

9.

HUMAN POPULATION

 **Reproduction-**

Ability of living organisms to produce young one like themselves is called as reproduction. It is essential process to continue and maintain the race.

➤ **Thomas R. Malthus :**

A British economist, proposed a theory of human population growth. He proposed the concept of **positive checks**.

➤ In May 2000, urban population of India was about 27%.

➤ Legal marriageable age is 21 years for the boys and 18 years for girls.

➤ Mechanical methods of birth control : Condoms, Diaphragm, Cervical caps and IUDs.

➤ Oral chemical contraceptives contain combined pills e.g. mala-D. and Saheli. These pills contain FSH and progestin synthetic hormones which inhibit ovulation from ovary.

➤ **Tubectomy** involves cutting of fallopian tubes while **vasectomy** involves cutting of vasa deferentia.

➤ **MPT** : Medical termination of pregnancy or abortion.

➤ **Amniocentesis** : It is pre-natal diagnostic technique in which foetal skin cells and amniotic fluid of foetus are withdrawn to know sex, congenital diseases and metabolic disorders of the foetus.

➤ **Test-tube baby** : Baby produced by in-vitro fertilization (IVF) and in-vitro development followed by embryo-transfer (ET) in the uterus of the normal female finally leading to normal birth.

➤ **Louise Joy Brown** : World's first test tube baby.

➤ **Kanupriya Aggarwal** : India's first test tube baby.

➤ Only 10% of the smoke is inhaled and its absorption rate is very slow.

➤ Tobacco is also called **killer weed** as it kills nearly 10,000 people daily worldwide.

➤ Nicotine operates through increased production of **Dopamine**.

➤ **Anti-Tobacco** act was passed on May 1, 2004.

➤ **Central Tobacco Research Institute** is located at **Rajamundry** (Andhra Pradesh).

➤ Percentage of alcohol is 4-5% in Beer (Barley); 8-10% in Champagne (Grapes); 18-24% in Toddy (Palm sap); 40-50% in Gin (Barley); Brandy (Apple) and Whisky (Barley, Potatoes); 45-50% in Rum (molasses of sugarcane); etc.

➤ **Withdrawal symptoms** : Symptoms of an addict substance is not available.

➤ **Breath test** : Test conducted to determine the level of alcohol in the blood.

➤ Benzodiazepines produce their calming effect by increasing the action of GABA (γ -

- amino butyric acid) which inhibits neurotransmission through synapses.
- Cocaine was first discovered by **Albert Neimann**.
- **Cannabinoids** : Chemicals produced from hemp plants (Cannabis).
- **Dope test** : Test to determine the level of certain drugs present in urine and blood.
- **Drug trafficking** : Illegal sale of dangerous drugs.
- **IV-Drug** : Drug which is taken intravenously e.g. Heroin.
- **Teratogens** : Drugs which cause developmental defects in the foetus when taken by mother.
- India is the world's sole licit producer of opium.
- **Golden-crescent route** is formed of Pakistan-Afghanistan-Iran.
- **Golden-trafficking route** is formed of Vietnam-Laos-Myanmar.
- Some common name of drugs : **Acid** (LSD); **Angel dust**(Phencyclidine, Piperidine); **Brown sugar** (Diacetyl morphine); **Coke** (Cocaine), **Speed** (Amphetamines); **Grass** (Marijuana); **Dynamite** (Heroin) etc.
- **International Day against Drug Abuse and Illicit Trafficking** : 26th June.
- Important psychological disorder and their symptoms :
 - **Anxiety disorders** : Palpitation, sweating, nausea, trembling, diarrhoea, etc.
 - **Obsessive-compulsive disorder** : Individuals compelled to perform an action despite their own attempt to resist it.
 - **Schizophrenia** : Distorted thoughts, disturbed emotions, incoherent behaviour, auditory hallucinations, etc.

- **Borderline Personality Disorder** : Unpredictable moods, outbursts of emotions, behaviour explosions, quarrelsome behaviour, chaotic relationship with others etc.
- **World Mental Health Day** : 10th October.
- **World Health Day** : 7th April.

✂ **IMPORTANT TERMS**

- **Addiction** : Physical and mental dependency on smoking, alcohol or drugs.
- **Adolescence** : Period of accelerated physical and mental growth extending between childhood and adulthood.
- **Age composition** : Relative abundance of organisms of different age groups in the population.
- **Age ratio** : Ratio of individuals of pre-reproductive, and post reproductive age groups.
- **Biotic Potential** : Unrestricted reproductive capacity of a population.
- **Carrying capacity** : Feeding capacity of an ecosystem under existing conditions.
- **Census** : Population count taken after every 10 years.
- **Demography** : Scientific study of human population.
- **Environmental** : Sum of all those factors which inhibit the realization of biotic potential.
- **Resistance Growth curves** : Mathematical expression of growth of a population.

- **Hallucinogens :**
Drugs which change thoughts, feelings and perceptions of individuals.
- **Hypochondria :**
Excessive anxiety about the health.
- **Log phase :**
Exponential phase-period of rapid population growth.
- **Mortality rate :**
Death rate-Number of deaths per 1,000 individuals of a population per year.
- **Narcotics :**
Opium derivatives which act as pain killers and depressants.
- **Natality rate :**
Birth rate-Number of births per 1,000 individuals of a population per year.
- **Neurasthenia :**
Inability to concentrate or enjoy things.
- **Phobias :**
Repulsive behaviour to certain objects and fear from them.
- **Population :**
Total number of individuals of a species present in a particular area.
- **Population crash :**
Rapid decline of a population.
- **Population density :**
Number of individuals of a species per unit area or volume.
- **Population explosion :**
Rapid growth of human population.
- **Psychotropic drugs :**
Drugs which change the behaviour, perception power and consciousness of an individual.
- **Sedatives :**
Drugs which provide a feeling of calmness, relaxation or drowsiness.
- **Sex ratio :**
Number of females in a population per 1,000 of males.
- ✍ **SUMMARY OF CHAPTER**
- **Population** is the total number of individuals of a species present in a specific geographical area. Scientific study of human population is called **demography**.
- **Main characteristics** of a population are : population density, natality rate, mortality rate, age composition, population growth, growth curves, biotic potential, environmental resistance, carrying capacity, sex ratio, age ratio, etc.
- High growth rate of human population is called **population explosion**.
- **China** is most populous country of the world while **India** is second most population country of the world.
- India's human population was **844 millions** in 1991 which grew to **1027 millions** in 2001.
- Average annual growth rate of human population was **2.11%** in 1981-91 period and was **1.8%** in 1991-2001 period.
- Major causes of human population explosion are **rapid decline in death rate** and **increase in longevity**.
- **Adolescence** is period of rapid physical and mental growth extending between childhood and adulthood.
- **Common problems** of adolescence are : acne (appearance of blackheads on skin), hypochondria (suffer from anxiety), neurasthenia (inability to concentrate), phobias (repulsive behaviour), post-traumatic stress disorders, addiction, etc.
- **Mentally healthy person** is characterized by : good self-control, harmonious with others, with moral and spiritual values, considerate to others, etc.

- **Mental illness** is the non-maintenance of physiological health and social effectiveness.
- There are three types of mental illness : **Psychosis , neurosis and epilepsy.**
- **Addiction** involves physical and mental dependency on smoking or alcohol or drugs.
- Tobacco is derived from lodes of young branches of *Nicotiana toccum* and *N. rustica*.
- Tobacco smoke contains a number of particulate and gaseous health-hazard chemicals.
- Tobacco and toccco products are dnown to cause **cancers** of lip, mouth and lungs, **respiratory disorders** like bronchitis, emphysema, etc. **gastric and duodenal ulcers, CO-poisoning. cardiovascular problems**, retardation of foetal growth, etc.
- **Alcoholism** is dependency of alcoholic on alcohol. Alcohol acts as sedative, depressant and anaesthetic. It is known to hde ill effects on many organs of the body like CNS, liver, kindneys, stomach, heart, etc.
- **Drug addiction** is drug-dependency and is developed by habitual non-medicinal use of psychotropic drugs.
- There are four categories of drugs : **Sedatives and tranquillizers** (act as depressants and induce sleep in high dises e.g. Benzodiazepines and Barbiturates); **Opiate Narcotics** (act asw depressants and analgesics e.g. opium and its derivatives like codein, morphine, heroin, etc.). **Stimulants** (act as mood elevators as increase the activity ofCNS e.g. cocaine, caffeine, amphetamines, etc.). and **hallucinogens** (change thoughts, feelings and perceptions

and cause hallucination, nightmares, psychosis, floating sensation e.g. LSDm, bhang, ganja, charas, marijuna etc.).

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