

Reproductive Health

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Class: XII

Biology

MCQ

1. The method of directly injecting a sperm into the ovum in Assisted Reproductive Technology is called:

- a. GIFT
- b. ZIFT
- c. ICSI
- d. ET

Ans. c. ICSI

2. Increased IMR and decreased MMR in a population will:

- a. Cause a rapid increase in growth rate
- b. Result in a decline in growth rate
- c. Not cause a significant change in growth rate
- d. Result in an explosive population

Ans. b. Result in a decline in growth rate

3. Intensely lactating mothers do not generally conceive due to the:

- a. Suppression of gonadotropins
- b. Hypersecretion of gonadotropins
- c. Suppression of gametic transport
- d. Suppression of fertilization

Ans. a. Suppression of gonadotropins

4. Sterilisation techniques are generally foolproof methods of contraception with least side effects. Yet, this is the last option for couples because:

- i. It is almost irreversible
- ii. Of the misconception that it will reduce sexual urge
- iii. It is a surgical procedure
- iv. Of lack of sufficient facilities in many parts of the country

Choose the correct option:

- a. i and iii
- b. ii and iii
- c. ii and iv
- d. I, ii, iii and iv

Ans. d. I, ii, iii and iv

5. A national-level approach to building up a reproductively healthy society was taken up in our country in:

- a. the 1950s
- b. The 1960s
- c. The 1980s
- d. The 1990s

Ans. a. the 1950s

6. Emergency contraceptives are effective if used within:

- a. 72 hrs of coitus
- b. 72 hrs of ovulation
- c. 72 hrs of menstruation
- d. 72 hrs of implantation

Ans. a. 72 hrs of coitus

7. Choose the right one among the statements given below:

- a. IUDs are generally inserted by the user herself
- b. IUDs increase phagocytosis reaction in the uterus
- c. IUDs suppress gametogenesis
- d. IUDs once inserted, need not be replaced

Ans. b. IUDs increase phagocytosis reaction in the uterus

8. Following statements are given regarding MTP. Choose the correct options given below:

- i. MTPs are generally advised during first trimester
- ii. MTPs are used as a contraceptive method
- iii. MTPs are always surgical
- iv. MTPs require the assistance of qualified medical personnel

- (a) ii and iii
- (b) ii and iii
- (c) i and iv
- (d) i and ii

Ans. (c) i and iv

9. From the sexually transmitted diseases mentioned below, identify the one which does not specifically affect the sex organs:

- a. Syphilis
- b. AIDS
- c. Gonorrhoea
- d. Genital warts

Ans. b. AIDS

10. Condoms are one of the most popular contraceptives because of the following reasons:

- a. These are effective barriers for insemination
- b. They do not interfere with coital act
- c. These help in reducing the risk of STDs
- d. All of the above

Ans. d. All of the above

11. Choose the correct statement regarding the ZIFT procedure:

- a. Ova collected from a female donor are transferred to the fallopian tube to facilitate zygote formation.
- b. A zygote is collected from a female donor and transferred to the fallopian tube
- c. A zygote is collected from a female donor and transferred to the uterus
- d. Ova collected from a female donor and transferred to the uterus

Ans. b. A zygote is collected from a female donor and transferred to the fallopian tube

12. The correct surgical procedure as a contraceptive method is:

- a. Ovariectomy
- b. Hysterectomy
- c. Vasectomy

d. Castration

Ans. c. Vasectomy

13. Diaphragms are contraceptive devices used by females. Choose the correct option from the statements given below:

- i. They are introduced into the uterus
- ii. They are placed to cover the cervical region
- iii. They act as physical barriers for sperm entry
- iv. They act as spermicidal agents

- (a) I and ii,
- (b) I and iii,
- (c) ii and iii,
- (d) iii & iv

Ans. (c) ii and iii

Very Short Answer Type Questions

1. Reproductive health refers only to healthy reproductive functions. Comment.

According to the World Health Organization (WHO), a total well-being in all aspects of reproduction, such as physical, emotional, behavioural and social, is called reproductive health. It is the normal functioning of all the reproductive organs.

2. Comment on the Reproductive and Child Health Care programme of the government to improve the reproductive health of the people.

The major tasks of these programmes are:

- (i) Creating awareness among people about various reproduction related aspects.
- (ii) Providing facilities and support for building up a reproductively healthy society.

3. The present population growth rate in India is alarming. Suggest ways to check it.

The important steps to control population are as follows;

- Motivating smaller families by using various contraceptive methods.
- Adopting 'one child norm'.
- Statutory raising of marriageable age of the female to 18 years and that of males to 21 years.
- Providing incentives to couples with small families.
- Educating people about the consequences of uncontrolled population growth.

4. STDs can be considered as self-invited diseases. Comment.

STDs are diseases or infections which are transmitted through sexual intercourse. They are also known as venereal diseases (VD) or reproductive tract infections (RTI). People are infected with STDs only because of the illegal sexual activities with unknown people. So, it can be considered as self-invited diseases.

5. Suggest the reproduction-related aspects in which counselling should be provided at the school level.

- Make aware of the sex-related aspect to young children so that they don't believe in myths
- Information about the sex organs, adolescence and related changes
- Creating awareness of problems due to uncontrolled population growth, social evils like sex abuse and sex-related crimes

6. Mention the primary aim of the “Assisted Reproductive Technology” (ART) programme.

The primary aim of the “Assisted Reproductive Technology” (ART) programme is to help infertile couples to have children through these special techniques.

7. What is the significance of progesterone-estrogen combination as a contraceptive measure?

It inhibits the ovulation and implantation and also alters the quality of cervical mucus to prevent sperm entry.

8. Strict conditions are to be followed in the medical termination of pregnancy (MTP) procedures. Mention two reasons.

MTP is misused to abort normal healthy female foetus, i.e., female foeticide.

MTP should be performed by the end of the first trimester as it is riskier to be performed in the second trimester.

MTP performed by the unqualified quacks are not only unsafe but could be fatal for the mother also.

9. Males in whom testes fail to descend to the scrotum are generally infertile. Why?

Spermatogenesis requires 2-3°C less temperature as compared to the body temperatures (37°C)

If the testes do not descend into the scrotum before adolescence, they will stop producing sperms. This leads to inhibition of spermatogenesis and hence causes infertility.

10. Mention two advantages of lactational amenorrhea as a contraceptive method.

1. It acts as a natural contraceptive method.
2. There is no ovulation and menstruation during this period.

11. Name the once a week pill with very few side effects and high contraceptive value.

Saheli is a ‘once a week’ pill with very few side effects and high contraceptive value. It is an oral contraceptive for the females and contains a **non-steroidal preparation**.

12. What is emergency contraceptive?

- Administration of progestogens or progestogen-estrogen combinations or IUDs within 72 hours of coitus is very effective as emergency contraceptives.
- They are used to avoid possible pregnancy due to rape or casual unprotected intercourse.

Short Answer Type Questions

1. Suggest some important steps that you would recommend to be taken to improve the reproductive health standards in India.

- Introduction of sex education in schools should also be encouraged to provide right information to the young so as to discourage children from believing in myths and having misconceptions about sex-related aspects.
- Proper information about reproductive organs, adolescence and related changes, safe and hygienic sexual practices, sexually transmitted diseases (STD), AIDS, etc., would help people, especially those in the adolescent age group to lead a reproductively healthy life.
- Educating people, especially fertile couples and those in marriageable age group, about available birth control options, care of pregnant mothers, post-natal care of the mother and child, importance of breast feeding.
- Equal opportunities for the male and the female child, etc., would address the importance of bringing up socially conscious healthy families of desired size.
- Awareness of problems due to uncontrolled population growth, social evils like sex-abuse and sex-related crimes, etc.,
- Enabling people to think and take up necessary steps to prevent problems due to uncontrolled population growth and thereby build up a socially responsible and healthy society.

2. The procedure of GIFT involves the transfer of female gamete to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain.

If the gametes are transferred to the uterus, fertilization could not take place.

Fertilization occurs only in the ampulla-isthmic junction.

Hence the same results of GIFT could not be achieved.

3. Copper ions-releasing IUDs are more efficient than non-medicated methods. Why?

Copper ions released suppress **sperm motility** and **fertilizing capacity** of sperms.

It increases the **phagocytosis** of sperms within the uterus and act as a spermicide.

They are one of the safest, most effective and least expensive method.

4. What are the probable factors that contributed to the population explosion in India?

The probable factors that contributed to the population explosion in India are

- A rapid decline in death rate.
- Decline in maternal mortality rate (MMR)
- Decline in infant mortality rate (IMR)
- Increase in number of people in reproducible age group.

5. Briefly explain IVF and ET. What are the conditions in which these methods are advised?

IVF stands for in-vitro fertilization. The fertilization which occurs outside the body in almost similar conditions of the body, followed by **embryo transfer** (ET), is called in-vitro fertilization.

ET stands for embryo transfer and is the next procedure after IVF.

The zygote or early embryos upto 8 blastomeres is transferred into the fallopian tube.

Embryos with more than 8 blastomeres are transferred into the uterus.

The conditions in which these methods can be advised are as follows.

Women who have blockages in their fallopian tubes.

Women who have had a tubal ligation or their tubes removed.

Women who don't ovulate on their own.

Women with reduced ovarian reserves or advanced maternal age typically any woman over the age of 38 years.

Men who had a vasectomy.

Men with sperm abnormalities.

6. What are the advantages of natural methods of contraception over artificial methods?

It is cost-effective.

There is no side effect

There is no surgery or fixing of any contraceptive device.

7. What are the conditions in which the medical termination of pregnancy is advised?

MTP is done to get rid of unwanted pregnancies either due to casual unprotected intercourse or failure of the contraceptive used during coitus or rapes.

MTPs are also essential, where continuation of the pregnancy could be harmful or even fatal either to the mother or to the foetus or both.

8. Comment on the essential features required for an ideal contraceptive.

- An Ideal contraceptive should be user-friendly.
- It should be easily available.
- It should be effective and reversible with no or least side-effects.
- It should not interfere the sexual drive, desire or the sexual act of the user.

9. All reproductive tract infections (RTIs) are STDs, but all STDs are not RTIs. Justify with example.

Common STDs are gonorrhoea, syphilis, genital herpes, Chlamydia, are reproductive tract infections.

Hepatitis-B and AIDS are not the diseases of reproductive organs through their mode of transmission could be through sexual contact also.

Hence all STDs are not RTIs.

10. Suggest some steps to control population.

The most important steps to control population is to

- Motivating people to have smaller families by using various contraceptive methods.
- Adopting 'we two ours two' norm.
- Adopting 'one child' norm.

- Statutory raising of marriageable age of the female to 18 years and that of males to 21 years.
- Providing incentives to couples with small families.

Long Answer Type Questions

1. Discuss the mode of action and advantages or disadvantages of hormonal contraceptives.

The mode of action and advantages of hormonal contraceptives are:

Pills inhibit ovulation and implantation as well as alter the quality of cervical mucus to prevent the entry of sperms.

Progestogens alone or in combination with estrogen can also be used as injections or implants under the skin.

Advantage:

Hormone based contraceptive is completely reversible, allowing pregnancy to occur on discontinued usage.

Disadvantages:

It can cause allergic conditions and serious side effects.

It may cause damage to the normal hormonal balance.

They disturb the menstrual cycle so that level of menstrual flow can be either too low or high and lead to irregular menstruation cycles.

2. STDs are a threat to reproductive health. Describe any two such diseases and suggest preventive measures.

Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B and AIDS are some of the common STDs.

AIDS (Acquired Immuno Deficiency Syndrome) is a set of symptoms caused by HIV (Human Immunodeficiency Virus or Human T-cell leukaemia virus) virus in humans.

AIDS is usually developed from infection after a few months or can even take years. Diagnostic test for AIDS is ELISA (Enzyme-Linked ImmunoSorbent Assay).

Hepatitis-B is caused by the Hepatitis-B virus. It is transmitted by blood transfusions or contaminated needles or body fluids (like semen, saliva, sweat, breast milk, etc).

It is also transmitted from infected mother to the baby during breast feeding

3. Do you justify the statutory ban on amniocentesis in our country? Give reasons.

Yes, I do justify the statutory ban on amniocentesis in our country.

Amniocentesis is misused for detecting female foetus and aborting female foetus which causes female foeticide.

Hence there is a need for statutory ban on amniocentesis to legally check increasing female foeticides.

4. Enumerate and describe any five reasons for introducing sex education to school-going children.

1. Sex education in schools will help the students to get a clear understanding of the myths and misconceptions related to sex.
2. Helps in providing information about the reproductive organs and the changes happening at the period of adolescence
3. Helps them to understand the importance of carrying a child in the womb and pregnancy, post-natal care of the mother and child, the importance of breastfeeding, and gender equality, which would allow the younger generation to be educated and aware of sexual well-being.
4. Educating children of age group 12 and above about safe and hygienic sexual practices ensures safeguarding against STDs.
5. This type of education also helps children to lead a healthy reproductive life in future.

5. What are the early symptoms of most of the STDs and their complications?

Early symptoms of most of the STDs are minor and include the following in the genital region.

Itching

Fluid discharge

Slight pain

Swellings

Infected females may often be asymptomatic and hence, may remain undetected for long.

The complications of STDs are as follows.

- Pelvic inflammatory diseases (PID)
- Abortions
- Still births (Death of a foetus after 20 weeks of pregnancy)
- Ectopic pregnancies (Implantation of zygote outside the uterus)
- Infertility

- Cancer of the reproductive tract

Though all persons are vulnerable to the STD, their incidences are reported to be very high among persons in the age group of 15-24 years.

6. What are the causes of population explosion? What would be the ultimate effect of population explosion?

- A rapid decline in death rate.
- Decline in maternal mortality rate (MMR)
- Decline in infant mortality rate (IMR)
- Increase in number of people in reproducible age group.

Such an alarming growth rate could lead to an absolute scarcity of the basic requirements such as food, shelter and clothing.

7. Answer the following questions based on medical termination of pregnancy.

(a) What is medical termination of pregnancy?

(b) When was MTP legalized in India?

(c) What is the need for MTP?

(d) Which period is safe for MTP?

(e) What are the dangerous or unhealthy trends of MTP?

- (a) Intentional or voluntary termination of pregnancy before full term is called medical termination of pregnancy (MTP) or induced abortion.
- (b) Government of India legalised MTP in 1971 with some strict conditions to avoid its misuse.
- (c) MTP is performed to get rid of unwanted pregnancies either due to casual unprotected intercourse or failure of the contraceptive used during coitus or rapes. MTPs are also essential, where continuation of the pregnancy could be harmful or even fatal either to the mother or to the foetus or both.
- (d) MTPs are considered **safe during the first trimester**, i.e., upto 12 weeks of pregnancy. **Second trimester abortions are much riskier.**
- (e) Most of the MTPs are performed illegally by unqualified quacks which are not only unsafe but could be fatal too.

MTPs performed when the foetus is found to be female is illegal.

Such practices should be avoided because these are dangerous both for the young mother and the foetus.

8. What are Intra Uterine Devices? List the types of IUDs. Write the significance of IUDs.

Intra Uterine Devices (IUDs) are inserted by doctors or expert nurses in the uterus through vagina.

IUDS	Examples
Non-medicated IUDs	Lippes loop
Copper releasing IUDs	CuT, Cu7, Multiload 375
Hormone releasing IUDs	Progestasert, LNG-20

Significance:

- IUDs are ideal contraceptives for the females who want to delay pregnancy and spacing children.
- It is one of the most widely accepted methods of contraception in India.

9. What is lactational amenorrhea? How long it is effective? Why is it considered as a method of contraception?

Lactational amenorrhea (absence of menstruation) is a period of intense lactation following parturition.

No ovulation and menstruation occur as long as the mother breast-feeds the child.

The chances of conception are almost nil during this period.

This is effective only up to a maximum period of **six months** after parturition.

As sexual intercourse during this period does not lead to conception, this is considered as a method of contraception.

10. What are the Assisted Reproductive Techniques practiced to help infertile couples? Describe the various techniques.

The primary aim of the “Assisted Reproductive Technology” (ART) programme is to help infertile couples have children.

Test Tube Baby Programme:

The fertilization which occurs outside the body in almost similar conditions as that in the body, followed by **embryo transfer** (ET) is called In-Vitro Fertilization (IVF).

This method is popularly known as **test tube baby** programme, during which ova from the wife or female donor and sperms from the husband or male donor are collected and are induced to form zygote under simulated conditions in the laboratory.

The types of IVF are GIFT, ZIFT, IUT and ICSI.

The following people can be benefited from IVF

- Women who have blockages in their fallopian tubes.
- Women who have had a tubal ligation or their tubes removed.
- Women who don't ovulate on their own.
- Women with reduced ovarian reserves or advanced maternal age typically any woman over the age of 38.
- Men who had a vasectomy.
- Men with sperm abnormalities.

GIFT – Gamete Intra Fallopian Transfer

The **ovum (gamete)** collected from a female donor is transferred in to the **fallopian tube** of another female who cannot produce ova but can provide suitable environment for fertilisation and further development of the foetus up to parturition is called gamete intra fallopian transfer (GIFT). It is an In-Vivo Fertilization.

ZIFT – Zygote Intra Fallopian Transfer

Transfer of **zygote up to 8 blastomeres** into the **fallopian tube** is called Zygote Intra Fallopian Transfer. It is an In-Vitro Fertilization.

IUT – Intra Uterine Transfer

Transfer of **embryos with more than 8 blastomeres**, into the **uterus** is called Intra Uterine Transfer. It is an In-Vitro Fertilization.

Embryos formed by **in-vivo fertilization** (fusion of gametes within the female) also could be used for such transfer to assist those females who cannot conceive.

ICSI – Intra Cytoplasmic Sperm Injection

The sperm is directly injected into the ovum to form an embryo in the laboratory and then embryo transfer is carried out. It is an In-Vitro Fertilization.

The following people can be benefited from ICSI

Men with no sperm in the ejaculate (Azoospermia)

Low sperm count (Oligospermia)

Poor morphology of sperm (Teratozoospermia)

Poor motility of sperm who have undergone vasectomy (Asthenozoospermia)

Women with low egg counts and thick eggshells and who have undergone tubectomy.

AI or IUI Artificial Insemination or Intra Uterine Insemination

The semen collected from the husband or a healthy donor is artificially introduced either into the vagina or into the uterus of the female is called Artificial Insemination (AI). It is an In-Vivo Fertilization.

Couples with the following infertility issues can be benefited from Artificial Insemination

- **Inability** of the male partner to **inseminate** the female or Men with no sperm in the ejaculate (Azoospermia)
- Very **low sperm count** in the ejaculate (Oligospermia)
- Poor morphology of sperm (Teratozoospermia)
- Poor motility of sperm who have undergone vasectomy (Asthenozoospermia)
- When the husband is suffering from a genetical disease.

11. Differentiate between In-Vivo and In-Vitro Fertilizations.

In-Vivo Fertilization	In-Vitro Fertilization
It is a fertilization which occurs within the body. (Internal Fertilization)	It is a fertilization which occurs in the laboratory. (External Fertilization)
It is a natural method of fertilization.	It is an artificial method of fertilization.
Babies born through this method are considered as normal babies.	Babies born through this method are considered as Test tube babies.

12. Differentiate between GIFT and ZIFT.

GIFT	ZIFT
The sperm and ovum (gametes) collected from donor are mixed.	The sperm and ovum are allowed to fuse and form zygote in the laboratory
The mixed gametes are transferred in to the fallopian tube immediately or within 24 hours.	The zygote up to 8 blastomeres are transferred into the fallopian tube within three days.
Fertilization occurs within the body of the female. (In Vivo Fertilization)	Fertilization occurs in the laboratory. (In Vitro Fertilization)

Sexually Transmitted Diseases (STDs)

Genital Herpes

Causal Organism:

Herpes simplex virus (HSV)

Mode of Infection:

Genital herpes is a sexually transmitted disease (STD), transmitted through skin-to-skin contact.

Organ of Infection:

It can affect various areas of the body but is most commonly found on the genital organs.

Symptoms:

- Appearance of blisters on genital organs.
- Pain during urination.
- Burning around the genitals
- Unusual vaginal discharge in women.

Human Immunodeficiency Virus (HIV)

Causal Organism:

Human Immunodeficiency Virus (HIV)

Modes of Transmission:

- Sexual intercourse with unknown person
- From infected mother to the foetus during pregnancy
- From infected mother to the baby during breast feeding
- Sharing of needles and syringes
- Sharing of surgical instruments
- Blood transfusion

Hepatitis-B

Causal Organism:

Hepatitis-B virus

Mode of Infection:

Similar to HIV