

They are used in the form of tablets or pills. They inhibit ovulation and hence implantation. They are also used by females as injections or implants under the skin. Their mode of action is similar to that of pills but their effective periods are longer.

- Q. 10.** A woman has certain queries as listed below, before starting with contraceptive pills. Answer them.
- What do contraceptive pills contain and how do they act as contraceptives?
 - What schedule should be followed for taking these pills?

[CBSE (AI) 2014]

- Ans.** (a) Contraceptive pills contain progesterone or progesterone-estrogen combination. They act by either of the following way:
- inhibit ovulation
 - inhibit implantation
 - alter quality of cervical mucus to prevent or retard entry of sperms.
- (b) Contraceptive pills should be taken daily for a period of 21 days starting within first five days of menstrual cycle (to be repeated after a gap of 7 days).

- Q. 11.** Explain the permanent methods of birth control.

Ans. Sterilisation (surgical methods) is a permanent method of birth control. It is called vasectomy in male and tubectomy in female. In vasectomy, a small part of the vas deferens is removed or tied up through a small incision in the scrotum while in tubectomy, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through vagina. These techniques are highly effective but their reversibility is very poor.

- Q. 12.** Describe the technique by which genetic disorder in a developing foetus can be detected.

Ans. Amniocentesis is a technique by which genetic disorder in a developing foetus can be detected. This is based on the chromosomal pattern in the cells found in the amniotic fluid surrounding the developing embryo. Amniotic fluid contains cells and molecules shed by the foetus. The chromosomes of foetal cells can also be used to find out the sex of the foetus and abnormalities if any. So, if an abnormality is found, the mother can get the foetus aborted.

- Q. 13.** Name three incurable sexually transmitted diseases and their causative organisms.

Sexually transmitted disease	Causal agent
(i) Hepatitis-B	Hepatitis-B virus
(ii) Genital herpes	Herpes simplex virus
(iii) AIDS	HIV (Human Immunodeficiency Virus)

- Q. 14.** What are the measures one has to take to prevent from contracting STDs? [NCERT]

Ans. STDs can be prevented by the following methods:

- Avoid sex with unknown partners/multiple partners.
- Always use condoms during coitus.
- Always contact a qualified doctor for any doubt in early stage of infection and get complete treatment if diagnosed with disease.

- Q. 15.** Suggest and explain any three Assisted Reproductive Technologies (ART) to an infertile couple. [CBSE (AI) 2013]

Ans. Refer to Basic Concepts Points 6 (i)-(iv).

- Q. 16.** Describe the different methods of embryo transfer.

Ans. Embryo is transferred into the uterus or fallopian tube in the following ways:

- The zygote or embryo with up to 8 blastomeres is transferred into the fallopian tube; this is called zygote intra fallopian transfer (ZIFT).
- Embryo with more than 8 blastomeres are transferred into the uterus; this is called intra uterine transfer (IUT).

- Q. 17.** Explain the zygote intra fallopian transfer technique (ZIFT). How is intra uterine transfer technique (IUT) different from it? [CBSE (AI) 2010]

Ans. Zygote intra fallopian transfer technique (ZIFT) is a technique in *in vitro* fertilisation where the zygote or early embryo having up to 8 blastomeres is transferred into the fallopian tube to complete its further development.

Intra uterine transfer (IUT) technique is different from ZIFT as the embryos with more than 8 blastomeres are transferred into the uterus in IUT.

Q. 18. Suggest some methods to assist infertile couples to have children.

Ans. The reasons of infertility could be physical, congenital diseases, drugs, immunological and even psychological. Specialised health-care units called infertility clinics could help in diagnosis and corrective treatment of some of these disorders. Through special techniques called assisted reproductive technologies (ART), infertile couple could be assisted to have children. ART includes: (i) In vitro fertilisation, (ii) Gamete intra fallopian transfer (GIFT), (iii) Intra cytoplasmic sperm injection (ICSI), and (iv) Artificial insemination (AI). [NCERT]

Long Answer Questions

Q. 1. What do you mean by reproductive health? Mention the different ways in which people are made aware of the significance of reproductively healthy society.

Ans. Reproductive health means total well being in all aspects of reproduction, i.e., physical, emotional, behavioural, social and physiological.

Following measures are needed to make people aware of reproductively healthy society:

- (i) Providing infrastructural facilities and professional expertise to attain reproductive health.
- (ii) Educating people about birth control methods, care of pregnant mothers, importance of breast feeding, safe and hygienic sexual practices and safeguard against STDs.
- (iii) Introduction of sex education in schools to give proper information to the young minds about sex-related aspects.
- (iv) Help of audio-visual and print-media to create awareness among people about reproduction related aspects.
- (v) Awareness of problems due to population explosion, social evils like sex abuse and sex-related crimes.
- (vi) Statutory ban on amniocentesis to legally check female foeticides.

Q. 2. Describe the various methods of birth control.

Ans. Refer to Basic Concepts Point 3.

Q. 3. (a) Name any two copper releasing IUDs.

(b) Explain how do they act as effective contraceptives in human females. [CBSE (AI) 2014]

Ans. (a) CuT, Cu7, Multiload 375

(b) IUDs function by either if the following mechanism: suppress sperm motility or suppress fertilizing capacity of sperms and increase phagocytosis of sperms within uterus.

Q. 4. Name and explain the surgical method advised to human males and females as a means of birth control. Mention its one advantage and one disadvantage. [CBSE (F) 2014]

Ans. Refer to Basic Concepts Point 3 (vi).

Disadvantage: The process is irreversible.

Q. 5. Describe vasectomy and tubectomy with diagram.

Ans. Vasectomy and tubectomy are permanent methods of contraception and are also known as sterilisation techniques. These methods are generally advised to male or female partner as a terminal method to prevent any more pregnancies. It blocks gamete transport and thereby prevents conception. In vasectomy, a small part of the vas deferens is removed and then tied up through a small incision on the scrotum whereas in tubectomy a small part of the fallopian tube is removed and then tied up through a small incision in the abdomen or through vagina. These techniques are highly effective but their reversibility is very poor.

For diagram, refer to Fig. 4.1.

Q. 6. What are the Assisted Reproductive Techniques practised to help infertile couples? Describe any three techniques. [NCERT Exemplar]

Ans. Refer to Basic Concepts point 6.

Q. 7. Expand the following:

- (i) ART (ii) GIFT (iii) ICSI (iv) RTI (v) IUI

Ans. (i) ART: Assisted Reproductive Technology

(ii) GIFT: Gamete Intra Fallopian Transfer

(iii) ICST: Intra Cytoplasmic Sperm Injection

(iv) RTI: Reproductive Tract Infections

(v) IUI: Intra Uterine Insemination