

Amniocentesis : Diagnostic technique to detect chromosomal pattern in the foetus used to detect the genetic disorder and often misused to determine the sex of the foetus.

Sterilisation : A permanent method of birth control through surgery in male or female.

IUCD : Intra Uterine Contraceptive Device

RCH : Reproductive and Child Health care

STD : Sexually Transmitted Disease

CDRI : Central Drug Research Institute

MMR : Maternal Mortality Rate

MTP : Medical Termination of Pregnancy

VD : Venereal Disease

RTI : Reproductive Tract Infection

PID : Pelvic Inflammatory Disease

ART : Assisted Reproductive Technologies

IVF : In Vitro Fertilisation

ZIFT : Zygote Intra Fallopian Transfer

GIFT : Gamete Intra Fallopian Transfer

Methods of Birth Control

- (i) Natural Methods : Periodic abstinence
Coitus interruptus or withdrawal
Lactational amenorrhea.
- (ii) Barrier Methods : Condom, Diaphragms, Cervical cap.
and vault
- (iii) Intra Uterine Devices : Non—medicated (e.g. Lippes loop)
Copper releasing (e.g., Cu-T, multiload 375)
Hormone releasing (e.g. LNG-20,
progestasert)

- (iv) Oral contraceptives : Pills / Saheli, Mala-D
Small doses of either progestogens or Progestogen—estrogen combination
- (v) Injections : Progesterone derivatives given every three months.
- (vi) Implants : Synthetic progesterone patches are implanted under the skin.
Prevents pregnancy upto 4 years.
- (vii) Emergency pills : Must be taken within 72 hours of coitus.
They have high concentration of progesterone and oestrogen which prevent ovulation eg. I pill, unwanted-72 etc.
- (viii) Surgical (Sterilisation) : (1) Tubectomy in females;
(2) Vasectomy in male.

MTP (Medical Termination of Pregnancy)

Voluntary or intentional abortion performed to end pregnancy before the completion of full term.

MTP is legalised :

- To abort unwanted pregnancies.
- If pregnancy is likely to produce a congenitally malformed child.
- Pregnancy leads due to failure of contraceptive or result of rape.

S T D (Sexually Transmitted Diseases)

Name of Disease	Causative agent	Symptoms
Gonorrhoea	Bacterium	Painful urination, Pain around urethra
Syphilis	Bacterium	itching, fluid discharge, pain in urinogenital tract.
Genital Herpes	Virus (Herpes simplex)	Reddish ulcers over external genitalia, vaginal discharge.

Genital warts

Virus

Warts over external genitalia, vagina & cervix etc.

Infertility : Inability to produce children, inspite of unprotected sexual cohabitation of a couple is termed as infertility.

Reasons for Infertility

- (i) Physical
- (ii) Congenital diseases
- (iii) Drugs
- (iv) Immunological reaction

The couple can be assisted to have children through certain special techniques commonly known as assisted reproductive technologies (ART).

- (i) **In Vitro Fertilisation (IVF)** : Fertilisation outside the body in almost similar conditions as that in the body, followed by embryo transfer (E.T.).

Test Tube baby Programme : Ova from the wife/donor female and sperm from husband/donor male are allowed to fuse under simulated condition in the laboratory.

ZIFT : Zygote intra fallopian transfer—Zygote or early embryo upto eight blastomeres is transferred into the fallopian tube.

IUT : Intra Uterine Transfer—Embryo with more than eight blasomeres are transferred.

- (ii) **Gamete intra fallopian transfer (GIFT)** : Transfer of an ovum collected from a donor to fallopian tube of another female who can not produce ova, but can provide suitable conditions for fertilisation and further development of the foetus upto parturition.
- (iii) **Intra Cytoplasmic sperm injection (ICSI)** : The sperm is directly injected into the ovum to form an embryo in the laboratory and then embryo transfer is carried out.
- (iv) **Artificial Insemination** : This method is used in cases where infertility is due to the inability of the male partner to inseminate the female or due to very low sperm counts in the ejaculates. In this method, the semen collected from the husband or a healthy donor is artificially introduced into the vagina or into the uterus (IUI-Intra uterine insemination).

Questions

VSA

(1 Mark)

1. Give the term for prenatal diagnostic technique aimed to know the sex of developing foetus and to detect congenital disorders.
2. After a successful in-vitro fertilisation, the fertilised egg begins to divide. Where is this egg transferred before it reaches the 8-celled stage and what is this technique called ?
3. Give the term for rapid population growth.
4. Name the fluid from which foetal cells are extracted for chromosomal analysis.

Multiple Choice Question

5. Oral contraceptives prevent pregnancy by
 - a) Killing the ovum
 - b) Blocking fertilisation
 - c) Preventing ovulation
 - d) Preventing implantation
6. Tubectomy is method of sterilisation in which
 - a) Small part of the fallopian tube is removed or tied up
 - b) Ovaries are removed surgically
 - c) Small part of vas deferens is removed or tied up
 - d) Uterus is removed surgically
7. Which of the following is a hormone releasing Intra-Uterine Device (IUD)?
 - a) Multiload - 375
 - b) LNG-20
 - c) Cervical cap
 - d) Vault
8. Which of the following is not a sexually transmitted disease?
 - a) Syphilis
 - b) AIDS
 - c) Trichomoniasis
 - d) Encephalitis

9. Embryo with more than 16 blastomeres formed due to in vitro fertilisation is transferred into
- a) Cervix
 - b) Uterus
 - c) Fallopian tube
 - d) Fimbriae

Assertion-Reason Question

10. **Assertion** : In IUT, zygote or early embryo with up to eight blastomeres is transferred into the fallopian tube.

Reason : In ZIFT, embryo with more than eight blastomeres is transferred into the fallopian tube.

- a) Both assertion and reason are true, and reason is the correct explanation of assertion.
- b) Both assertion and reason are true, but reason is not the correct explanation of assertion.
- c) Assertion is true but reason is false.
- d) Both assertion and reason are false.

11. **Assertion** : In Vitro Fertilisation involves fertilisation outside the body.

Reason : Ova from female and sperm from male are allowed to fuse under simulated condition in the laboratory.

- a) Both assertion and reason are true, and reason is the correct explanation of assertion.
- b) Both assertion and reason are true, but reason is not the correct explanation of assertion.
- c) Assertion is true but reason is false.
- d) Both assertion and reason are false.

SA-I**(2 Marks)**

12. Lactational Amenorrhoea is a method of contraception. Justify. What is the maximum effectiveness of this method in terms of period/duration?
13. Why is CuT (copper T) considered as good contraceptive device to space children ?
14. Briefly explain two natural barriers for birth control.
15. Write any four characteristics of an ideal contraceptive.

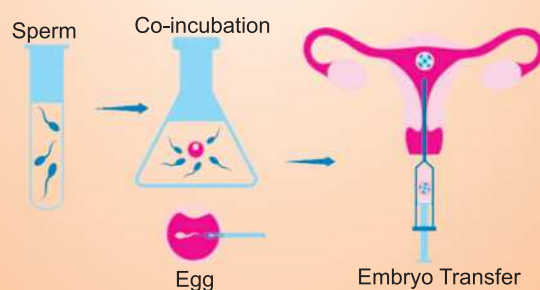
SA-II**(3 Marks)**

16. Give another name for sexually transmitted diseases. Name two sexually transmitted diseases which are curable and two diseases which are not curable.
17. Differentiate between Vasectomy and Tubectomy.
18. Mention the various precautions one has to take in order to protect himself/herself from STDs.

LA**(5 Marks)**

Briefly explain the various reproductive technologies to assist an infertile couple to have children.

19. A couple visited a fertility clinic with their reports. Doctor observed the report and explained the possibility of getting child by the method mentioned in the given picture. Answer the following questions regarding the mentioned technique.



- (a) How the fertilisation took place in this technique?
- (b) What is the probable test report of the female partner?
- (c) At which stage, the embryo is transferred in uterus? Write the term used for the same.
- (d) Expand ZIFT.

Answers

VSA

(1 Marks)

1. Amniocentesis.
2. Fallopian tube : Zygote intra fallopian transfer (ZIFT)
3. Population explosion.
4. Amniotic fluid.

Answer of Multiple-Choice Question :

5. (c) 6. (a) 7. (B) 8. (d) 9. (b)

Answer of Assertion-Reason Question :

- 10.(d) 11. (a)

SA-I

(2 Marks)

12. (a) Ovulation and menstrual cycle do not occur during the period of intense lactation following parturition. Therefore, as the mother breast feeds, chances of conception are nil.
(b) It is effective only upto a maximum period of six months following parturition.
13. (a) Copper releasing IUDs (CuT, Multiload 325) → These increase phagocytosis of sperms within uterus and release copper ions which suppress sperm motility and fertilising capacity of sperm.
(b) Hormone releasing IUDs—Progestasert, LNG—20—These makes uterus unsuitable for implantation and the cervix hostile to sperms.
14. Periodic abstinence—couple should avoid coitus from 10th to 17th day of menstrual cycle.
Coitus interruptus—male partner withdraws his penis from the vagina just before ejaculation of semen.
15. User friendly, easily available, effective, reversible with no side effects.

SA-II

(3 Marks)

16. Venereal disease (VD)/Reproductive tract infection (RTI)
Curable-Syphilis, Gonorrhoea
Non Curable—Hepatitis B, AIDS

17.	Vasectomy	Tubectomy
	1. Method of sterilisation in males	Method of sterilisation in females.
	2. Vas deferens of both sides cut and tied	Fallopian tube of both sides cut and tied.
	3. Prevent movement of sperms at cut end.	Prevent movement of egg at cut end.

18.(i) Avoid blood transfusion from an infected person.

(ii) Avoid sex with an unknown partner and multiple partners.

(iii) Always use condom.

(iv) Avoid sharing of injections, needles, syringes and surgical instruments.

19. (a) By IVF (in vitro fertilisation) — fertilization outside the body in almost similar conditions as that in the body.

(b) Blockage in fallopian tube.

(c) More than 8 blastomeres. IUT – Intra uterine transfer.

(d) Zygote Intra Fallopian Transfer.