

Reproductive Health

1. Write the basic steps followed in the Assisted Reproductive Technologies (ART) programme to help childless couples. Why is it also known as test tube baby programme ? (2024)

Ans.

- Ova from wife or female donor and sperm from husband or male donor are collected, induced to form a zygote under simulated conditions in the laboratory (In vitro) (outside body), Zygote or embryo are transferred into the female body for development.
- Test tube baby programme – because initial process is carried out in the laboratory / in vitro

2. Explain the mode of action of contraceptive pills taken by human females. Mention the schedule to be followed for effective outcome. (2024)

Ans.

- Pills contain progestogens or progestogen – estrogen combination.
- They inhibit ovulation, and implantation as well as, alter the quality of cervical mucus to prevent or retard the entry of sperms.
- Pills have to be taken daily for a period of 21 days starting within first five days of menstrual cycle.
- After a gap of 7 days it has to be repeated in the same pattern till the female desires to prevent conception.

Previous Years' CBSE Board Questions

3.1 Reproductive Health-Problems and Strategies

MCQ

1. Assertion (A): Determining the sex of an unborn child followed by MTP is an illegal practice.

Reason (R): Amniocentesis is a practice to test the presence of genetic disorders also.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) true, but (R) is not the correct explanation of (A).
- (c) (A) is true, but (R) is false.
- (d) (A) is false, but (R) is true.

(2023)

2. Assertion (A): Reproductive and Child Health Care (RCH) programme was initiated in India in 1951 to attain total reproductive health as a social goal.

Reason (R): Audio-visual and print media awareness was created among reproduction related aspects under the programme.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (c) (A) is true but (R) is false.
- (d) (A) is false but (R) is true.

(Term 1, 2021-22)

3. Assertion (A): Statutory ban on amniocentesis for sex-determination is to legally check increasing female feticide.

Reason (R): In amniocentesis, some of the amniotic fluid that has the developing fetus is taken to analyse the chromosomes in the fetal cells.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (c) (A) is true but (R) is false.
- (d) (A) is false but (R) is true.

(2021 C)

SA I (2 marks)

4. What is amniocentesis? How is it misused?
(AI 2014C)

SA II (3 marks)

5. (a) Mention the problems that are taken care of by Reproduction and Child Health Care Programme.

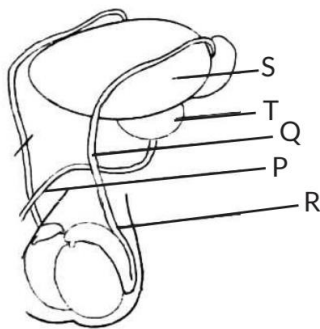
(b) What is aminocentesis and why there is a statutory ban on it? (AI 2016, 2014, Foreign 2015)

6. If implementation of better techniques and new strategies are required to provide more efficient care and assistance to people, then why is there a statutory ban on amniocentesis? Write the use of this technique and give reason to justify the ban. (Foreign 2015, AI 2014)

3.2 Population Stabilisation and Birth Control

MCQ

7. A human male decides to adopt a surgical method for contraception. Identify the point in the diagram where a cut would be made and tied.



(a) Point S

(b) Point R

(c) Point Q

(d) Point P

(2023)

8. Assertion (A): Tubectomy is a sterilisation procedure advised for females as a terminal method.

Reason (R): In tubectomy, a small part of the fallopian tube is removed or tied up blocking gamete transport thereby preventing conception.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(Term 1, 2021-22)

9. An IUD that is recommended to suppress sperm motility and the fertilising capacity of sperm is

(a) Lippe's loop

(b) LNG-20

(c) Progestasert

(d) Multiload 375.

(Term I, 2021-22)

VSA (1 mark)

10. Name an IUD that you would recommend to promote the cervix hostility to the sperms.

(Delhi 2014C)

11. State one reason why breast-feeding the baby acts as a natural contraceptive for the mother.

(AI 2014C)

SA I (2 marks)

12. Why are copper containing intrauterine devices considered an ideal contraceptive for human females?

(Delhi 2014C)

13. What do oral pills contain and how do they act as effective contraceptives?

(AI 2014C)

SA II (3 marks)

14. Name and explain a surgical contraceptive method that can be adopted by the male partner of a couple.

(2023)

15. (a) Explain the mode of action of Cu^{++} releasing IUDs as a good contraceptive. How is hormone releasing IUD different from it?

(b) Why is 'Saheli' a preferred contraceptive by women (any two reasons)?

(2020)

16. (a) List any four characteristics of an ideal contraceptive.

(b) Name two intrauterine contraceptive devices that affect the motility of sperms. **(AI 2016)**

17. Name two hormones that are constituents of contraceptive pills. Why do they have high and effective contraceptive value? Name a commonly prescribed non-steroidal oral pill. (AI 2016)

18. (a) Name any two copper releasing IUDs.

(b) Explain how do they act as effective contraceptives in human female.
(AI 2014)

19. A woman has certain queries as listed below, before starting with contraceptive pills. Answer them:

(a) What do contraceptive pills contain and how do they act as contraceptives?

(b) What schedule should be followed for taking these pills?
(AI 2014)

20. 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.
(Foreign 2014)

LA (5 marks)

21. (a) IUDs are said to be effective contraceptives. Name any two commonly used IUDs and write their mode of actions.

(b) When is sterilisation advised to married couples? How is it carried out in a human male and a female, respectively?
(2020)

3.3 Medical Termination of Pregnancy (MTP)

VSA (1 mark)

22. Our government has intentionally imposed strict conditions for MTP in our country. Justify giving a reason.
(NCERT Exemplar, Delhi 2017)

3.4 Sexually Transmitted Infections (STIs)

MCQ

23. Listed below are all venereal diseases except

(a) Genital warts

(b) Ascariasis

(c) Trichomoniasis

(d) Hepatitis-B.

(Term 1, 2021-22)

3.5 Infertility

MCQ

24. Given below are Column - A with a list of certain Assisted Reproductive Technologies (ART) and in Column - B the procedures followed during ART:

Column A		Column B	
S.No.	Names of ART	S.No.	Procedures
(A)	GIFT	(i)	Transfer of ovum from a donor into the fallopian tube of another female.
(B)	ICSI	(ii)	Transfer of semen from the donor into the vagina of the female.
(C)	ZIFT	(iii)	Injecting sperms directly into the ovum.
(D)	IUI	(iv)	Transfer of early embryos into the fallopian tube.

Choose the option where ART correctly matches with the procedure.

- (a) (A)-(i), (B)-(ii), (C)-(iii), (D)-(iv)
- (b) (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)
- (c) (A)-(iv), (B)-(iii), (C)-(i), (D)-(ii)
- (d) (A)-(i), (B)-(iii), (C)-(iv), (D)-(ii)

(2023)

25. The so-called test tube babies are produced by the technique of "in vitro fertilisation". It is a form of assisted reproductive technologies (ART). The steps of ART include:

1. Administration of gonadotropins or Clomiphene Citrate to the woman.
2. Aspiration of several ova (secondary oocytes) by laparoscopy.
3. Collection of the sperm from the husband/donor semen.
4. Incubation of ovum and the sperm together in special media and environment.
5. Fertilisation and early development of the embryo in the culture plate.
6. Implantation of the 8-celled embryos (or more) in the uterine cavity.

Answer the given questions on the basis of understanding of the above given case.

(i) The reason for using the above technique is

- I. There may be inadequate motility of spermatozoa.

II. There may be obstruction of the uterine tube.

III. There may be under developed ovaries.

IV. There may be plug in the cervical canal.

Choose the correct option.

(a) I and III

(b) III and IV

(c) I and II

(d) II and IV

(ii) Gonadotropins in the above technique are administered to the woman to stimulate

(a) formation of ovarian follicles
follicles

(b) growth of ovarian

(c) formation of corpus luteum

(d) growth of corpus luteum.

(iii) The ovum (secondary oocytes) is aspirated using laparoscopy from

(a) primary follicle

(c) graafian follicle

(b) secondary follicle

(d) corpus luteum.

(iv) In the above case if the sperm count in each milliliter of husband (X) is less than 20 million/mL and of husband (Y) is found to be 300 million/mL, the ART recommended to husband (X) and husband (Y) respectively by the medical practitioner will be

(a) ICSI and ZIFT

(b) ZIFT and ICSI

(c) IUT and IUI

(d) GIFT and ZIFT.

(v) Generally, before the implantation of the embryo the woman is administered progesterone in the procedure to make the

(a) endometrium of the uterus receptive

(b) ampulla of the oviduct receptive

(c) infundibulum of the oviduct receptive

(d) myometrium of the uterus receptive.

(vi) The technique that would be used to implant the embryo, in case the oviducts of the woman are blocked by an obstruction.

(a) GIFT

(b) IUT

(c) IUI

(d) ICSI

(Term I, 2021-22)

26. Assertion (A): Our laws permit legal adoption and it is as yet, one of the best methods for childless couples looking for parenthood.

Reason (R): Emotional, religious and social factors are also no deterrents in the legal adoption of orphaned and destitute children in India.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (b) Both (A) and (R) are true and (R) is not the correct explanation of (A).
- (c) (A) is true but (R) is false.
- (d) (A) is false but (R) is true.

(2021 C)

SAI (2 marks)

27. After a brief medical examination, a healthy couple came to know that both of them are unable to produce functional gametes and should look for an 'ART' (Assisted Reproductive Technique). Name the 'ART' and the procedures involved that you can suggest to them to help them bear a child.

(Delhi 2015)

28. An infertile couple is advised to adopt test-tube baby programme. Describe two principle procedures adopted for such technologies.

(Delhi 2015)

OR

A childless couple has agreed for a test tube baby programme. List only the basic steps the procedure would involve to conceive the baby.

(Delhi 2015C)

29. A couple where both husband and wife are producing functional gametes, but the wife is still unable to conceive, is seeking medical aid. Describe any one method that you can suggest to this couple to become happy parents.

(AI 2014)

30. "Intra-Cytoplasmic Sperm Injection" and 'Gamete Intra Fallopian Transfer' are two assisted reproductive technologies. How is one different from other?

(AI 2014C)

SA II (3 marks)

31. Expand and explain the following techniques used in the 'Test Tube Baby' programme:

(a) GIFT

(b) ZIFT

(c) IUI

(2023)

32. Why do doctors suggest some married couples to go for 'IVF'? Explain the steps carried out in the process of 'IVF'

(2020 C)

LA (5 marks)

33. (a) List any two reasons other than physical and congenital disorders for causing infertility in couples.

(b) Explain how IVF as a technique helped childless couples in having children.

(c) Compare GIFT and ICSI.

(2020)

34. (a) Explain one application of each one of the following:

(i) Amniocentesis

(ii) Lactational amenorrhea

(iii) ZIFT

(iv) Prepare a poster for the school programme depicting the objectives of: "Reproductive and Child Health Care Programme".

(2019)

CBSE Sample Questions

3.2 Population Stabilisation and Birth Control

MCQ

1. Given below are four contraceptive methods and their modes of action. Select the correct match.

S. No.	Method	S. No	Mode of action
(A)	Condom	(i)	Ovum not able to reach fallopian tube
(B)	Vasectomy	(ii)	Prevents ovulation
(C)	Pill	(iii)	Prevents sperm reaching the cervix
(D)	Tubectomy	(iv)	Semen contains no sperms

(a) (A)-(i), (B)-(ii), (C)- (iii). (D)-(iv)

(b) (A)-(ii), (B)-(iii), (C)-(iv). (D)-(i)

(c) (A)-(iii), (B)-(iv), (C)-(ii), (D)-(i)

(d) (A)-(iv), (B)-(i), (C)- (iii), (D)-(ii)

(2022-23)

2. Assertion (A): Lactational amenorrhea is the natural method of contraception.

Reason (R): It increases the phagocytosis of sperm.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(Term I, 2021-22)

3. Assertion (A): Saheli, an oral contraceptive for females, contains a steroidal preparation.

Reason (R): It is a "once a week" pill with very few side effects.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(Term I, 2021-22)

4. The mode of action of the copper ions in an IUD is to

(a) increase the movement of sperms

(b) decrease the movement of the sperms

(c) make the uterus unsuitable for implantation

(d) make the cervix hostile to the sperms.

(Term I, 2021-22)

VSA (1 mark)

5. State the composition and principle of oral pills as a contraceptive measure taking the example of Saheli.

(Term I, 2021-22)

3.5 Infertility

MCQ

6. An infertile couple was advised to undergo in vitro fertilisation by the doctor. Out of the options given below, select the correct stage for transfer to the fallopian tube for successful results.

(a) Zygote only

(b) Zygote or early embryo upto 8 blastomeres

(c) Embryos with more than 8 blastomeres

(d) Blastocyst Stage

(2022-23)

7. A female undergoing IVF treatment has blocked fallopian tubes. The technique by which the embryo with more than 8 blastomeres will be transferred into the female for further development is

(a) ZIFT

(c) IUT

(b) GIFT

(d) AI.

(Term I, 2021-2022)

Detailed SOLUTIONS

Previous Years' CBSE Board Questions

1. (b)

2. (d): Family planning programme was initiated in India in 1951 to attain total reproductive health as a social goal. A more comprehensive and improved programme was launched in 1997 under the name of Reproductive and Child Health Care (RCH). With the help of audio visual and the print media, governmental and non-governmental agencies have taken various steps to create awareness among the people about reproduction-related aspects.

3. (b)

4. Amniocentesis is a prenatal diagnostic technique used to determine sex and metabolic disorder of an unborn fetus. This technique is often misused to kill normal female fetus.

5. (a) Reproductive and Child Health Care (RCH) programmes cover wide range of reproduction related areas. Creating awareness among people about various reproduction related aspects and providing facilities and support for building up a reproductively healthy society are the major tasks under these programmes.

(b) Amniocentesis is a prenatal diagnostic technique used to determine sex and metabolic disorder of an unborn fetus. There is a statutory ban on amniocentesis because it is being misused to kill unborn normal female fetuses. This technique is based on the principle that amniotic fluid contains cells from the skin of the fetus and other sources and therefore can be used to determine its sex, chromosomal abnormalities, etc.,

6. Better techniques and new strategies provide more efficient care and assistance to people but these are often misused by the people for their benefit. Best example of this is amniocentesis. Amniocentesis is a prenatal sex and disorder determining test which can be used to determine any chromosomal, biochemical and enzymatic abnormality in an unborn fetus. But, this technique is often misused to kill the normal unborn female fetus therefore it is banned. Yes, the ban is fully justified so as to prevent the growing number of female feticides in the country.

7. (c) : Q is vas deferens. Vasectomy is a surgical method of contraception in males in which small part of the vas deferens is removed or tied up through a small cut on the scrotum. This prevents sperm transport.

8. (a) : Tubectomy is a sterilisation procedure advised for females as a terminal method where a small part of the fallopian tube is removed or tied up blocking gamete transport thus preventing conception.

9. (d): Cu7, CuT and Multiload 375 are copper releasing IUDs which suppress sperm motility and the fertilising capacity of the sperms.

10. Progestasert is a hormone releasing IUD (intrauterine contraceptive device) which makes the cervix hostile to the sperms.

11. Ovulation, and therefore the menstrual cycle, does not occur during intense lactation period (following parturition). Therefore, breast feeding the baby act as a natural contraceptive for the mother but that too upto a maximum period of six months.

12. Copper containing intrauterine devices (Cut, Cu7, etc) are considered effective contraceptives for human females as the Cu ions released by them suppress sperm motility and fertilising capacity of the sperms. Hence, they act as effective birth control method.

13. Oral pills contain either progestin (progestogen) alone or a combination of progestogen and estrogen both. Oral pills inhibit ovulation, motility and secretory activity of oviducts and changes the cervical mucus that impairs transport of sperms and also alter the uterine endometrium and makes it unsuitable for implantation. Hence, they act as effective contraceptives for human females.

14. Surgical contraception method or sterilisation method adopted by the male partner of a couple is vasectomy. It blocks gamete transport and prevent conception. It is a permanent method of birth control. In vasectomy a small part of the vas deferens is removed or tied up through a small cut on the scrotum to prevent passage of sperms. This technique is highly effective but the reversibility is very poor.

15. (a) Cu⁺⁺ releasing IUDs are considered as an effective contraceptive for human females because Cu ions released by them suppress sperm motility and fertilising capacity of the sperms. On the other hand, hormone releasing IUD make the uterus unsuitable for implantation and the cervix hostile to the sperms.

(b) 'Saheli' contains a non-steroidal preparation called centchroman. It is preferred contraceptive by women because: (i) it has high contraceptive value (ii) it has very little side effects.

16. (a) An ideal contraceptive must have the following four characteristics:

(i) It must be safe and user friendly.

(ii) It must be easily available.

(iii) It must be reversible with little or no side effects.

(iv) It should not interfere with the sexual drive, desire or sexual act of the user.

(b) CuT and Multiload 375 are two copper releasing IUDs that affect the motility of the sperms.

17. Two hormones that are constituents of contraceptive pills are progestogen (progesterone) and estrogen. Oral pills may contain either progestogen alone or a combination of both progestogen and estrogen. Oral (contraceptive) pills have high and effective contraceptive value as they help to prevent pregnancy by inhibiting body's natural cyclical hormones. They usually stop the body from ovulating, change cervical mucus to make it difficult for sperm to go through cervix, and prevent implantation of the fertilised egg.

'Saheli' is a commonly prescribed non-steroidal oral pill.

18. (a) Two copper releasing IUDs are Cut and Multiload 375.

(b) Copper containing intrauterine devices (CUT, Cu7, etc) are considered an effective contraceptive for human females as the Cu ions released by them suppress sperm motility and fertilising capacity of the sperms. Hence, they act as effective birth control method.

19. (a) Two hormones that are constituents of contraceptive pills are progestogen (progesterone) and estrogen. Oral pills may contain either progestogen alone or a combination of both progestogen and estrogen.

Oral (contraceptive) pills have high and effective contraceptive value as they help to prevent pregnancy by inhibiting body's natural cyclical hormones. They usually stop the body from ovulating, change cervical mucus to make it difficult for sperm to go through cervix, and prevent implantation of the fertilised egg.

(b) Contraceptive pills have to be taken daily for 21 days starting within the first five days of menstrual cycle and this has to be repeated after a gap of 7 days in the same pattern till the female desires to prevent conception.

20. Surgical methods of birth control advised to human males and females are vasectomy and tubectomy respectively. In vasectomy, a small part of the vas deferens is removed or tied up through a small cut on the scrotum while in tubectomy, a small part of the fallopain tube is removed or tied up through a small cut in the abdomen or through vagina. Both vasectomy and tubectomy are permanent birth control methods with no side effects but one disadvantage of this procedure is that their reversibility is very poor. So, it is advised to those married couples who already have children and do not wish to have any more.

21. (a) IUDs or intra-uterine devices are effective and popular methods of birth control. Two commonly used IUDs are copper releasing IUDs (CUT, Cu7, etc.) and

hormone releasing IUDs (progestasert, LNG-20, etc.). Cu^{++} releasing IUDs are considered as an effective contraceptive for human females. Cu ions released by them suppress sperm motility and fertilising capacity of the sperms. On the other hand, hormone releasing IUDs make the uterus unsuitable for implantation and the cervix hostile to the sperms.

(b) It is advised to those married couples who already have children and do not wish to have any more. Surgical methods of birth control or sterilisation advised to human males and females are vasectomy and tubectomy respectively. In vasectomy, a small part of the vas deferens is removed or tied up through a small cut on the scrotum while in tubectomy, a small part of the fallopian tube is removed or tied up through a small cut in the abdomen or through vagina. Both vasectomy and tubectomy are permanent birth control methods with no side effects.

22. Government of India has imposed strict conditions for MTP because it is often misused for sex determination and illegal abortions of female fetuses. Due to female feticides, male and female sex ratio may get disturbed, raising many ethical, religious and social issues.

23. (b): Ascariasis is not a venereal disease as it does not spread through sexual contact from one person to another. An individual has to consume the worm eggs to get infected.

24. (d)

25. (1) (c): The reason for using the given technique could be inadequate motility of spermatozoa and obstruction of the uterine tube. Artificial insemination and ICSI is used in case of inadequate motility of spermatozoa and IUT (intra uterine transfer) is used when the uterine tube is obstructed.

(ii) (a): Gonadotropins or Clomiphene citrate, in the given technique are administered to the woman to stimulate the formation of ovarian follicles.

(iii) (c): Aspiration is a technique used for the retrieval of eggs from the mother/donor female. The ovum (secondary oocytes) is aspirated using laparoscopy from Graafian follicle.

(iv) (a): In the given case, ART recommended to husband (X) should be intra cytoplasmic sperm injection (ICSI) due to low count of sperm production and ZIFT is recommended to husband (Y).

(v) (a): The woman is administered progesterone before the implantation of the embryo as it is essential for maintenance of the endometrium of uterus which is necessary for implantation of fertilised ovum and other events of pregnancy. This also prevents menstruation.

(vi) (b): Intra Uterine Transfer (IUT) is the technique that would be used to implant the embryo with more than 8 blastomeres, in case the oviducts of the woman are blocked by an obstruction.

26. (c): In India, there are many orphaned and destitute children, who would probably not survive till maturity, unless taken care of. But various factors such as emotional, social and religious factors are deterrents in the adoption of these children. Our laws permit legal adoption which is as yet, one of the best methods for couples looking for parenthood.

27. Assisted Reproductive Technologies (ART) help to solve infertility problems in infertile couples. In the given case, both the partners are unable to produce functional gametes so, the technique that we would suggest to them is Gamete Intra Fallopian Transfer (GIFT). In this procedure the superovulation is done as in IVF. Two collected oocytes alongwith about 200,000-500,000 motile sperms for each fallopian tube are placed in a plastic tube container. It is then transferred through laparoscope and inserted 4 cm into the distal end of the fallopian tube where the combination is injected. This method is better than IVF. Its success rate is 27-30%.

28. Two principle procedures adopted for test tube baby programme are ZIFT (Zygote Intra Fallopian Transfer) and IUT (Intra Uterine Transfer). In this procedure fusion of ovum and sperm is done outside the body of a woman, in the laboratory to form a zygote. The zygote is then allowed to divide forming 8 blastomeres and is transferred into the fallopian tube (ZIFT - Zygote Intra Fallopian Transfer). If the embryo is with more than 8 blastomeres it is transferred into the uterus (IUT - Intra Uterine Transfer) to complete its further development. This is called as in vitro fertilisation (IVF – fertilisation outside the body in almost similar conditions as that in the body) which is followed by embryo transfer (ET).

29. In the given case, both the partners are producing normal gametes but female is unable to conceive. This means that there is some problem with fallopian tube or uterus or hormonal levels of the female. Thus, the method that we suggest to the couple is of surrogacy. In this method, the ova from the wife and sperms from the husband is induced to form zygote in the laboratory. The zygote is then allowed to divide to form embryo. A developing embryo is then implanted in the uterus of another female (surrogate mother). The surrogate mother then gives birth to the child.

30. The differences between ICSI and GIFT are:

	Intra Cytoplasmic Sperm Injection (ICSI)	Gamete Intra Fallopian Transfer (GIFT)
(i)	Spermatozoon/ Spermatid is directly injected into the cytoplasm of the oocyte by puncturing zona pellucida.	Both sperms and unfertilised ova are transferred into the fallopian tubes of the female where fertilisation takes place.
(ii)	Overall success rate is 20-40%.	Overall success rate is 27-30%.

31. (a) GIFT is Gamete Intra Fallopian Transfer. It involves transfer of an ovum from a donor into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and further development.

(b) ZIFT is Zygote Intra Fallopian Transfer. ZIFT is a boon to childless couples as it helps them to become parents. In this technique, ova from wife/donor female and sperms from husband / donor male are induced to form zygote in laboratory.

Zygote is allowed to divide upto 8 blastomeres stage and at this stage, a zygote or early embryo is transferred into the fallopian tube. Implantation takes place in the uterus where further development takes place.

(c) IUI is Intra-Uterine Insemination. In this technique, the semen collected either from the husband or a healthy donor is artificially introduced either into the vagina or into the uterus of the female.

32. In-vitro fertilisation (IVF) is the most common fertility treatment suggested by doctors for married couples as this technique IVF enables them to conceive quickly and at the right time. It is a complex series of procedure used to help with fertility or prevent various genetic disorders and assist with the conception of a child.

IVF (in vitro fertilisation) is an assisted reproductive technology in which fusion of ovum and sperm is done outside the body of female (in almost similar conditions as that in the body) to form zygote. The zygote is then allowed to divide forming 8 blastomeres and is transferred into the fallopian tube (ZIFT Zygote Intra Fallopian Transfer). If the embryo is with more than 8 blastomeres it is transferred into the uterus (IUT-Intra Uterine Transfer) to complete its further development.

33. (a) The reasons for causing infertility in couples other than physical and congenital are drugs and diseases (immunological or psychological). Sometimes alcohol addiction among males causes defective spermatogenesis which leads to infertility.

(b) IVF (in vitro fertilisation) is an assisted reproductive technology in which fusion of ovum and sperm is done outside the body of female (in almost similar

conditions as that in the body) to form zygote which is allowed to divide to form embryo.

The embryo with upto 8 blastomeres is then implanted into the fallopian tube or embryos with more than 8 blastomeres in uterus of female where it develops into a fetus. This technique has helped many childless couples to have children.

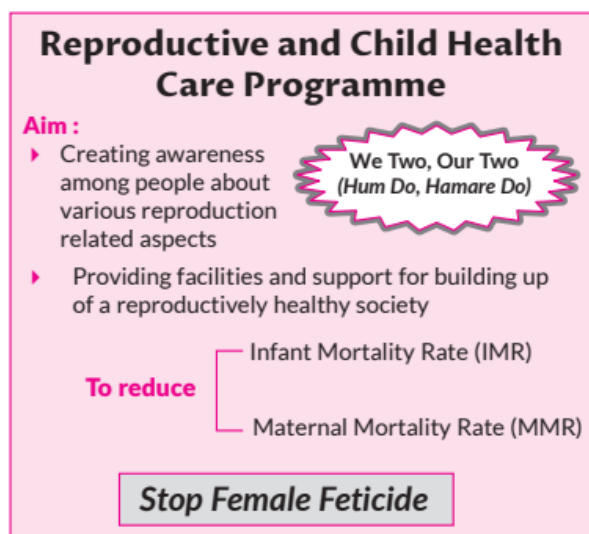
(c) Refer to answer 30.

34. (a) (i) Amniocentesis is a prenatal diagnostic technique used to determine sex and metabolic disorder of an unborn fetus.

(ii) Lactational amenorrhea (absence of menstruation) is a natural method of birth control and is based on the fact that ovulation or the cycle does not occur during the period of intense lactation following parturition.

(iii) ZIFT (Zygote Intra Fallopian Transfer) is a boon to childless couples as it helps them to become parents. This treatment is usually advised to couples when blockage in fallopian tubes prevents the normal fusion of gametes.

(b) A poster with the slogans about the importance of reproductive and child health care consists of slogans like "We Two, Our Two (Hum Do, Hamare Do)" or "Stop Female Feticide" or "AIDS prevention".



CBSE Sample Questions

1. (c) amenorrhea
2. (c): Lactational (absence of menstruation) is a natural method of contraception. Intra-Uterine Devices (IUDs) like Lippe's loop, LNG-20, Multiload 375, etc., increase phagocytosis of sperms within the uterus.
3. (d): Saheli is a new oral contraceptive for the females which contains a non-steroidal preparation. It is taken once a week after an initial intake of twice a week dose for 3 months. It has very few side effects and high contraceptive value.
4. (b): Copper ions released from IUDs suppress sperm motility and the fertilising capacity of sperms.
5. The oral pills comprises of either progestogens or progestogen-estrogen combination. Saheli is oral contraceptive containing non-steroidal preparation called centchroman. It inhibits ovulation and implantation. It also alters the quality of cervical mucus to prevent or retard the entry of sperms.
6. (b) : Zygote or early embryo with upto 8 blastomeres are transferred into fallopian tube.
7. (c)