, it shows poor health states of the community. CDR can be calculated as follows:

$$\text{CDR} = \frac{\text{Number of deaths in a year}}{\text{Mean population during the year}} \text{ x1000}$$

Life expectancy is the age up to which male or female will live. It is also an indicator of health status of a community. A low value of life expectancy indicates a low level of health status and a high value indicates high level of health status.

The value for mortality rate under 5 (Per 1000 live births) in India was 43.0 as of 2016.

2. Morbidity indicator or (Disease indicator)

The morbidity rate is the frequency or proportion with which a disease appears in a population.

Morbidity rate is the percentage of people who have complications from a medical condition or after a procedure or treatment. Annual data for morbidity rate give the incidence of the disease, which is the number of new cases reported in the year.

The morbidity indicators are used to describe the ill health of those who are actually suffering from disease.

3. Health care indicators

Health care indicators are determined from:

- Doctor-population ratio,
- Doctor-nurse ratio,
- Population-health care ratio,

- Population-bed ratio

The health indicator status does not depend only on the availability of health care services but depends on the extent to which these services are utilized by the population.

Ques.3 Prepare notes on immunity.

Ans- IMMUNITY

- Immunity is the state of being immune from or insusceptible to a disease or the like. It is the protection against infectious disease conferred by the immune response.
- It includes the body's capacity to distinguish foreign material from self and to neutralize, eliminate, or metabolize that which is foreign.
- When a foreign substance enters the body, complex chemical and mechanical activities are set in motion. The body's cells and tissues are defended and protected by these processes.
- The foreign substances are usually a protein, and called as antigen. The most common response to the antigen is the production of antibody, (a protein synthesized by immune system).
- The antigen-antibody reaction is an important component of the overall immune system.
- Immunity is the balanced state of the body where in the body has adequate biological defences to fight infection, disease, or unwanted biological invasion. It is also a state where the body has adequate tolerance to avoid allergy and auto immune diseases.

Types of Immunity

1. Innate immunity

2. Adaptive immunity

3. Passive Immunity

1. *Innate immunity*: Innate immunity refers to non-specific defence mechanisms that come into play immediately or within hours of an antigen's appearance in the body. These mechanisms include physical barriers such as skin, chemicals in the blood, and immune system cells that attack foreign cells in the body. The innate immune response is activated by chemical properties of the antigen.

2. *Adaptive immunity*: It refers to antigen-specific immune response. The adaptive immune response is more complex than the innate. The antigen first must be processed and recognized. Once an antigen has been recognized, the adaptive immune system creates an army of immune cells specifically designed to attack that antigen. It also includes a 'memory' that makes future responses against a specific antigen more efficient,

3. ***Passive Immunity (borrowed immunity):*** It is obtained from another source and lasts for a short time. e.g., Antibodies in a mother's breast will provide an infant with temporary immunity to diseases. It can help protect the infant against infection during infancy.

Immunity System

It helps the body to protect from infection. When body is invaded by viruses, bacteria, fungus, or parasite, it undergoes a process of fighting the infection and then healing itself.

The immune system is primarily a defensive system which protects the individual against a variety of foreign substances including micro-organisms, transplanted cells, and irritants. The mechanisms involved are relevant to a wide variety of clinical situations, including:

- immunity against infectious disease,
- the rejection of transplanted organs, compatibility of blood for transfusion,
- allergic disorders,
- autoimmune diseases and malignant conditions.

The *immune system* is divided into:

(i) non-specific mechanisms, which are aimed at foreign agents in general, and involve the phagocytic activity of certain leukocytes.

(ii **Specific defence mechanisms**) aimed at particular pathogens or toxic agents.

These mechanisms work most efficiently when the body has previously meet the foreign substance. It is said that the mechanisms are acquired following exposure, and that the substance is in some way remembered. This is known as the specific or acquired immune system. This specific immune system is subdivided into cellular and humoral components.

Similarities Between Specific and Non-specific immune responses

- Both specific and non-specific immune responses are the two types of immune responses of the immune system.
- Both protect the body against pathogens.
- White blood cells (WBCs) are involved in both

specific and non-specific immune

Mechanisms

The protective cells can kill bacteria and other foreign bodies by many ways. The two mechanisms for killing bacteria are as:

1. Oxygen-Dependent Mechanisms

2. Oxygen-Independent Mechanisms

1. Oxygen-Dependent Mechanisms

- Basically, it results from the respiratory burst associated with the act of phagocytosis. It results in the release of two chemicals H, O, (hydrogen peroxide) and HOCI (hypochlorous acid).
- These are two very powerful chemicals that can break down the protective wall of bacteria and other micro-organisms.
- Of clinical importance in "chronic granulomatous disease of childhood" condition in which the enzymes required to produce these enzymes are missing. As a result, neutrophils can ingest bacteria but cannot break them down.

2. Oxygen-Independent Mechanisms

(1) Lysozyme: An enzyme that attacks cell wall of some bacteria (especially Gram +ve). Negative bacteria is lacking in people with Down's Syndrome and hence accounts for their susceptibility to certain infections.

(ii) Lactoferrin: A chemical which binds onto iron thus inhibiting cell growth especially

(iii) Major Basic Protein (MBP): A cationic protein is found in eosinophils principally active bacteria. against parasitic infections such as roundworms, liver flukes etc.

(iv) Bactericidal Permeability Increasing Protein: This increases permeability of cell membrane of many micro-organisms making them more vulnerable to attack from other agents of the immune system.

In addition to this, white blood cells (WBCs) produce a lower pH (more acidic) environment which adds to the anti-bacterial properties. Unfortunately, these mechanisms are not 100% successful.

Note: The Mycobacterium species that cause leprosy and tuberculosis can live inside phagocytic cells (such as neutrophils). They are thus protected against drugs and the specific defence mechanisms.

Immunisation

Immunisation is the process whereby a person is made immune (or resistant) to an infectious disease, typically by the administration of a vaccine.

Vaccine stimulates the body's own immune systems to protect the person against subsequent disease (or infection).

Immunisation is a proven tool for controlling and eliminating life threatening infectious diseases. It is estimated to avert between 2 to 3 million deaths each year. It is one of the most cost-effective health investments.

Immunisation is of two types:

1. Primary Immunisation 2. Secondary Immunisation

1. Primary Immunisation

Routine immunisation is a basic service under primary health care, which constitutes primary immunization. It encompasses provision of Bacillus Calmette-Guerin (BCG) and Zero oral Polio Vaccine (OPV) at birth, three doses of OPV/diphtheria; pertussis and tetanus (DPT)/hepatitis B virus (HBV) and measles vaccine before one year.

2. Secondary Immunisation

An immunisation following a primary immunization and involving exposure to the same or a closely related antigen.

Hazards of Immunization

No immune response is entirely free from the risk of adverse reactions or remote adverse reactions that may occur may be grouped as follows:

1. Reactions inherent to inoculation
2. Reactions due to faulty techniques
3. Reactions due to hypersensitivity
4. Neurological involvement
5. Provocative reactions

Ques.4 Discuss in detailed about immunological products.

Ans- Immunological Products

These are as follows:

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1. Vaccine

2. Immunoglobuline

3. Antisera

1. Vaccine

A vaccine is a biological preparation that provides active acquired immunity to a particular disease. A vaccine typically contains an agent that resembles a disease-causing microorganism and is often made from killed forms of the microbes, its toxins, or one of its surface proteins.

Types of Vaccines

(i) Live-attenuated Vaccines

(ii) Inactivated Vaccines

(iii) Subunit, recombinant, Polysaccharide and conjugate vaccine.

(iv) Toxoid Vaccine

(i) Live-attenuated Vaccines: Live vaccines use a weakened form of the germ that causes a disease.

They create a strong and long-lasting immune response because these vaccines are so similar to the natural infection. Only 1 or 2 doses of these vaccines can provide a life-time protection against a germ and the disease it causes.

These vaccines are used to protect against: Measles,

- mumps, rubella (MMR combined vaccine)
- Rotavirus
- Small pox
- Chicken pox
- Yellow fever

(ii) Inactivated Vaccines: They use the killed version of germs that cause a disease. They usually do not provide protection that is as strong as live vaccines.

Several doses of these vaccines are required to get long term immunity against diseases.

These vaccines are used to protect against:

- Hepatitis A
- Flu (Shot only)
- Polio (Shot only)
- Rabies

(iii) Subunit, recombinant, Polysaccaride and conjugate vaccine: These vaccines use specific part of the germ-like its protein, sugar, or capsid (a casing around the germ).

They provide a very strong immune response that is targeted to key parts of the germ.

Limitation: Booster shots is required to get ongoing protection against diseases. These vaccines are used to protect against:

- Hepatitis B

- Hib disease
- HPV (Human Papillomavirus)
- Whooping cough
- Meningococcal disease
- Shingles

(iv) Toxoid Vaccines: They use a toxin (harmful product) made by the germ that causes a disease. They create immunity to the parts of the germ that cause a disease instead the germ itself.

These also require a booster shot to get ongoing protection against disease.

These are used to protect against:

- Diphtheria
- Tetanus

Ques.5 Explain in detailed about psychosocial pharmacy.

Ans- PSYCHOSOCIAL PHARMACY

Drugs of Misuse and Abuse

Drug misuse is generally associated with prescription medicines

- Prescription medicines are meant to be taken as directed by doctors.
- Drug misuse happens when these substances are taken for a purpose that is not consistent with legal or medical guidelines (or use of medication without a prescription)

Examples

- Taking the incorrect dose
- Taking the drug at the wrong time
- Forgetting to take a doze
- Taking a drug without prescription
- Taking a larger dose than prescribed

Drug Abuse happens when drugs, including alcohol, illicit drugs, or any psychoactive substances, are misused to get high or inflict self-harm. It is also known as substance use disorder. (SUD) since people use abuse drugs experience significantly altered thinking, behaviour, and body functions.

Drug Addiction: It is also known as severe substance use disorder (SUD) is a brain disorder that manifests as the uncontrollable use of a substance despite its consequences.

People with drug addiction have a physical and/or Psychological need to take a substance because they suffer intense or debilitating withdrawal symptoms when they go without that substance.

Causes

Environment and Biological factors (Genetics) are the two causes of drugs misuse and abuse.

Biological factors that can affect a person's risk of addiction include their genes, stage of development, and even gender or ethnicity. Environmental factors are those related to family, school, and neighbourhood.

Signs and Symptoms of Drug Addiction

These may include physical or behavioural symptoms or sometimes both

- Some of the most noticeable symptoms of drug use are those that affect certain physiological processes.

Changes in appearance include:

- Bloodshot or glazed eyes
- Dilated or constricted pupils
- Abrupt weight changes
- Changes in Hygiene
- Skin changes
- Problem in sleeping or too much sleeping

Behavioural signs of drug abuse include:

- Increased oppression
- Changes in attitude
- Lethargy
- Dramatic changes in habits
- Involvement in criminal activity
- Depression.

Psychotropics

A Psychotropic describes any drug that affects behaviour, mood, thoughts, or perception. It is an umbrella term for a lot of different drugs, including prescription drugs and commonly misused drugs.

Psychotropics are a broad category of drugs that treat many different conditions. They work by adjusting levels of brain chemicals or neurotransmitters.

Classification: There are five major classes of legal psychotropic medications:

1. Anti-anxiety agents

2. Anti-depressants

3. Anti-Psychotics

4. Mood stabilizers

5. Stimulants

1. Anti-anxiety agents: Anti-anxiety agents, or anxiolytics, can treat different types of anxiety disorder, including social phobia related to public speaking. They can also treat:

- Sleep disorders
- Panic attacks
- Stress

2. Anti-depressants: SSRI antidepressants are mainly used to treat depressive disorder and bipolar disorder.

SNRI antidepressants help in treating depression but work a bit differently than SSRIs.

3. Typical anti-psychotics: These drugs treat symptoms associated with schizophrenia.

Atypical anti-psychotics: These are next generation of medications used to treat schizophrenia.

4. Mood Stabilizers: These drugs are used to treat depression and other mood disorders, like bipolar disorder.

5. Stimulants: These drugs are used to treat attention deficit hyperactivity disorder (ADHD).

Narcotics

A substance used to treat moderate to severe pain. Narcotics are like opiates such as morphine and codeine, but are not made from opium. They bind to opioid receptors in the central Nervous system. Narcotics are now called opioids.

Examples of narcotics include heroin, morphine, and codeine, all of which are highly addictive.

Prescription narcotics (opioids) are prescribed as analgesics

Narcotic, drug that produces analgesia (pain relief), narcosis (state of stupor or sleep), and addiction (Physical dependence on the drug). In some people narcotics also produce euphoria (a feeling of great elation).

The most effective therapy for narcotics addicts involves the synthetic opiate methadone, which though itself addictive, blocks the addict's craving for heroin and provides no disruptive cuphoric effects on its own.

Medically, Narcotics are some of the most powerful painkillers available, but they are used with great caution because of their addictive properties.

They are often given to patients who are dying from cancer and are in great pain. Narcotics not only relieve pain but also seem to reduce suffering, worry, fear and panic associated with severe pain.

Alcohol

The term alcohol is referred to the primary alcohol (ethyl alcohol) which is used as a drug and is the main alcohol present in alcoholic drinks. Methanol and Ethanol are the simplest members.

Ethanol

- Ethanol is a combustible, toxic compound. It is also known as ethyl alcohol or grain alcohol. alcohol, drinking
- It is found is drinks. It is a colourless, flammable chemical compound that is best known its use is alcoholic beverages.
- The alcoholic content of various beverages is 4-55% by volume. Stronger preparations are for called spirits.
- It is used in medicine as a topical anti-infective and as an antidote for ethylene glycol Or methanol overdose.
- Moderate ethanol consumption reduces stress and increases feelings of happiness and wellbeing, and way reduce the risk of coronary heart disease.
- Heavy consumption of alcohol, however, may cause addiction and increases all types of injury and trauma.

Methyl alcohol

Methanol is added to rectified spirit to make it unfit for consumption. It is only of toxicological importance mixing methylated spirit with alcoholic beverages causes methanol poisoning.

- Methanol may cause birth defects of the central nerves system (CNS) in humans.
- Chronic poisoning from repeated exposure to methanol vapour may produce inflammation of the eye (Conjunctivitis), recurrent headaches, giddiness, insomnia, stomach disturbances, and visual failure.
- Decreased vision may start as early as 12 hours after exposure. Long-term outcomes may include blindness and kidney failure.
- Toxicity and death may occur even after drinking a small amount.

Alcoholism (Alcohol use disorder)

Alcohol use is widely prevalent in Indian society and consequently results in widespread losses in the form of injurious physical health outcomes like cirrhosis of liver, heart disease, diabetes as well as leads to absenteeism, road traffic accidents and various mental health and behavioural problems.

A total of 3.2% of deaths worldwide are caused by alcohol every year

Alcohol use disorder is the continuous use of alcohol despite evidence of harm and repeated attempts to cut down the use.

Withdrawal symptoms

The person gets withdrawal symptoms whenever he doesn't take alcohol. It includes one or more of the following:

- Tremors
- Sleep disturbance
- Mood changes
- Sweating
- Anxiety
- Seizures (fits)
- Disorientation
- Hallucination
- increase in blood pressure
- Intense craving for alcohol

Alcohol Intoxication

Depending open the amount ingested alcohol intoxication can result in

- Euphoria,
- Flushed skin,
- decreased social inhibition at lower dosage to nausea and vomiting.
- Slurred speech.

Impairment of balance, muscle coordination and impaired decision-making ability, severe breathing difficulty to coma and death at progressively higher dosage.

Tobacco Products

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Tobacco is the agricultural product of the leaves of plants in the genus Nicotiana. All species of Nicotiana contain the addictive drug nicotine-a stimulant and sedative contained in all parts of the plants except the seeds.

Tobacco products can generally be divided into two types:

- Smoked tobacco
- Smokeless tobacco

The most prevalent form of tobacco use in India is smokeless tobacco and commonly used products are khaini, gutkha, betel quid with tobacco and zarda.

Smoking forms of tobacco used are bidi, cigarettes and hookah (water pipe)

Heated Tobacco Products (HTPs)

Heated tobacco products (HTPs) are tobacco products that produce an emission containing nicotine and other chemicals, which is then inhaled by users

HTP are re-emerging class of tobacco products marketed as so called potentially, reduced-exposure products, or even as modified-risk tobacco products

HTPs may be safer than traditional cigarettes, but less safe than e-cigarettes.

Some HTP aerosols studied use found to contain levels of nicotine and carcinogens comparable to conventional cigarettes.

E-cigarettes are also called as e-cigs, vapes, e-hookahs, Vape-pens, and electronic nicotine delivery systems (ENDS)

An **E-cigarette** is an electronic device that stimulates tobacco smoking. It consists of an atomizer, a power source such as a battery, and a container such as a cartridge or tank. Instead of smoke, the user inhales vapour.

E-cigarettes are harmful and unsafe even when they do not contain tobacco. Use of ENDS increases the threat of heart and lung diseases, and foetal damage when used by pregnant women.

Abuse and Misuse

Tobacco is one of the most widely abused substances in the world. It is highly addictive. Tobacco products are leading cause of preventable death.

Nicotine is the main addictive chemical in tobacco. It causes a rush of adrenaline when absorbed in the blood stream or inhaled via cigarette smoke.

Like any other drug, use of tobacco over time can cause a physical and psychological addiction

An addiction for nicotine may be present if the person:

- Cannot stop smoking or chewing despite to quit.
- Has withdrawal symptoms when they try to quit (Shaky hands, sweating, irritability or rapid heart rate.)
- Must smoke or chew after every meal.
- Needs tobacco products to feed 'normal' or turns to them during times of stress.
- Gives up activities or would not attend events where smoking or tobacco use is not allowed.
- Continues to smoke despite health problems.

Treatments for tobacco and nicotine addiction

There are many treatments available for tobacco addiction. Some are as follows:

1. The Patch: It is known as a nicotine replacement therapy (NRT)

2. Nicotine gum: It is another form of NRT, nicotine gum can help people who need the oral fixation or smoking or chewing.

3. Spray or inhaler: Nicotine sprays and inhalers can help by giving low doses of nicotine without tobacco.

4. Medications: Sometimes use of medications also helps the tobacco addiction.

Psychological and behavioural treatments

Following methods help the user change their thoughts about addiction.

- Hypnotherapy
- Cognitive-behavioural therapy
- Neuro-linguistic programming
- These methods work to alter feeling or behaviours your brain associates with tobacco use.

Impact of Drug Abuse and Misuse on Social Health and Productivity

Drug abuse and misuse have a wide range of short term and long term, direct and indirect effects.

Short-terms effects

- Changes in appetite
- Heart rate
- Heart attack, stoke
- Wakefulness
- Blood pressure
- Psychosis,
- Overdose and even death.

Long-term effects

- Heart or lung disease
- Cancer
- Mental illness
- Hepatitis
- HIV/AIDS

Long-term drug use can also lead to addiction. Drug addiction is a brain disorder.

Effects of drug abuse among youth and its consequences in society.

- Memory losses
- Poor school attendance
- Difficulty in concentration
- Poor performance is some of the educational consequences in drug abuse.
- Parents must had keep watchful eyes on the movement of their children and their peers.

Negative effects of drug addiction in society

- Increase in domestic disputes
- Increased rates of homelessness and poverty
- Substantial financial health care burden.
- Increased rates of co-occurring mental disorders.

Impact on Productivity

Workplace drug abuse and misuse reduces productivity, and increases absenteeism and employee turnover.

Individuals with higher levels of substance, use tend to experience higher levels of depression. anxiety and stress.

Impacts of Drug Abuse, Misuse, and addiction on suicidal behaviours.

- Suicide is ending one's own life willingly through one's own actions.
- Addiction, depression, and suicide has a close inter connected relationship.
- Depression and drug abuse together form a vicious cycle that often results in suicide.
- Drug abuse severely impacts judgement, leading to suicidal attempts.

Common risk factors for suicidal behaviours are:

- Suicidal thoughts
- Previous suicide attempts
- Depression
- Substance (Drug) abuse
- Family history of suicide
- Family history of sexual above
- Violent behaviour towards other family members
- Presence of firearms in nearby area.

Ques.6 Discuss in detailed about mother and child health.

Ans- MOTHER AND CHILD HEALTH

Maternal health refers to the health of women during pregnancy, childbirth, and the postnatal period.

Each stage should be a positive experience, ensuring women and their babies reach their full potential for health and well-being.

The most common direct cause of maternal injury and death are excessive blood loss, infection, high blood pressure, unsafe abortion, and obstructed labour as well as indirect causes such as anaemia. malaria and heart disease.

Most maternal deaths are preventable with timely management by a skilled health professional working in a supportive environment.

Child Health

Paediatrics is the branch of medicine that involves the medical care of infants, children, adolescents.

Paediatricians are doctors who manage medical conditions affecting infants, children and young people.

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Maternal and Child Health Programme (MCHP)

According to W.H.O. (1976), Maternal and child health services can be defined *as promoting. Preventing, therapeutic or rehabilitation facility or care for the mother and child.*

Thus, maternal and child health services (MCHS) is an important & essential service related to mother & child's overall development.

Components of Maternal and Child Healthcare

1. Family planning and Reproductive health services.
2. Maternal, new born and child health services
3. Health communications
4. Health commodities and supplies, and
5. Health systems strengthening.

Integrated Child Development Services (ICDS) scheme is world's largest community-based programme. The scheme is targeted at children up to the age of 6 years, pregnant and lactating mothers, and women 16-44 years of age. The scheme is aimed to improve health, nutrition, and education of the target community.

Objectives of (MCHP)

- To reduce maternal, perinatal, infant and child mortality and morbidity.
- To promote reproductive health
- To promote overall development of child
- To provide full protection to mother and child
- To provide nutritious food to mother and child
- To monitor the growth of child
- To increase the health level of school going children through school health services and other agencies.

Importance

- By improving well-being of mothers, infants and children, the health of the family and community can be improved.
- Ensuring child survival is a future investment for the family and community.

Breast Feeding

Breast feeding also called nursing, is the process of feeding human breast milk to a child either directly from the breast or by expressing the milk from the breast and bottle feeding it to the infant.

As per WHO

Initiation of breast feeding within the first hour of birth, followed by exclusive breast feeding for up to 2 years or beyond offer a powerful line of defence against all forms of child malnutrition, including wasting and obesity.

Breast feeding also acts as babies 'first vaccine' protecting them against many common childhood illnesses.

Benefits of Breast Feeding for Baby

1. Breast milk provides ideal nutrition for babies.
2. Breast milk contains important antibodies.
3. Breast feeding may reduce disease risk
4. Breast milk promotes baby's healthy weight.
5. Breast feeding may make children smarter.

Breast Feeding Benefits for Mother

1. Helps the mother lose weight
2. Helps the uterus contract
3. Decreases risk for depression
4. Decreases risk for diseases
5. Prevents menstruation
6. Saves time and money.

Ill Effects of Infants Milk Substitutes and Bottle Feeding

Infant milk substitutes are any food being represented as a partial or total substitution for mother's vitamins. milk (for infants). These substitutes used a complex combination of proteins, sugar, fats, and vitamins.

Bottle Feeding. It is an alternative method for breast feeding which is used by mothers/ who cannot breast feed or want to give milk substitutes (formula milk) along with breast milk

Advantages of Bottle Feeding

1. Anyone can feed the baby
2. It can be done in public places,
3. Easly to track on the baby's intake of feed.
4. No changes in mother's diet.
5. Bottle feeding is helpful to babies who have lactose intolerance.
6. Mother health condition has no effect on baby.

Ill Effects of Formula milk

1. Formula milk is less nutritious than breast milk.
2. The antibodies are missing in the formula milk.,
3. Less bonding between mother and child.
4. Formula milk decreases immunity of child.
5. Bottle feeding can be inconvenient.

6. Breast feeding keeps the mother healthy.

7. Bottle feeding is expensive.

8. Preparing the milk for bottle feeding takes time and effort. Cleaning and sterilization of bottles and other accessories is always an issue.

Short Answers

Ques.1 Define social pharmacy. What are the scopes of social pharmacy?

Ans- Social Pharmacy

Social pharmacy is the multidisciplinary field of education and research that focuses on the role provision, regulation, and use of medicines in society.

Social pharmacy combines pharmacy studies with theories and methods from the social, psychological, and humanistic disciplines. It draws on theories of the social and behavioural sciences, and includes health psychology.

Scope of Social Pharmacy in Improving Public Health

1. Social pharmacy is defined as a discipline concerned with the behavioural sciences related to the utilisation of medicine by both patients and healthcare professionals.

2. In addition to behavioural and psychological aspects related to pharmacy, pharmaceutical administration area (such as management and marketing) are also basic components of social pharmacy.

3. The acceptance of innovative patient-oriented roles for pharmacy. (like counselling, home medicine review) focuses on a patient centred role.

4. Incorporation of social pharmacy in education have enabled pharmacists to ensure greater awareness of patient safety and proper use of limited health resources.

Ques.2 What re the roles of pharmacists in public health?

Ans- Role of Pharmacists in Public Health

It is believed that pharmacists can make a greater contribution to primary healthcare in developing countries. Pharmacists have the responsibility to contribute public health efforts by providing

- Population based care
- Disease prevention and control programs.
- Health education.
- By contributing to public policy effects.
- As trusted community health advisors.
- Promote the safe use of medications.
- Improve clinical outcomes.
- Pharmacists can collaborate with state and local authorities
- They can initiate campaigns about new health policies etc.
- They can develop proper guidelines and criteria for formula.
- They educate all healthcare professionals.
- They establish and maintain a well-qualified workforce of pharmacists.

Ques,3 What is the concept of health?

Ans- Concept of Health

SOCIAL PHARMACY

Health is not perceived the same way by all the members of a community, giving rise to confusion about the concept of health.

Health has evolved over the centuries from the concept of individual concern to a worldwide social goal.

The various changing concepts of health are as follows:

1. Biochemical Concept

Traditionally health has been considered as an absence of the diseases and if someone was free from disease, then that person was considered healthy. This concept is based on the 'germ theory of **the disease."**

2. Ecological Concept

Ecologists viewed health as a dynamic equilibrium between man and his environment, and the disease as a maladjustment of the human organism to environment.

3. Psychological Concept

As per this concept, health is not only a biochemical phenomenon, but one which is influenced by social, psychological, cultural, economic and political factors of the people concerned.

Thus health is both a biological and social phenomenon.

4. Holistic Concept

Synthesis of all the above concepts recognizes strength of social, economic, political, and environmental influences on health.

In other words, this approach implies that all the sectors of the society influence health.

Ques.4 Write a short note on national health policy.

Ans- National Health Policy

Health policy can be defined as the decisions, plans, and actions that are undertaken to achieve specific healthcare objectives within a society. They may cover financing and delivery of healthcare, access to care, quality of care and health equity.

National health policy in India

India evolved a National Health Policy in 1983-2002. The policy lay stress on preventive, promotive, public health, and rehabilitation aspects of healthcare. The policy stresses the need of establishing comprehensive primary health care services to reach the population in the remote area of the country.

The first National Health Policy (NHP) in 1983 had as its goal access to primary everyone in India by the year 2000.

National Health Policy (NHP)-2002

Objectives

- Achieving an acceptable standard of good health of Indian Population.
- Decentralizing public health system by upgrading infrastructure in existing institution.
- Ensuring a more equitable access to health services across the social and geographical expanse of India.

- To focus on emphasizing rational use of drugs.
- To cuhance approaches for tried system of traditional medicine.

National Health Policy (NHP)-2017

NHP-2017 seeks to reach everyone in a comprehensive integrated way to move towards wellness. It aims at achieving universal health coverage and delivering quality healthcare services to all at affordable cost.

Objectives

The primary aim of the NHP-2017 is:

- To inform, clarify, streng then and prioritize the role of the Government in shaping health systems in all its dimensions, investment in health, organization of healthcare services, prevention of diseases and promotion of good health through cross sectoral actions.
- To increase public health care investment from 1.4% to 2.5% of GDP.
- To provide comprehensive primary healthcare through Health and Wellness Centres.
- To provide care for major non-communicable diseases.

Principles of NHP-2017

1. Professionalism, integrity, and ethics
2. Equity
3. Affordability
4. Universality
5. Patient centred & Quality of care
6. Accountability
7. Inclusive partnerships
8. Pluralism

Ques.5 Enlist the sustainable development goals (SDGs).

Ans- Sustainable Development Goals (SDGs)

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote agriculture. sustainable
3. Ensure healthy lives and promote wellbeing for all at all ages.
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Achieve gender equality and empower all women and girls. 6. Ensure availability and sustainable management of water and sanitation for all.
7. Ensure access to affordable, reliable, sustainable, and modern energy for all.
8. Promote sustained, inclusive, and sustainable economic growth for all and productive employment and decent work for all.
9. Build resilient infrastructure, promote inclusive and sustainable industrialization faster innovation.

10. Reduce inequality within and among countries.

11. Make cities and human settlements, inclusive, safe, resilient and sustainable.

12. Ensure sustainable consumption and production patterns.

13. Take urgent action to combat climate change and its impacts.

14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.

15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels.

17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Ques.6 Write a short note on preserving health.

Ans- Preserving Health

The best way to maintain health is to preserve it through a healthful, rather than waiting until we are sick to put things right.

This state of enhanced well-being is referred to as **wellness.**

The McKinley Health Centre at the University of Illinois IL defines wellness as:

"A state of optimal well-being that is oriented toward maximizing an individuals' potential. This is a life-long process of moving towards enhancing your physical, intellectual, emotional, social, spiritual, and environmental well-being."

Wellness promotes an active awareness of and participation in health, as an individual and in the community.

Maintaining wellness and optimal health is a lifelong, daily commitment.

Steps that can help us maximize our health include:

- a balanced, nutritious diet
- regular exercising
- screening for diseases that may present a risk
- learning to manage stress
- engaging in activities that provide purpose and connection to others
- maintaining a positive outlook and appreciating what you have
- defining a value system, and putting it into action

Ques.7 Give the indicators of demography.

Ans- Indicators of Demography

(i) Crude birth rate: the annual number of live births per 1000 people.

(ii) General fertility rate: the annual number of live births per 1000 women of child-bearing age (15 to 49 years old).

(iii) Age-specific fertility rates: the annual number of live births per 1000 women in particular age-groups (age 15-19, 20-24 etc.)

(iv) Crude death rate: the annual number of deaths per 1000 people.

(v) Infant mortality rate: the annual number of deaths of children less than 1-year old per 1000 live births.

(vi) Expectation of life: the number of years which an individual at a given age could expect to live at present mortality levels.

(vii) Total fertility rate: the number of live births per woman completing her reproductive life, if her child-bearing at each age reflected current age-specific fertility rates.

(viii) Gross reproduction rate: the number of daughters who would be born to a woman completing her reproductive life at current age-specific fertility rates.

(ix) Net reproductive ratio: it is the expected number of daughters, per new born prospective mother.

Ques.8 What are demographic cycle (or population cycle).

Ans- Demography cycle (or population cycle)

It refers to the evolution overtime of the population profile of a country, region or other defined. geographical area. It consists of five stages:

(i) First stage (High stationary stage)

- A high birth rate and high death rate
- No change in size and population
- Population remains stationary

(ii) Second stage (Early expanding stage)

- The death rate begins to decline (starts decreasing)
- No change in birth rate
- Initial increase in population

(iii) Third stage (Late expanding stage)

- Birth rate starts to decline
- Decline of the death rate
- Population increase (because total births exceed total deaths)

(iv) Fourth stage (Low stationary stage)

- Birth rate is low
- Death rate is low
- Population is stationary

(v) Fifth stage (Declining stage)

- Birth rate is lower than the death rate

- Fall in population

Ques.9 Give the types of hormonal contraception.

Ans- Types of Hormonal Contraception

1. Oral Contraceptives

Combined oral contraceptive pill: known colloquially as "The Pill", is a combined estrogen and progesterone pill which is taken daily at the same time.

2. Progesterone-Only Pill (POP)

Most combined and progesterone-only pills may also be taken in high doses as emergency contraception (also known as the morning after pill). However, unlike plain copper IUDs, hormonal JUS is not approved for emergency contraception.

3. Non-surgical Devices

(i) *Contraceptive patch*: It is an adhesive patch containing hormones which is applied to the skin and worn continuously. It is changed each week for three weeks and removed for one week

(ii) *Contraceptive vaginal ring* ("Nuva Ring"): It is a flexible ring containing oestrogen and progesterone. It is inserted into the vagina and worn for three continuous weeks, removed for one week, then replaced with a new ring.

4. Intrauterine Devices (IUD)

Progesterone Intra Uterine System: (IUS), this device is inserted into the uterus by a healthcare professional, where it continuously releases progesterone and remains in the uterus for a period of year.

5. Surgical Devices

Implants: one or more flexible rods containing progesterone, are implanted under the skin.

6. Ormeloxifene

Ormeloxifene (*Centchroman*) is sometimes mistaken for a hormonal contraceptive, it is not a hormonal contraceptive,

Ormeloxifene is a selective estrogen receptor modulator, or SERM. It causes ovulation to occur sooner than it normally would, while causing the lining of the uterus to build more slowly, which, together, prevent pregnancy.

Ques.10 Write a short note on family planning.

Ans- Family Planning

As per WHO, family planning is defined as the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births,

Family planning services are defined as "educational, comprehensive medical or social activities which enable individuals, to determine freely the number and spacing of their children and to select the means by which this may be achieved."

Family planning is the planning of when to have children and the use of birth control and other techniques to implement such plans.

Need for Family Planning

It is important for the health of mother and her children as well as family's economic condition (since parents are responsible for providing education, shelter, clothing, and food for their children). It has an important impact on the financial condition of any family.

Scope of family planning services

Family planning is not mere birth control and by WHO expert committee it includes:

- The spacing and limitation of births
- Advice on sterility
- Education for Parenthood
- Marriage counselling
- Genetic counselling
- Providing adoption services

Family planning refers to practices that help individuals or couples to attain certain objectives.

- To avoid unwanted births
- To bring about only wanted births
- To regulate the intervals between pregnancies
- To control the time at which births occur in relation to the ages of the parent.
- To determine the number of children in the family.

Ques.11 What are the benefits of breast feeding for baby & mother.

Ans- Benefits of Breast Feeding for Baby

1. Breast milk provides ideal nutrition for babies.
2. Breast milk contains important antibodies.
3. Breast feeding may reduce disease risk
4. Breast milk promotes baby's healthy weight.
5. Breast feeding may make children smarter.

Breast Feeding Benefits for Mother

1. Helps the mother lose weight
2. Helps the uterus contract
3. Decreases risk for depression
4. Decreases risk for diseases
5. Prevents menstruation
6. Saves time and money.

Ques.12 What are oral contraceptives. Explain female and male oral contraceptives.

Ans- Oral contraceptives are medications taken by mouth for the purpose of birth control.

Female

Two types of female oral contraceptive pill are available:

(1) The combined oral contraceptive pill contains oestrogen and a progestogen, and is taken per day.

(ii) The progestogen only pill contains only progestogen, and is also taken once per day.

Side effects are-With no break in the dosage, flow does not initially occur at a predictable time, Most women tend to establish, over a few months, light spotting at approximately regular intervals. May cause mastalgia (breast tenderness) or mood swings. Weight gain is less commonly experienced than on COCP.

- Other types of female oral contraceptive are in experimental stage.
- Mifepristone is an antiprogestogen which has been used as a daily oral contraceptive in investigational clinical trials.
- Ormeloxifene (also known as Centchroman) is a selective oestrogen receptor modulator which is taken one to two times weekly. Ormeloxifene is approved as an oral contraceptive only in India.

Male

Male oral contraceptives are currently not available commercially, although several possibilities are in various stages of research and development.

Advantages

(i) It is 100% effective, if flavor regularly

(1) Does not interfere with sexual pleasure.

Disadvantages

(1) Prior medical examination is necessary.

(ii) Certain side effects are noticed.

The techniques commonly used are as follows:

- Sexuality education
- Prevention and management of sexually transmitted Disease (STD)

Contraception Methods

"Contraception" may refer specifically to mechanisms that are intended to reduce the likelihood of a sperm cell fertilizing the egg. Birth control is commonly used as part of family planning.

Contraception methods are used to avoid unwanted pregnancies resulting from sexual intercourse.

Ques.13 Write a short note on the following-

a. Water Pollution

b. Air Pollution
c. Noise Pollution
d. Pharmaceutical Pollution

Ans-

a. Water Pollution- Water Pollution

Water pollution occurs due to the presence of dissolved inorganic materials, organic materials. such as proteins, fats, carbohydrates, and other substance found in domestic and industrial water and physical factors such as turbidity, colour, temperature of effluents associated radioactivity, etc.

Types of Water Pollution

1. Natural: Pollution brought about naturally.

2. Silting: Resulting from excessive erosion of the surrounding upland.

3. Industrial: Produced by inorganic chemical wastes from tanneries, breweries, paper and pulp mills, gas plants, mines, metal industries, petroleum industries, etc.

4. Organic: Principally municipal sewage and drainage of agricultural land.

5. Thermal: As hot water effluents from industries and atomic power plants.

Factors of Water Pollution

The effluents which are discharged into our rivers, are as varied as the human activities, Industries give rise to several effluents, broadly speaking, they can be categorised into following groups:

1. Inert Suspensions: Inert suspension of finely divided matter results from many types of mining and quarrying. Such as that for China clay, coal, and metals.

2. Poisons: Poisons in solution occur in the waste water effluent of many industries.

- ❖ They include acids and alkalis;
- ❖ Chromium salts from tanning and electroplating.
- ❖ Phenols and cyanides from chemical industries and gas works;
- ❖ Copper, lead, zinc, cadmium and
- ❖ Mercury from various industries and mines; and insecticides from agricultural fields.

3. Inorganic Reducing Agents: Inorganic reducing agents such as sulphides and sulphites, occur as constituents of the effluents of several types of industries. For example, ferrous salts which are pumped in large volumes by mines. These substances use up the oxygen present in the aquatic system.

4. Oil: Oil and greases are washed into rivers from spills on roads and factory floors, from workshop and garages and often by the thoughtless motorist who drains the sump of his car and tips the dirty oil into the nearest standing or running water.

5. Organic Residues: Organic residues include effluents from a variety of activities including dairies, ensilage, manure heaps, cattle yards, slaughter houses, sugar factories, textile manufacture, canning plants, breweries, tanneries, fish meat factories and pulp and paper mills. They all contain complex organic compounds in solution and suspension, often in combination with toxic substances and various salts.

b. Air Pollution- Air pollution means "The presence of outdoor atmosphere of one or more contaminants such as dust, fumes, gas, mist, odour, smoke or vapour in quantities of characteristic and of duration, so as to injurious to human, plant or animal life, to property or which unreasonable interferes with the comfortable enjoyment of life and property."

Air pollution can either be natural or may be the results of various activities of man like industrial operations. The industrial contaminants can either be the by-product of external combustion like smoke, dust and sulphur dioxide or by-product of internal combustion like the reaction in petrol and diesel engine.

Sources of Air Pollution

Industries, automobiles, and thermal power plants are the major sources of air pollutants from human activities. Forest fires, dust storms, volcanic eruptions and even growing crops (like growing paddy) are the natural sources of air pollutants.

Air gets polluted largely due to the smoke produced by automobiles, power plants and kitchens and due to the large-scale burning of fossil fuels, such as coal, diesel, petrol, kerosene and so on.

1. The burning of fossil fuels produces carbon dioxide, carbon monoxide, sulphur dioxide. oxides of nitrogen, hydrocarbons, particulate matter, and metallic traces. Coal produces a lot of smoke and dust while petrol and its products produce more sulphur dioxide.

2. Thermal power plants are coal based. The main pollutants are fly ash, soot, and sulphur dioxide.

3. Fertilizer plants produce oxides of sulphur, particulate matter, and fluorine. These pollutants come from sulphuric and phosphoric acid units, ammonia, nitrogen oxides and hydrocarbons to the atmosphere from nitrogen-based plants.

4. The major pollutants from the textile industry are cotton dust, nitrogen oxides, chlorine, naphtha vapours, smoke, and sulphur dioxide.

5. There are thousands of chemical plants and pesticide plants, which prepare caustic soda and produce chlorine gas.

6. Steel plants produce carbon monoxide, carbon dioxide, sulphur dioxide, fluorine, particulate matter, phenol, cyanide, sludge, slag etc.

7. Automobiles contribute 60% of the air pollution by releasing compounds like carbon monoxide, oxides of nitrogen and hydrocarbons. Gases emitted during deceleration and acceleration are more harmful than those produced during constant speed. Incomplete combustion produces a hydrocarbon called 3-4 benzpyrene.

8. Decomposition of organic waste and municipal garbage produces foul smelling gases which pollute the air.

Types of Air Pollutants

1. Primary air pollutants

2. Secondary air pollutants

c. Noise Pollution- Noise Pollution

Noise can be defined as unwanted sound or sound in the wrong place at the wrong time. Noise can also be defined as any sound that is undesirable because it interferes, with speech and hearing, is intense enough to damage hearing, or is otherwise annoying.

The definition of noise as unwanted sound implies that it has an adverse effect on human beings and their environment, including land, structures, and domestic animals. Noise can also disturb natural wildlife and ecological systems.

Noise pollution can be divided into three categories:

(i) Industrial noise depends on machinery, tools etc.

(ii) Community noise occurs due to religious functions, marriage, elections, or public functions

(iii) Traffic noise depends upon vehicles of all types.

The unpleasant and harmful effects on noise depends on one or more of the following factors:

(i) **Intensity of sound waves**

(ii) **Frequency**

(iii) **Time of exposure**

(iv) **Intermittence or continuation of sound**

Control of noise

Control of noise (i.e., its prevention and reduction) is a system-related problem. This system is composed of the following components:

1. The source of noise;

2. The path of sound propagation; and

3. The receiver of noise

Preventing measures

1. Controlling sources of noise;

2. Precluding the propagation, amplification, and reverberation of noise; and

3. Isolating the workers

d. Pharmaceutical Pollution- Environmental Pollution due to Pharmaceuticals

The negative impact of the production of pharmaceutical products on the natural environment is well known.

Pharmaceutical products enter the environment at various stages of their life-cycle but particularly during the production phase. One of the main threats is that discharging antibiotics into the environment can promote the natural development of antibiotic resistant pathogens that are harder to treat.

The pollution of pharma products into the environment also adversely affects animals, particularly fish living in contaminated water.

Causes of Pharmaceutical Pollution

1. Healthcare institution: Hospitals and nursing homes add to the pharmaceutical contamination.

2. Drug Manufacturers: Drug manufacturers dispose the drugs and related chemicals in a land fill or flush them into drain, and cause pharmaceutical contamination.

3. Agriculture and Agro-products: Domesticated animals excreted undigested drugs which reaches the groundwater or waterways, adding to pharmaceutical pollution. Similarly, pesticides, herbicides used in Agricultural also increases Pharmaceutical pollution.

4. Drug Disposal behaviour of General Public: Most of the consumers do not dispose unused and expired drugs property which result in contamination of groundwater, lakes, and river.

Effects of Pharmaceutical Pollution

1. Effects on Aquatic life: Oestrogen (present in birth control pills) and certain similar chemicals have a feminising effect on male fish which results in change of male to female ratio.

2. Inhibiting the Normal Sewage Treatment Process: Antibiotics in sewage treatment systems can inhibit the action of sewage bacteria, and affect the organic matter decomposition. Some of the antibiotics in sewage treatment process may be harmful to nitrifying bacteria.

3. Effects on Drinking water: Pharmaceutical drugs or chemicals from excretion by body enter the groundwater or waterways. Generally municipal sewage treatment plants do not remove these impurities from the drinking water and these will enter in the body of human being through contaminated drinking water.,

4. Antibiotic resistance: Multidrug resistance has been liable for irresponsible use of drugs in human medicine and farming.

5. Effects on Animals and Wildlife: Pharmaceutical chemicals flushed into the environment by humans or through sewage affect the animals and wildlife. These will enter the body of animals through the contaminated water.

Very Short Answers

1. WHO defined health as a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity in:
(a) 1948
(b) 1996
(c) 1947
(d) 1950

2. National Health Programme was declared by the Indian Government in:
(a) 1948
(b) 1983
(c) 1947
(d) 1995

3. is defined as a state of balance between the individual and the surrounding world, including the environment.
(a) Social health
(b) Mental health
(c) Physical health
(d) Spiritual health

4. Social health as defined is a ... of an individual's inter-personalities and the extent of involvement with the community.
(a) Amount and significance
(b) Size and value
(c) Extent and excellence
(d) Quantity and quality

5. National Health Programme was introduced to provide proper treatment measures in areas.
(a) Urban and sub-urban
(b) Sub rural and sub-urban
(c) Rural and sub-rural
(d) Rural and urban

6. The WHO identified..... determinants of health.
(a) 6
(b) 10
(c) 12
(d) 4.

7. ..... is a connecting link between physiology and psychology
(a) Physical health
(b) Social health
(c) Mental health
(d) Spiritual health

8..... often result due to low education levels.
(a) Lower self-confidence
(b) More stress
(c) Poor health
(d) All of these

SOCIAL PHARMACY

9. …… is the number of deaths per 1000 population per year in a given community.
(a) Mortality rate
(b) Total death rate
(c) Crude death rate
(d) Specific death rate

10. ..... and water quality are the physical factors in the natural environment which put their impact on health.
(a) Light
(b) Air
(c) Humidity
(d) Temperature

11. Child mortality rate is the number of deaths of..... old children in a given year per 1000 children of the same age group at the midpoint of the same year.
(a) 1-4 years
(b) 2-6 years
(c) 4-10 years
(d) 0-1 year

12. ..... indicators are not directly used for measuring the health status, but interpret the indicators of healthcare.
(a) Socio-economic
(b) Nutritional status
(c) Health policy
(d) Environment

13..... are used for improving the mortality data so that the health status of a population be property described.
(a) Mortality indicators
(b) Healthcare delivery
(c) Morbidity indicators
d) Life expectancy

14. is the simplest indicator used for estimating the burden of disease in a community.
(a) Life expectancy
(b) Maternal mortality rate
(c) Proportional mortality rate
(d) Disease-specific mortality

15. Demography is the scientific study of human population, including:
(a) Change in the population size
(b) Population distribution in spaces
(c) Population composition
(d) All of these

16. Demographic processes that regularly work within a population to determine its size, composition, and distribution are:
(a) Social mobility
(b) Mortality
(c) Fertility

(d) All of these

17. ……. stage of demographic cycle is also known as high stationary stage.
(a) Third
(b) Second
(c) First
(d) Fourth

18. Fifth stage of demographic cycle is also known as:
(a) Late expanding stage
(b) High stationary state
(c) Low stationary state
(d) Declining stage.

19. In the ..... stage, declining death and constant birth rates are the characteristic Features of this stage.
(a) Early expanding
(b) Late expanding
(c) Low stationary
(d) High stationary

19. Low birth and low death rates are the characteristic features of ..... stage.
(a) Fifth
(b) Fourth
(c) Third
(d) Second

20. In the late expanding stage, further declining death and..... are the characteristic features.
(a) Declining death
(b) Constant birth rates
(c) Falling birth rates
(d) High death rates

21. An expert committee of the WHO defined family planning in:
(a) 1970
(b) 1976
(c) 1971
(d) 1980

22…… is the oldest method of voluntary fertility control, in which the male withdraws before ejaculation.
(a) Abstinence
(b) Coitus interruptus
(c) Cervical mucus method
(d) Vasectomy

23. Which of the following methods does not come under behavioural methods of contraception?
(a) Abstinence
(b) Coitus interruptus
(c) Calendar method
(d) Basal body temperature method

24. In. ..... method, the physiological symptoms develop when the basal temperature rises.
(a) Symptothermic
(b) Cervical mucus
(c) Basal body temperature
(d) Safe period

25. .....the commonly used spermicides.
(a) Vaginal contraceptive films
(b) Contraceptive jellies
(c) Contraceptive suppositories
(d) Surface active agents

26..... type of immunity is present in an individual since birth, and is affected by the genetic and molecular structure of the genes.
(a) Specific
(b) Innate
(c) Acquired
(d) Adaptive

27……..an immunity is also known as acquired immunity.
(a) Adaptive
(b) Neutral
(c) Passive
(d) Active

28. ..... immunity is the resistance that an individual acquires during life.
(a) Non-specific
(b) Active
(c) Passive
(d) Specific

29……type of immunity is the resistance acquired or developed by an individual after effective contact with an antigen.
(a) Specific
(b) Non-specific
(c) Active
(d) Passive

30..... is the physical and chemical barrier for specific immunity.
(a) Lymphocytes
(b) Skin
(c) Mucosal epithelia
(d) Antimicrobial chemicals

31……type of immunity is the result of vaccination.
(a) Specific
(b) Non-specific
(c) Passive
(d) Artificial active

32..... is an example of toxoids which is used as an immunising agent.
(a) Tetanus

(b) Tetanus antitoxin
(c) Antitoxin
(d) Antivenins

33. type of immunity is seen in foetus in which the antibodies are transferred from the mother either via placenta or milk.
(a) Artificial passive
(b) Natural passive
(c) Artificial active:
(d) Natural active

34……is an example of animal immune sera that is used as an immunising agent.
(a) Antitoxin
(b) Tetanus
(c) Mixed toxold DT
(d) Mixed toxoid DTP

35. ..... vaccines are prepared by using a non-virulent microorganism 22
(a) Monke
(b) Guinea pig
(c) Cow
(d) Rabbit

36. The term vaccine has been derived from the Latin word vacca which means. that retains its antigenicity.
(a) Inactivated-killed
(b) Live attenuated
(c) Bacterial
(d) Viral

37. Which of the following is the main agent for air pollution?
(a) CO_2
(b) SO_2
(c) H_2S
(d) Carbon monoxide

38. Sound intensity is measured is terms of:
(a) Hertz
(b) Decibels.
(c) Dyne
(d) Microbar

39..... should be quickly removed and disposed off as it undergoes rapid fermentation on storage.
(a) Waste
(b) Rubbish
(c) Ash
(d) Garbage

40……..is the best method of disposing the highly infectious hospital and nursing home refuse.
(a) Incineration
(b) Dumping

(c) Composting
(d) Burning

41…….one of the most practical and effective methods of disposing refuse in rural areas.
(a) Manure pits
(c) Composting
(d) Burning
(d) Dumping

42. Which of the following is found in serum and on lymphologtes?
(a) IgM
(b) IgA
(c) Igl
(d) IgE

43. All the workers exposed to continuous noise louder than ..... require hearing protection.
(a) 100 Hz
(b) 150 Hz
(c) 250 Hz
(d) 50 Hz