

Chapter 11. Human Population

Short Questions

Question 1: Define growth rate of population. In what situation can this rate be negative ?

Answer: The growth rate of population is the difference between birth rate and death rate. The growth rate of population can be negative when the death rate is higher than the birth rate of the population.

Question 2: What factors govern the growth of population.

Answer: (i) Birth rate
(ii) Death rate
(iii) Emigration and immigration.

Question 3: What is meant by 'population density' ? How are women operated to prevent the flow of eggs into oviduct ?

Answer: Population density is defined as the size of a population in relation to a particular unit area at a given time. Women are operated to prevent the flow of eggs into the oviduct by tubectomy.

Question 4: What is a census ? Why is it important ?

Answer: A census is taken in India every ten years by the government to count the number of people in the country. The census is important to estimate the death rate and growth rate of the population of a country. A census is the counting of the existing population at a fixed time as regards name, age, sex, occupation, date of birth, matrimonial status, number of dependents in a family, race, religion, language spoken, residence etc.

Question 5: Write difference between immigration and Emigration.

Answer: Immigration refers to the addition of individuals to a population while emigration refers to the decrease in a population due to the outgoing population of individuals.

Question 6: How will you find out?

(i) Birth rate . (ii) Infant mortality rate (iii) Fertility rate

Answer:

$$(i) \quad \text{Birth rate} = \frac{\text{Number of births in a year}}{\text{Total population of that year}} \times 1000$$

$$(ii) \quad \text{Infant mortality rate} = \frac{\text{Number of Infant deaths}}{\text{Number of live births}} \times 1000$$

$$(iii) \quad \text{Fertility rate} = \frac{\text{No. of births in a year}}{\text{No. of women between 16 and 40 years of age}} \times 1000$$

Question 7: Our resources cannot keep pace with the ever increasing population. Give three examples in support of this statement.

Answer:

- (i) With the growing number of people there is insufficient food as growth in population is in geometric progression whereas increase in food production is in arithmetic progression.
- (ii) There is a corresponding lack of housing, recreational facilities, clinics and hospitals to cope with the ever-increasing population.
- (iii) There is limited land for factories and industries so there is unemployment due to ever-increasing population.

Question 8: Mention any two reasons for the rapid increase in population in recent times.

Answer: The two reasons for the rapid increase in population in recent times are :

- (i) The death rate in India has fallen down due to increased scientific and medical knowledge.
- (ii) Improved standard of living due to increased food production and industrial development and education has brought about an increase in population.

Question 9: Write some benefits of a small family.

Answer: The benefits of having a small family are :

- (i) Basic needs like food, clothing, shelter, education, etc., will be satisfied more easily in a small family.
- (ii) Children can get better education. Parents can often be able to provide higher education for the children.
- (iii) Children will be healthy—physically and mentally.
- (iv) Parents can take better care of the children in a small, well-planned family.

Question 10: Write some major disadvantages of large family.

Answer: The main disadvantages are:

- (i) The children are not able to get good variety and proper quantity of food resulting in malnutrition and deficiency diseases.
- (ii) The mother will have poor health for which she can't look after the children properly.
- (iii) There will be a high economic pressure on father's income.
- (iv) The children won't get proper education and medical facilities due to lack of money.

(v) The problem of houses which are not well-ventilated or properly cleaned where the growing children will have the ill health.

Question 11: Write briefly the need to control population (any four points).

Answer: The needs to control population are:

- (i) The number of people are increasing in geometrical progression.
- (ii) It is leading to great economic pressure on the parents which is affecting their quality of life.
- (iii) There is struggle for existence.
- (iv) Proper medical facilities are not available.

Question 12: Explain briefly the idea contained in the following statement. There will be increasing dependence on sources of energy other than coal and petroleum in the future.

Answer: There will be increasing dependence on sources of energy other than coal and petroleum in the future because these two fossil fuels are non-renewable sources of energy and they are being consumed very quickly by the increasing human population. Further, man is trying to obtain energy from non-polluting sources of energy such as wind, hydroelectric power, etc., to prevent excessive pollution that is caused by the use of coal and petroleum.

Question 13: Give five reasons why family planning has often failed in the rural villages and countryside ?

Answer: Family planning has often failed in the rural villages and countryside because of:

- (i) The lack of transportation and hence communication of family planning methods.
- (ii) There is a low educational level.
- (iii) The people still follow traditional, cultural and religious beliefs and superstitions.
- (iv) The villagers also feel that with more children family income will increase which will help in the survival of family.
- (v) The people of the rural areas often fail to precisely follow the methods of birth control.

Question 14: Explain briefly the relation between poverty and population.

Answer: The poorer and lower classes of people feel that children will be able to supplement the income of the parents by working. The more children, the more will be the income of the family.

Infant mortality is very high among the poor people because the mother do not receive pre-natal and anti-natal care. Further, many children die at an early age. This high infant mortality causes many of the poor to have more children so that some of them may survive.

Question 15: How is the electronic media educating people about the importance of small families ?

Answer: The electronic media such as Radio and Television convey the message of family planning to the citizens everyday. The newspapers also provide the daily increase in the population of India to tell us about the danger and seriousness of population explosion.

Question 16: Mention three steps to control the increasing human population in India.

Answer: Three steps by which the increasing human population can be controlled, are:
(i) Family Planning : There can be a decrease in birth rate by voluntary family planning aided by incentives. The methods include sterilization, use of contraceptives, use of pills, drugs and abortions.
(ii) Education of the people about small family norms and its benefits.
(iii) Raising the age of marriage to 18 in girls and 21 among boys.

Question 17: How is human population checked at present ?

Answer: At present human population is checked by disease, death due to old age, wars, epidemics, natural calamities such as earthquakes and floods and also by family planning methods.

Question 18: What is the popular sign for the Family Planning and Welfare Centres in India ?

Answer: The popular sign for the Family Planning and Welfare Centres in India is the inverted Red Triangle.

Question 19: (i) Describe the four methods of birth control practiced in India.
(ii) Name two surgical techniques (for man and woman) to prevent pregnancy.

Answer:

(i) The four methods of birth control are :

(a) **Vasectomy:** This involves the breaking of the contact between the sperms and ovum, by cutting the vas deferens or sperm duct which carries sperms from the testes to the outside in the man. It prevents pregnancy.

(b) **Tubectomy:** Severing and sealing off the fallopian tubes so that the mature ovum may not come in contact with the incoming sperms.

(c) **Contraceptives:** Loops, condoms, creams, etc., are used as contraceptive which keep away sperms from meeting the ovum.

(d) **Voluntary methods:** Which include : (a) avoiding from sexual intercourse during the unsafe period of ovulation, (b) Frequent use of contraceptive.

(ii) For man—Vasectomy and contraceptive, For woman—Tubectomy and pills.

Question 20: What are the problems faced by India owing to the 'population explosion' ?

Answer:

Consequences of 'population explosion' in India:

(i) Scarcity of food, space and water: Although the population is growing rapidly the living and food, space, production available per person has remained constant.

(ii) Increase in epidemics a (id diseases as a result of unhygenic and crowded living conditions in cities, towns and villages.

(iii) Unemployment and poverty will be uncontrollable and may lead to social unrest and lack of educational facilities.

(iv) Destruction of forests and their fauna and flora so that more land can be brought

under cultivation or for human dwellings.

(v) Problems of sanitation, cleanliness and clean drinking water for the increasing population.

(vi) Lack of facilities such as schools, colleges, hospitals, transportation, etc.

(vii) Non-renewable resources such as coal, oil, water, minerals, etc., will be consumed very quickly.

(viii) Disturbances in ecological balance due to deforestation and pollution.

Question 21: State two methods of contraception, one a barrier method and one which is not a barrier method. For each method named give two advantages and one disadvantage of the method.

Answer: A barrier method—the condom.

Non-barrier—the contraceptive pill.

Advantages of the condom include the fact that it is readily available, needs no medical supervision, can help reduce the transmission of venereal diseases. A disadvantage is that it is not the most reliable method. Advantages of the contraceptive pill are that it is highly reliable if taken according to instructions and that a woman can take responsibility for her own fertility. A disadvantage is that it should be taken under medical supervision as there is a small risk of side effects.

Give Reasons

Question 1: Birth rate is high in India.

Answer: (1) Most of rural population which forms the bulk of our society are illiterate, ignorant and superstitious.

(2) Children are considered to be the helping hand to increase the family income.

Question 2: Why do you think there is a stability or a decline in the population of developed countries ?

Answer: In developed countries both death-rate and birth-rate are low due to better medical facilities and family planning methods.

Question 3: Medical discoveries such as antibiotics and vaccinations have indirectly contributed to the sharp rise in human population in the present century.

Answer: Medical discoveries such as antibiotics and vaccinations have resulted in the decrease of death rate resulting in a corresponding rise in growth rate which leads to an increase in population.

Differentiate

Question 1: Natality rate and Mortality rate.

Answer:

Natality rate	Mortality rate
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It is the number of offsprings produced per unit time per unit of population.	It is the rate at which the individuals die from a given population.
It increases population.	It decreases population.

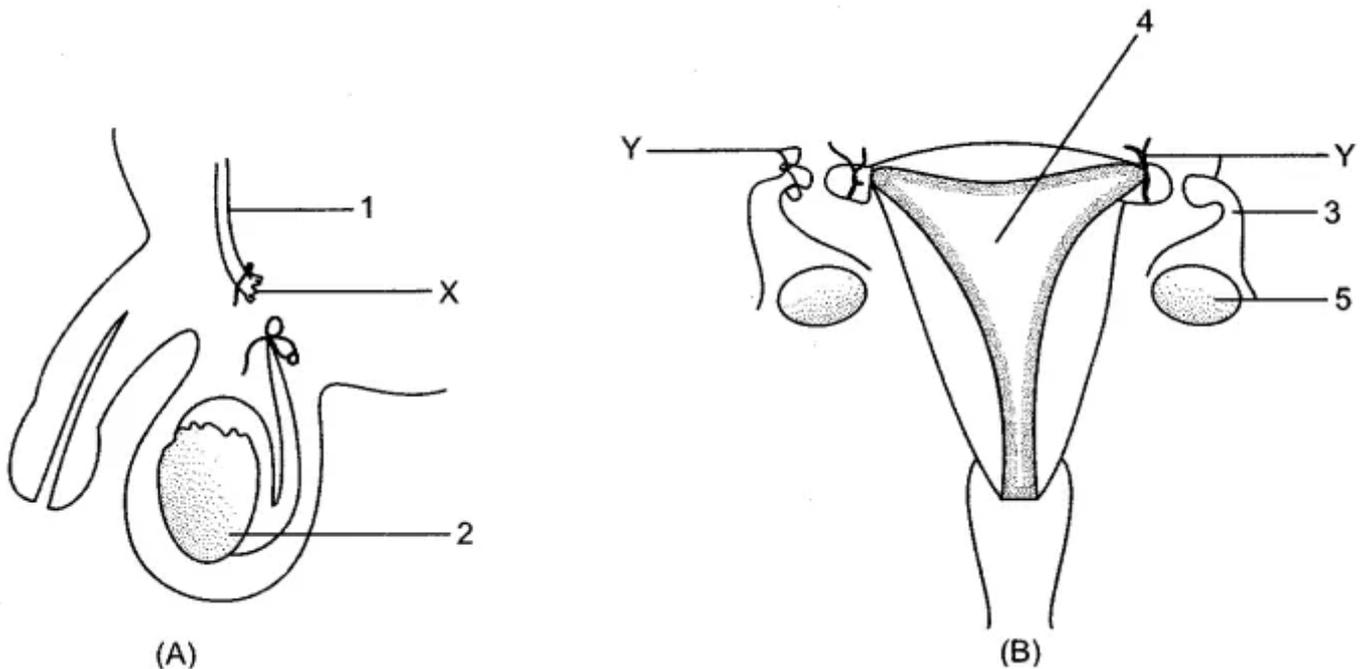
Question 2: Immigration and Emigration.

Answer:

Immigration	Emigration
The movement of individuals into the population is known as immigration.	The movement of individuals out of the population is known as emigration.
It results in an increase in the population.	It results in a decrease in the population.

Diagram Based Questions

Question 1: Observe the diagram A and B given below:



- Label parts 1 – 5.
- What does diagram A depict?
- What does diagram B depict?
- What comment on X and Y.
- State one function each of part 2 and 4.

Answer:

(i) 1. Vas deferens

2. Testis

3. Oviduct

4. Uterus

5. Ovary.

(ii) Diagram A depicts vasectomy in males (i.e., cutting and tying the vas deferens).

(iii) Diagram B depicts tubectomy in females (i.e., cutting and tying the oviducts).

(iv) 'X' represents the cut and tied end of vas deferens in male. Cutting and tying of vas deferens prevents the passage of sperms and avoids pregnancy. 'Y' represents the cut and tied ends of oviducts of female. Cutting and tying of oviducts prevents the passage of ovum and avoids pregnancy.

(v) Part 2 (Testis) produces sperms (male gametes).

Part 4 (Uterus) carries and protects the foetus till its birth.

Explain the Terms

Question:

1. Age-ratio

2. Natality

3. Physical enumeration

4. Population density.

5. Death rate

6. Emigration

7. Carrying capacity

8. IUD

Answer:

1. **Age ratio:** The number of individuals belonging to different age groups is called age-ratio.

2. **Natality:** The number of offspring produced per unit of population is termed natality.

3. **Physical enumeration:** The estimation of human population by physically counting of individuals per unit area. The census Bureau physically verifies the number of persons living in each house.

4. **Population density** is the number of individuals per square kilometer (Km^2) at any given time.

5. **Death rate** is defined as the number of individuals eliminated from a population by death in a year per thousand population. It is also called mortality rate. .

6. **Emigration:** Emigration is the decrease in the population due to the movement of organisms outside an area.

7. The maximum number of individuals which an environment can support is called the **carrying capacity**. Available space, water, etc., determine it.

8. **IUD:** Intrauterine device (IUD) placed in the uterine passage prevents the implantation of fertilized ovum. This checks pregnancy.

Name the Following

Question:

1. A group of organisms of the same species living in a geographically localized area and capable of interbreeding.
2. The size of a population in relation to per unit area at a given time.
3. Changes that occur in population due to alteration in mortality, sex ratio, age groups.
4. Another term for birth rate.
5. The addition of new individuals to the population from other localities is called.
6. No. of deaths per 1000 people per year.
7. The cutting and ligation of vas deferens in males.
8. Name any two Non-renewable resources of energy.
9. Name any two renewable resources for the mankind.

Answer:

1. Population
2. Population density
3. Population dynamics
4. Natality
5. Immigration
6. Mortality
7. Vasectomy
8. (i) Minerals, and (ii) Fossil fuels
9. (i) Solar Energy, and (ii) Water

Give Technical Terms

Question:

1. A statistical study of human population of a region.
2. The number of individuals belonging to different age groups.
3. The comparative number of males and females in a population.
4. The rapid increase in population.
5. What is the present population of Delhi, India and the world ?
6. The technical term used for the difference between birth rate and death rate in population.
7. The zoological name of man.
8. The surgical removal of testes.
9. Write the full form of MTP.
10. The methods to prevent union of sperms with the ovum.
11. The number of individuals going out from a population to join another one in a new locality resulting in the decrease of the original population.

Answer:

1. Demography
2. Age ratio
3. Sex ratio
4. Population explosion

5. More than 10 million, 1000 million (1 billion) and 6 billion
6. Growth rate of population
7. Homo sapiens
8. Castration
9. Full form of MTP: Medical Termination of Pregnancy.
10. Contraceptives
11. Emigration

Fill in the Blanks

Complete the following sentences with appropriate words :

1. World population in 1994 was 5-6 billion.
2. Total population in India in 1999 was 100 million.
3. The population of whole of Asia beyond 2001 AD is expected to be 13 billion.
4. Another term for birth rate is Natality.
5. Population increases in Geometric ratio while food production increases in arithmetic ratio.
6. Minerals are resources of Non-conventional energy.
7. The sign of family planning in India is Inverted Red triangle.
8. Pregnancy can be avoided by using Contraceptive pills.

True & False

Mention, if the following statements are True or False. If false rewrite the wrong statement in its correct form:

1. The present human population is about more than 5 billion. **(True)**
2. Birth rate is the number of live births per 100 of population per decade. **(True)**
3. Growth rate of a population is the difference between the birth rate and death rate. **(True)**
4. The sign of family planning and welfare in India is blue triangle. **(False, The sign of family planning and welfare in India is red triangle.)**
5. Urbanization is the process of growing urban population. **(True)**
6. Mortality is the number of deaths per thousand of the population per decade. **(False, Mortality is the number of deaths per thousand of population per year.)**
7. The full form of IUD is intrauterine devices. **(True)**

Choose the Odd One Out

1. Immigration, Decline in death rate, Emigration, Increase in birth rate. **(Emigration)**
2. Progestins, Condoms, IUD, Cervical caps. **(Progestins)**
3. Abortion, Tubectomy, Vasectomy, IUD. **(IUD)**
4. Land, Industry, Water, Energy, Minerals. **(Industry)**

Multiple Choice Questions

- The study of population is referred to as:
 - Population dynamics
 - Population sociology
 - Demography**
 - Population Ecology
- The primary reason for increase in human population is:
 - The increase in agricultural production
 - The increase in birth rate and decrease in death rate**
 - The improvement in medical technology
 - All of the above
- Population density of a particular area can be computed by
 - Dividing the total number of individuals living in the area by the total land area**
 - Dividing the total number of individuals living in the area by the total fertile land area
 - Dividing the total number of individuals living in the area by total urban and rural area
 - Dividing the total number of individuals living in the area by total urban area
- Which one of the parents is biologically responsible for sex of the child?
 - Father**
 - Mother
 - Both the parents,
 - Supernatural power
- 1-shaped growth curve has:
 - Lag and exponential phases**
 - Lag and stationary phases.
 - Exponential stationary phases
 - Lag, exponential and stationary phases
- All of the statements regarding models of logistic population growth are correct except:
 - Density-independent factors limit population growth**
 - Density-dependent factors limit population growth
 - Intraspecific interactions limit population growth
 - They apply to the majority of populations.
- Which mechanical means is used to cover the penis before coital activity?
 - Diaphragm
 - Condom**
 - Loop
 - Copper-T

Match the Column

Column 'II' is a list of items related to ideas in Column 'I'. Match the term in Column 'II' with the suitable idea given in Column 'I'.

Column I	Column II
(i) Family Planning	(a) Counting of population
(ii) Vasectomy	(b) Sterilization in female
(iii) Tubectomy	(c) T.R. Malthus
(iv) Census	(d) Sterilization in male
(v) Malthusian theory	(e) Red triangle.

Answer: (i) (e) (ii) (d) (iii) (b) (iv) (a) (v) (c)