

## CHAPTER – 4

# REPRODUCTIVE HEALTH

## INTRODUCTION

According to **World Health Organisation**, reproductive health means a total well-being in all aspects of reproduction that is physical, emotional, behavioural and social, therefore a society with people having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex related aspects might be called reproductively healthy.

### REPRODUCTIVE HEALTH: PROBLEMS AND STARTIGIES

India was one of the first countries in the world to use the **"family planning" programme, which began in 1951.**

In a culture, reproductive health is an important component of overall health.

Under the common moniker 'Reproductive and child health care (RCH) programme,' improved programmes encompassing a broader range of reproduction-related issues are presently in operation.

Young people's health and education, as well as marriage and childbearing at more mature phases of life, are all crucial factors in a society's reproductive health.

**Government Measures to create awareness among people about reproduction related aspects:** The government is doing this with the help of:

- Audio-visuals and print media.
- Even family members and close relatives are becoming aware.
- Sex education is implemented in schools to raise awareness.
- Adequate education regarding reproductive organs, puberty and associated changes, safe and sanitary sexual behaviours, sexually transmitted illnesses, AIDS is also being taught in schools.

**Amniocentesis:** It is a method that uses amniotic fluid to detect chromosomal abnormalities in growing embryos.

It is also misapplied to determine foetal sex based on the chromosomal pattern in the amniotic fluid around the growing embryo.

### Brush Up Your Understanding

**Q1.** Family planning programmes were initiated in which of the following year?

- (a) 1947 (b) 1951
- (c) 1977 (d) 1955

**S1. (b)**

**Q2.** RCH stands for.

- (a) Reproductive and child health care
- (b) Renovation and child health care
- (c) Reproduction and common health care
- (d) None of the above

**S2. (a)**

### Population explosion and Birth Control

People's improved quality of life, enhanced health care, and better living conditions had an exponential influence on population growth.

The fundamental cause of population explosion is:

- o Rapid drop in death rates,
- o MMR (maternal mortality rate)
- o IMR (infant mortality rate)
- o An increase in the population of reproductive age.

### Steps to combat population growth are:

- o Using numerous ways of contraception.
- o Educating individuals about the disadvantages of having a big family.
- o Increasing both female and male marriageable ages
- o Providing an incentive to parents with one or two children.

An ideal way of controlling the population is the use of contraceptives.

**Contraceptives:** these come in form of pills and many other forms that prevent the fusion of egg and the sperm and hence the pregnancy.

An ideal contraceptive should have following features:

- ✓ User friendly
- ✓ Easily available
- ✓ Effective
- ✓ Reversible
- ✓ No side effects
- ✓ No way interferes with sexual desire and sexual act.

**Contraceptives are divided into following:**

**(i) Natural/Traditional Method:** these avoids the meeting of sperm and ovum by chance and includes the following:

- o **Periodic abstinence:** Couples avoid coitus from day 10 to day 17 of their menstrual cycle since the odds

of fertilisation are relatively high during this period, which is known as the fertile period.

- o **Coitus interruptus:** To avoid fertilisation, the male partner withdraws the penis from the vagina immediately before ejaculation.
- o **Lactational Amenorrhea:** Because of the lack of menstruation following parturition, as well as the strong milk feeding and lack of ovulation during this period, the odds of fertilisation are minimal.

**(ii) Barrier method:** A barrier prevents ovum and sperm from physically meeting. This includes the following:

- o Condom: 'Nirodh' is a popular brand of condom in males.



Condom for male



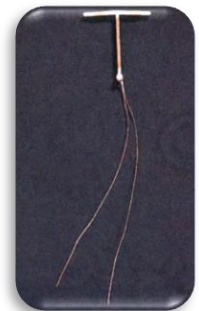
Condom for female

- o **Diaphragms, cervical caps and vaults:** these are rubber barrier put into the female reproductive tract during coitus. Spermicidal lotions, jellies, and foams are commonly used in conjunction with these barriers to improve their contraceptive effectiveness.

**Barrier approaches provide the following advantages:**

- ✓ They can be discarded easily.
- ✓ They are self-insertable.
- ✓ They may be reused
- ✓ **Prevents conception by blocking entry of sperm through cervix.**

**(iii) IUD's:** put vaginally into the uterus of a female by a doctor or a skilled nurse **Non-medicated IUDs** (e.g., **Lippes loop**), **copper releasing IUDs** (**CuT, Cu7, Multiload 375**), and **hormone releasing IUDs** are all examples of IUCDs (**Progestasert, LNG-20**).



Copper-T

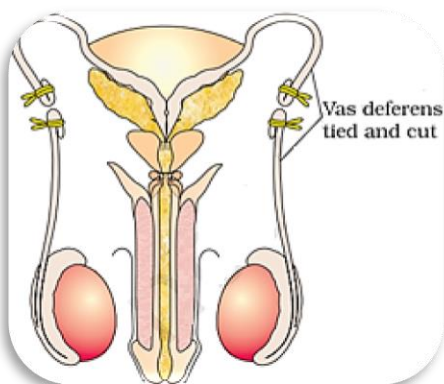
IUDs promote sperm phagocytosis in the uterus, but copper releasing IUDs decreases sperm motility and reproductive capability. IUDs that release hormones render the uterus unsuitable for implantation and the cervix unfriendly to sperms. It is great for females who desire to postpone pregnancy and have space between two children.

**(iv) Oral pills:** Females take progesterone or a progesterone-estrogen combo in the form of pills. They hinder or delay sperm entrance by inhibiting ovulation

and implantation and altering the quality of cervical mucus. Progesterone or a progesterone-estrogen combination administered within 72 hours following coitus has been demonstrated to be particularly effective as an **emergency contraceptive**.

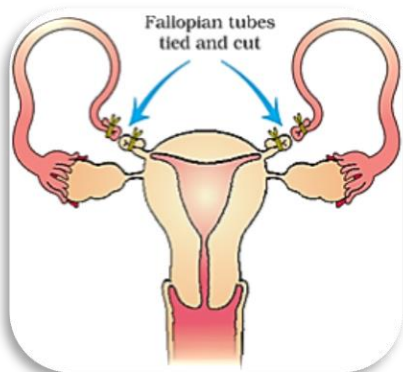
(v) **Surgical Methods:** it a terminal method of contraception and can be done on both males and females.

- o **Vasectomy:** In males, a little portion of the vas deferens is excised or tied up by a minor incision on the scrotum to prevent sperm release.



**Vasectomy**

- o **Tubectomy:** is a medical procedure in which a little portion of the fallopian tube is surgically removed.



**Tubectomy**

These procedures are quite successful, but their reversibility is extremely low.

### Brush Up Your Understanding

**Q1.** An **emergency contraceptive** should be administered.

- (a) 24 hours following coitus
- (b) 36 hours following coitus
- (c) 72 hours following coitus
- (d) 96 hours following coitus

**S1. (c)**

**Q2.** Multiload 375 is a.

- (a) Hormone release IUD
- (b) Cu releasing IUD

- (c) Both (a) and (b)
- (d) None of the above

**S2. (b)**

**Medical Termination of Pregnancy (MTP):** MTP (medical termination of pregnancy) or induced abortion refers to the voluntary termination of a pregnancy before full term. It contributes significantly to population reduction by terminating unwanted pregnancies.

MTP was legalised in India in 1971, with various restrictions to avoid its abuse, such as indiscriminate and unlawful female foeticides.

MTP is used to avoid undesired pregnancy as a result of unprotected intercourse or the failure of contraception used during coitus or rapes.

When continuing the pregnancy might be detrimental to the mother or baby.

During the first trimester, or up to 12 weeks of pregnancy, MTPs are regarded reasonably safe. MTPs in the second trimester are much risky.

### Brush Up Your Understanding

**Q1.** MTP was legalised in India in which of the following year?

- (a) 1940
- (b) 1950
- (c) 1970
- (d) 1971

**S1. (d)**

**Q2.** MTP can be performed safely in which of the following trimester?

- (a) 1<sup>st</sup> trimester
- (b) 2<sup>nd</sup> trimester
- (c) 3<sup>rd</sup> trimester
- (d) 4<sup>th</sup> trimester

**S2. (a)**

**Sexually Transmitted Diseases:** Sexually transmitted illness, venereal disease (VD), or reproductive tract infection refers to diseases or infections spread by sexual contact (RTI).

**Gonorrhea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B, and AIDS** are among prevalent STDs.

Hepatitis B and HIV can also be transferred by the sharing of injection needles or surgical equipment with an infected individual, blood transfusion, or from an infected mother to a foetus.

**With the exception of genital herpes, HIV and hepatitis-B are totally curable if discovered and treated early.**

STDs must be detected and treated as soon as possible, otherwise they can lead to:

- (i) pelvic inflammatory disorders (PID)
- (ii) abortions, stillbirths, ectopic pregnancies,

- (iii) infertility
- (iv) cancer of the reproductive system.

**They can be prevented by:**

- (i) Avoiding sex with unknown/multiple partners.
- (ii) Use of condoms
- (iii) If having some uneasiness, then consulting a doctor.

### Brush Up Your Knowledge

- Q1. Undetected STD can lead to.  
(a) Still births (b) Abortions  
(c) Infertility (d) All of the above
- S1. (d)
- Q2. Which of the following STD cannot be cured at all?  
(a) Genital herpes (b) HIV  
(c) Hepatitis-B (d) All of the above
- S2. (d)

### Infertility

Infertile couples are those who are unable to reproduce offspring despite unprotected sex. There might be several explanations for this, including physical, congenital, illnesses, medications, immunological, or psychological factors. Infertile couples can be helped to bear children using specific treatments known as **Assisted reproductive technologies (ART)**. Some of the methods include:

**In-vitro fertilisation (IVF):** The test tube baby programme involves fertilisation outside the body followed by embryo transfer.

- The ovum from the wife/donor and the sperms from the husband/donor are collected and fertilised in a laboratory setting.
- For further development, a zygote or early embryo (8 blastomeres) is transferred into the fallopian tube using

**ZIFT (zygote infra fallopian transfer)** and an embryo with more than 8 blastomeres via **IUT (intra uterine transfer)** into the uterus.

**Gamete intra fallopian transfer (GIFT):** Transfer of gametes from a donor into the fallopian tube of another female who does not produce an egg.

**Intra cytoplasmic sperm injection:** specialised laboratory process for forming an embryo in which sperm is directly inserted into the ovum

**Artificial insemination:** Infertility cases in which the male spouse is unable to generate healthy sperms are treated with this treatment, in this method the donor sperm is intentionally delivered into the female's vagina or uterus by **IUI (intra uterine insemination)**.

### Brush Up Your Understanding

- Q1. Which of the following is about ZIFT?  
(a) a zygote or early embryo of 6 blastomeres is transferred into the fallopian tube  
(b) a zygote or early embryo of 8 blastomeres is transferred into the fallopian tube  
(c) a zygote or early embryo of 10 blastomeres is transferred into the fallopian tube  
(d) a zygote or early embryo of 12 blastomeres is transferred into the fallopian tube
- S1. (b)
- Q2. IVF technique includes.  
(a) GIFT (b) AI  
(c) IUT (d) All of these
- S2. (c)

## SUMMARY

According to WHO, reproductive health means total well-being in all aspects of reproduction i.e. physical, emotional, behavioural and social. India was amongst the first countries in the world to initiate the programme “family planning” in 1951.

Health and education of young people and marriage and child bearing during more mature stages of life are important attributes to the reproductive health of a society.

Overpopulation explosion in population causes a scarcity of every basic need and hence affects the well-being of reproductive health.

Due to a lack of sex education, people are not concerned about safe and hygienic sexual practices. Sex abuse and sex-related crimes can cause physical injury, unwanted pregnancy, vaginal discharge, pelvic pain etc. Female foeticide is also increasing.

All these can be stopped by family planning, sex education, infrastructural facilities material support and especially ban on amniocentesis which is a

technique used to find out chromosomal abnormality in the developing embryo by using amniotic fluid. It is also used to check foetal sex that is illegal.

An overall improvement in reproductive health has taken place in our country as indicated by reduced maternal and infant mortality rates, early detection and cure of STIs, assistance to infertile couples, etc. Now with the advancement of technology various birth control methods are available that can prevent unwanted pregnancies, STDs.

MTP (medical termination of pregnancy) was legalised in India in 1971.

Infections or diseases transmitted through sexual intercourse are called Sexually Transmitted Diseases (STIs). STIs can lead to several problems like ectopic pregnancies, still births and infertility also.

With technological advancements, various innovative measures can now be employed to treat infertility that is the inability to conceive even after 2 years of unprotected sexual intercourse.



## MIND MAP



India was among the 1<sup>st</sup> country to initiate actions to attain total reproductive health as social goal.

Contraceptive methods include natural methods, barriers, IUDs, oral contraceptives, injectables, implants and surgical Methods.

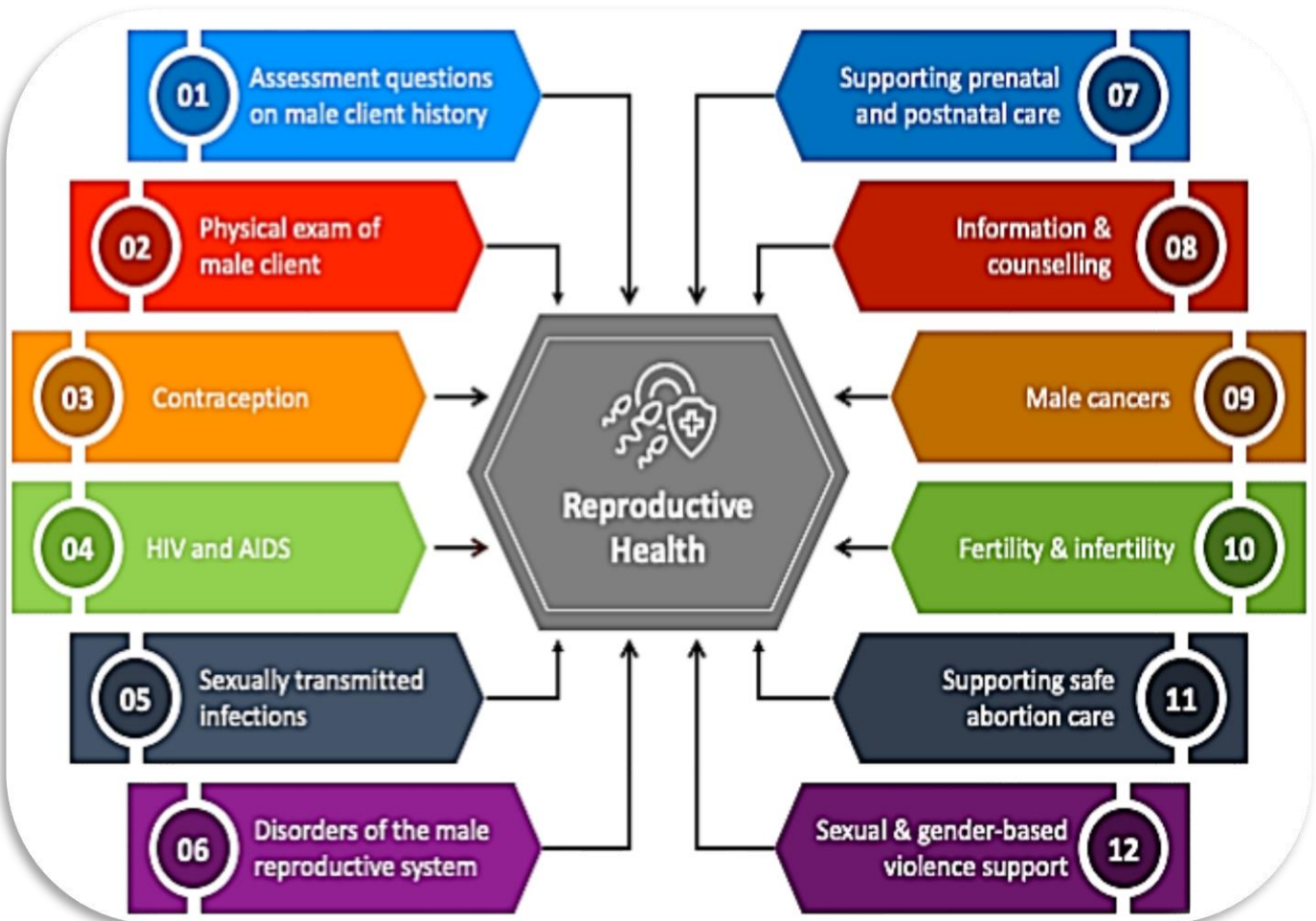
Periodic abstinence, coitus interrupts and lactational amenorrhea are natural methods of contraception.

Condoms, diaphragms, cervical caps and vaults are barrier methods of contraception.

CuT, Cu7, Multiload 375 and Lippes Loop are examples of IUDs.

Vasectomy and tubectomy are surgical/sterilisation methods of contraception.

Infertility can be treated by Assisted Reproductive Technologies like IVF, ZIFT, ICSI, GIFT and AI.



## MULTIPLE CHOICE QUESTIONS

- Q1.** What steps can be adopted so as to discourage misconceptions about sex related aspects?  
 (a) Introduction of sex education in schools  
 (b) Providing information about sex-related aspects  
 (c) Educating people about sexually transmitted diseases  
 (d) All of the above
- Q2.** What steps can be adopted to bring up a socially conscious healthy family of the desired size?  
 (a) Educating fertile couples about available birth control options  
 (b) Educating people about how to take care of pregnant mothers  
 (c) Educating people about post-natal care of mother and child  
 (d) All of the above
- Q3.** How is amniocentesis useful?  
 (a) It is useful for determining chromosomal abnormalities  
 (b) In determining foetal infections  
 (c) For sex determination  
 (d) All of the above
- Q4.** Amniocentesis can be useful in determining which of the following genetic disorders in a developing foetus?  
 (a) Haemophilia  
 (b) Down's syndrome  
 (c) Sickle cell anaemia  
 (d) All of the above
- Q5.** Which of the following Research Institute developed the female contraceptive pill '*Saheli*'?  
 (a) ICGB, New Delhi  
 (b) CDRI, Lucknow  
 (c) ICMR, Agra  
 (d) AIIMS, New Delhi
- Q6.** What was the reason that the population of India increased rapidly during 2011?  
 (a) Decline in maternal mortality rate  
 (b) Decline in Infant mortality rate  
 (c) Increase in number of people in reproductive age  
 (d) All of the above
- Q7.** What are the features of an ideal contraceptive?  
 (a) User friendly  
 (b) Easily available  
 (c) Effective and reversible  
 (d) All of the above
- Q8.** Which of the following are natural methods of preventing fertilization of the sperm and an egg?  
 (a) Periodic abstinence  
 (b) Coitus interruptus  
 (c) Both (a) and (b)  
 (d) None of the above
- Q9.** What is lactational amenorrhea?  
 (a) Absence of lactation  
 (b) Absence of ovulation  
 (c) Absence of menstruation  
 (d) All of the above
- Q10.** Which of the following is correct about condom?  
 (a) It comes for both males and females  
 (b) It is made of thin rubber or latex sheath  
 (c) It is barrier method to prevent insemination  
 (d) All of the above
- Q11.** Which of the following are barrier methods a preventing contraception?  
 (a) Diaphragms (b) Cervical caps  
 (c) Vaults (d) All of the above
- Q12.** Which among the following are copper releasing intrauterine devices?  
 (a) CuT (b) Cu7  
 (c) Multiload375 (d) All of the above
- Q13.** Which of the following is a non-medicated IUD?  
 (a) LNG-20 (b) Lippes loop  
 (c) Multiload 375 (d) None of the above
- Q14.** Which of the following are hormone-releasing IUD's?  
 (a) Progestasert (b) LNG-20  
 (c) Both (a) and (b) (d) None of the above
- Q15.** Which of the following are ideal contraceptive for a female who wants to delay pregnancy or wants to have space among children?  
 (a) Cervical caps (b) Diaphragms  
 (c) IUDs (d) Vaults
- Q16.** How do oral pills prevent contraception in females?  
 (a) They inhibit ovulation  
 (b) They inhibit implantation  
 (c) They retard the entry of sperms  
 (d) All of the above
- Q17.** Which of the following can be used as an emergency contraceptive?  
 (a) Progestogen-estrogen combination  
 (b) IUD  
 (c) Both (a) and (b)  
 (d) None of the above
- Q18.** Sterilisation method in males is called as.  
 (a) Vasectomy (b) Tubectomy  
 (c) Both (a) and (b) (d) None of the above
- Q19.** In tubectomy, which part of the female reproductive tract is removed?  
 (a) Uterus  
 (b) Cervix  
 (c) Oviduct  
 (d) All of the above

- Q20.** What are the side effects of contraceptive methods?  
 (a) Breakthrough bleeding  
 (b) Breast cancer  
 (c) Nausea  
 (d) All of the above
- Q21.** Which of the following is correct for intensely lactating mothers?  
 (a) They cannot conceive due to suppression of thyroxin  
 (b) They cannot conceive due to suppression of adrenalin  
 (c) They cannot conceive due to suppression of gonadotrophins  
 (d) They cannot conceive due to suppression of vasopressin
- Q22.** What is induced abortion?  
 (a) It is the intentional termination of pregnancy before full term is achieved  
 (b) It is voluntary termination of pregnancy before full term is achieved  
 (c) Both (a) and (b)  
 (d) None of the above
- Q23.** Which of the following are sexually transmitted diseases?  
 (a) Gonorrhoea  
 (b) Syphilis  
 (c) Chlamydia  
 (d) All of the above
- Q24.** Which of the following diseases are transmitted by sharing of injecting needles, surgical instruments, infected persons and transfusion of blood?  
 (a) Hepatitis-B  
 (b) HIV  
 (c) Both (a) and (b)  
 (d) None of the above
- Q25.** Which of the following is correct about ZIFT?  
 (a) Zygote Intra Fallopian Transfer  
 (b) Zygote Intra Fallopian Transfer  
 (c) Zygote Into Fallopian Transfer  
 (d) Zygote Intra Fallopian Transfer
- Q26.** IUT stands for.  
 (a) Intra uterine transfer  
 (b) Into uterine transfer  
 (c) In uterus transfer  
 (d) Inoculation uterine transfer
- Q27.** Which of the following method is useful for a female who cannot produce ovum but can provide a suitable environment for development of foetus?  
 (a) ZIFT  
 (b) GIFT  
 (c) ICSI  
 (d) All of the above
- Q28.** In which of the following technique, a sperm is directly injected into the ovum under lab conditions?  
 (a) ZIFT  
 (b) GIFT  
 (c) ICSI  
 (d) All of the above
- Q29.** Which of the following procedure is suitable in infertility cases where a male partner is unable to inseminate a female or has a very low sperm count?  
 (a) GIFT (b) ICSI  
 (c) Artificial Insemination (d) None of the above
- Q30.** What are the complications of sexually transmitted diseases?  
 (a) Pelvic inflammatory diseases  
 (b) Still birth's  
 (c) Infertility  
 (d) All of the above
- Q31.** Emergency contraception is effective after.  
 (a) 36 hours of coitus  
 (b) 72 hours of coitus  
 (c) 36 hours of implantation  
 (d) 72 hours of implantation
- Q32.** Given below are some of the STDs, which of them does not affect any sex organs?  
 (a) AIDS (b) Syphilis  
 (c) Gonorrhoea (d) Warts
- Q33.** Which of the following is the correct full form of RCH?  
 (a) Restricted and Child Health Care Programme  
 (b) Reproductive and Child Health Care Programme  
 (c) Reproductive and Child House Programme  
 (d) Reproductive and Child Hair Programme
- Q34.** How can the population of a country be decreased?  
 (a) Providing food and houses to people.  
 (b) Restricting people from going here and there  
 (c) Motivating them to adopt family planning methods  
 (d) Killing people
- Q35.** In which year, family planning programmes were initiated in India?  
 (a) 1950 (b) 1951  
 (c) 1952 (d) 1953
- Q36.** In the given techniques, which of the following is not an assisted reproductive technology?  
 (a) ICSI  
 (b) Artificial Insemination  
 (c) IUD  
 (d) Artificial Insemination
- Q37.** In test tube baby technique, the male and female gametes are made fuse with each other.  
 (a) In-vivo  
 (b) In-vitro  
 (c) Inside the womb of the female  
 (d) None of the above

- Q38.** Which of the following is correct about vasectomy?  
 (a) A small part of epididymis is removed or tied up  
 (b) A small part of vas deferens is removed or tied up  
 (c) A small part of scrotal sac is removed or tied up  
 (d) All of the above
- Q39.** Which among the following you are contraception not used by women?  
 (a) Multiload 375 (b) Nirodh  
 (c) Lippes's loop (d) Saheli
- Q40.** In copper releasing IUD, what is the function of copper ions?  
 (a) Increase phagocytosis of sperms  
 (b) Suppress sperm motility  
 (c) Suppress fertilisation capacity of the sperms  
 (d) Both (b) and (c)
- Q41.** Which of the following diseases is caused due to a retro virus?  
 (a) Gonorrhoea (b) Syphilis  
 (c) AIDS (d) All of the above
- Q42.** Which of the following is a terminal method to prevent any more pregnancy?  
 (a) Vasectomy (b) Tubectomy  
 (c) Both (a) and (b) (d) None of the above
- Q43.** How can one prevent himself/herself from contracting STI?  
 (a) Avoid sex with multiple partner  
 (b) Use of protection  
 (c) If suspecting any symptoms related to any disease, immediately consult a doctor  
 (d) All of the above
- Q44.** What is the full form of MTP?  
 (a) Mobile Termination of Pregnancy  
 (b) Mutual Termination of Pregnancy  
 (c) Medical Termination of Pregnancy  
 (d) Mechanical Termination of Pregnancy
- Q45.** Why MTP?  
 (a) To stop continuing a pregnancy if it is fatal to mother  
 (b) To stop continuing a pregnancy if it is fatal to the developing child  
 (c) Both (a) and (b)  
 (d) None of the above
- Q46.** In which year was the Medical Termination of Pregnancy Act was passed/  
 (a) 2016 (b) 2017  
 (c) 2018 (d) 2019
- Q47.** Which of the following method of contraception is highly effective but their visibility is very poor?  
 (a) IUDs (b) Barrier method  
 (c) Sterilisation method (d) Oral pills
- Q48.** Which of the following STD is completely curable?  
 (a) Hepatitis-B (b) Genital warts

(c) Genital herpes (d) AIDS

- Q49.** In which of the following trimester MTP's are considered relatively safe?  
 (a) First trimester (b) Second trimester  
 (c) Third Trimester (d) Fourth trimester
- Q50.** Which of the following method of contraception can be used as an implant under the skin?  
 (a) IUD  
 (b) Progestogen  
 (c) Progestoge-estrogen combination  
 (d) Both (b) and (c)

### ASSERTION AND REASON

**Direction:** in the following questions, a statement of assertion (A) is followed by a statement of reason (R). Choose the correct option among a, b, c and d.

- Q1.** Assertion (A): Use of condom is a safeguard against AIDS and sexual diseases besides checking pregnancy.  
 Reason (R): Certain contraceptives are planted under the skin of the upper arm to prevent pregnancy  
 (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)  
 (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)  
 (c) Assertion (A) is true but reason(R) is false  
 (d) Assertion (A) is false but reason(R) is true
- Q2.** **Assertion (A):** Amniocentesis is often misused.  
**Reason (R):** Amniocentesis is meant for determining the genetic disorders in the foetus, but it may also lead to female foetocide.  
 (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)  
 (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)  
 (c) Assertion (A) is true but reason(R) is false  
 (d) Assertion (A) is false but reason(R) is true
- Q3.** **Assertion (A):** Mother should not be blamed for the birth of girls in the family.  
**Reason (R) :** Father is responsible for the sex of the child.  
 (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)  
 (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)  
 (c) Assertion (A) is true but reason(R) is false  
 (d) Assertion (A) is false but reason(R) is true

**Q4. Assertion (A):** Reproductive health means a total well-being in all aspects of reproduction that is physical, emotional, behavioural and social.

**Reason (R):** This statement about reproductive health was given by WHO.

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

## TRUE AND FALSE

- Q1.** Small doses of progestogens/ progestogen-estrogen combinations can be used as a contraceptive method by the females.
- Q2.** In barrier methods, ovum and sperms are prevented from meeting physically.
- Q3.** LNG-20 is a Cu releasing IUD.
- Q4.** In *vivo*- fertilisation followed by transfer of embryo into the female genital tract is commonly known as the 'Test Tube Baby' Programme.

## PRACTICE QUESTIONS

**Q1.** Which one of the following is the most widely accepted method of contraception in India, as at present?

- (a) Cervical caps
- (b) Tubectomy
- (c) Diaphragms
- (d) IUDs' (Intra uterine devices)

**Q2.** Medical Termination of Pregnancy (MTP) is considered safe up to have many weeks of pregnancy?

- (a) Eight weeks
- (b) Twelve weeks
- (c) Eighteen weeks
- (d) Six weeks

**Q3.** Which contraceptive method provides protection against HIV?

- (a) IUD
- (b) Pills
- (c) Condom
- (d) Periodic abstinence

**Q4.** Study of abnormalities by taken out the amniotic fluid of embryo is called:

- (a) Endoscopy
- (b) Amniocentesis
- (c) Laparoscopy
- (d) Natal endoscopy

**Q5.** Which one is not legitimate for reducing birth rate?

- (a) Ban on marriages
- (b) MTP
- (c) Use of contraceptives
- (d) Late marriages

**Q6.** Purpose of tubectomy is to prevent:

- (a) Egg formation
- (b) Embryonic development
- (c) Fertilization
- (d) Coitus

**Q7.** Vasectomy is.

- (a) Cutting of fallopian tube
- (b) Cutting of vas deferens
- (c) Factor of population growth
- (d) none of these

**Q8.** An IUCD is.

- (a) Vasectomy
- (b) Copper T
- (c) Condom
- (d) All above

**Q9.** A contraceptive is.

- (a) Condom, cervical cap and diaphragm
- (b) Intrauterine device
- (c) Pill
- (d) All the above

**Q10.** A contraceptive pill contains:

- (a) Progesterone and estrogen
- (b) Spermicidal salts
- (c) Chemicals that cause automatic abortion
- (d) Chemicals that prevent fertilization of ovum

**Q11.** Given below are four methods (A-D) and their modes of action (a-d) in achieving contraception. Select their correct matching from the four options that follow:

Method	Mode of Action
(a) The pill	(a) Prevents meeting of sperm and ovum
(b) Condom	(b) Prevents implantation
(c) Vasectomy	(c) Prevents ovulation
(d) Copper T	(d) Semen contains no sperms

**Matching:**

- (a) A (c); B (d), C (a), D (b)
- (b) A (b), B (c), C (a), D (d)
- (c) A (c), B (a), C (d), D (b)
- (d) A (d), B (a), C (b), D (c)

**Q12.** Consider the statements given below regarding contraception and answer as directed thereafter.

- I. Medical Termination of Pregnancy (MTP) during first trimester is generally safe.
- II. Generally, chances of conception are nil until mother breast-feeds the infant upto two years.
- III. Intrauterine devices like copper T are effective contraceptives.
- IV. Contraception pills may be taken upto one week after coitus to prevent conception

Which two of the above statements are correct?

- (a) I and III
- (b) I and II
- (c) II and III
- (d) III and IV

- Q13.** Which of the following is correct about human Reproduction?  
 (a) 'Saheli' is a new contraceptive for males  
 (b) Amniocentesis is carried out to know the chromosomal pattern from the sample taken from the cells of umbilical cord.  
 (c) Ovulation is facilitated by breastfeeding  
 (d) A combination of progesterone and oestrogen is injected or implanted under the skin as an effective contraceptive
- Q14.** Which of the following is incorrect regarding vasectomy?  
 (a) Vasa deferentia is cut and tied  
 (b) Irreversible sterility  
 (c) No sperm occurs in seminal fluid  
 (d) No sperm occurs in epididymis
- Q15.** Embryo with more than 16 blastomeres formed due to in vitro fertilization is transferred into.  
 (a) Fimbriae  
 (b) Cervix  
 (c) Uterus  
 (d) Fallopian tube
- Q16.** Which of the following is not a method of birth control?  
 (a) Tubectomy  
 (b) Vasectomy  
 (c) Periodic abstinence of coitus from day 10 to 17 of the menstrual cycle  
 (d) Periodic abstinence of coitus from the day 6th to 9th of menstrual cycle.
- Q17.** Estrogen is used to avoid pregnancy because it.  
 (a) Prevents fertilization  
 (b) prevents ovulation and implantation  
 (c) Inhibit sperm motility  
 (d) forms cervical plug
- Q18.** Which method of contraception has high failure rate?  
 (a) Barrier method  
 (b) IUD  
 (c) Sterilization  
 (d) Natural method
- Q19.** Which of the following can be used as an emergency contraceptive?  
 (a) Mala-D (b) Saheli  
 (c) i-pills (d) Condom
- Q20.** Which of the following method of contraception has least side effect?  
 (a) IUD (b) Pills  
 (c) Coitus interruptus (d) Cervical cap
- Q21.** In which of the following, the technique is in-vivo?  
 (a) ZIFT (b) GIFT  
 (c) ICSI (d) IUT
- Q22.** In which of the following methods zygote upto 32 blastomere is transferred into the uterus?  
 (a) IUT  
 (b) ZIFT  
 (c) GIFT  
 (d) ICSI
- Q23.** A contraceptive pill developed by the scientists of CDRI Lucknow is?  
 (a) Mala-D  
 (b) Mala-N  
 (c) Saheli  
 (d) Quinestrol
- Q24.** If male is impotent and female is normal, then which of the following technique can be used?  
 (a) ICSI  
 (b) ZIFT  
 (c) GIFT  
 (d) A.I.
- Q25.** Saheli, a female antifertility pill is used.  
 (a) Daily  
 (b) Weekly  
 (c) Quarterly  
 (d) Monthly
- Q26.** Which of the following is common among condoms and diaphragm?  
 (a) Available for males only  
 (b) Provide protection against STD  
 (c) Prevent meeting of sperm and ovum  
 (d) Prevent ovulation
- Q27.** The reason to legalise conditional MTPs by the Government of India is.  
 (a) To decrease the population growth rate  
 (b) To check indiscriminate illegal male foeticide  
 (c) To check illegal female foeticide which is reported high in India  
 (d) To check pregnancies
- Q28.** Following STDs are completely curable if detected at early stage, except.  
 (a) Chlamydiasis  
 (b) Trichomoniasis  
 (c) Gonorrhoea  
 (d) Hepatitis B
- Q29.** A technique that involves injection of a sperm directly into cytoplasm of ovum is.  
 (a) GIFT (b) IUI  
 (c) ICSI (d) AI
- Q30.** Some couple avoid pregnancies by opting natural birth control method. Which of the following is not included under this method?  
 (a) Coitus interruption  
 (b) Periodic abstinence  
 (c) Lactational amenorrhoea  
 (d) Spermicide

## ASSERTION AND REASON

**Direction:** in the following questions, a statement of assertion (A) is followed by a statement of reason (R). Choose the correct option among a, b, c and d.

**Q1. Assertion (A):** A wide range of contraceptive methods are available for family planning.

**Reason (R):** Natural method includes condoms, diaphragms, etc., while barrier methods use methods like periodic abstinence, lactational amenorrhea, etc.

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

**Q2. Assertion (A):** Nearly 45 to 50 million MTPs are performed in a year all over the world which accounts to 1/5th of the total number of conceived pregnancies in a year

**Reason (R):** MTP is illegal in India.

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)
- (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)

(c) Assertion (A) is true but reason(R) is false

(d) Assertion (A) is false but reason(R) is true

**Q3. Assertion (A):** Surgical methods, also called sterilisation methods, are generally advised for the male/female partner as a terminal method to prevent pregnancies.

**Reason (R):** Surgical intervention blocks gamete transport and thereby prevent conception.

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

**Q4. Assertion (A):** Intra Uterine Devices are inserted by doctors or expert nurses in the uterus through vagina. Reason (R): Pills are ideal contraceptives for the females who want to delay pregnancy and/or space children.

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

## SOLUTIONS MULTIPLE CHOICE

- S1. (d)** the government and the non-government agency have taken various steps to create awareness among the people about reproduction-related aspects, other than this parents and other close relatives, teachers and friends also have a major role in the dissemination of the above information.
- S2. (d)** If a certain amount of information is provided to fertile couples and to people who are in marriageable groups about reproduction-related aspects, then surely a healthy and socially conscious society can be built easily.
- S3. (d)** amniocentesis is useful to determine foetal problems if any, however people make illegal use of the test to determine sex of the developing child that has been banned by the government.
- S4. (d)** other than in the determination of genetic disorders amniocentesis can also be useful to determine the survivability of the foetus.
- S5. (b)** 'Saheli' is an oral contraceptive pill that was developed to prevent contraception in females.
- S6. (d)** in India, the population at the time of Independence was about 350 million it reached the billion mark by 2008 1.2 billion in May 2011.
- S7. (d)** an ideal contraceptive should not interfere with the sexual drive, desire and sexual act of the user.
- S8. (c)** periodic abstinence is one such method in which the couples avoid from coitus from date 10 to 17 of the menstrual cycle, Coitus interruptus is another method in which the male partner withdraws his penis from vagina just before ejaculation so as to avoid insemination.
- S9. (c)** lactational amenorrhea method is based on the fact that ovulation and therefore the ovulation cycles do not occur during the period of intense lactation following parturition.
- S10. (d)** In barrier methods, the ejaculated semen is prevented to enter the female reproductive tract.
- S11. (d)** barrier methods like diaphragms and cervical caps are made from rubber and can be inserted into the female reproductive tract to cover the cervix.
- S12. (d)** An IUD are inserted by Doctors or expert nurses in the uterus through the vagina of the female.
- S13. (b)** intrauterine devices are a safe, effective and popular method that is generally adopted by doctors and expert nurses.
- S14. (c)** hormone-releasing IUD make the uterus unsuitable for implantation and the cervix hostile to sperms.
- S15. (c)** IUD is one of the most widely accepted methods of contraception in India.
- S16. (d)** oral administration is small doses of either progestogen or progestogen estrogen combination and is effective contraceptive method used by females.
- S17. (c)** It is seen that administration of progestogen or progestogen-estrogen combination or IUD within 72 hours of coitus have been found to be very effective as emergency contraceptive as they could be used to avoid possible pregnancy.
- S18. (a)** in vasectomy, a small part of the vast deferens is either removed or tied up through a small incision on the scrotum.
- S19. (c)** in tubectomy, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen or through the vagina.
- S20. (d)** selection of a suitable contraceptive method should always be undertaken in consultation with a qualified medical professional, besides the widespread use of these methods they have certain ill effects also like abdominal pain irregular, menstrual bleeding etc.
- S21. (c)** During this period, ovulation and therefore the menstrual cycle is absent.
- S22. (c)** Abortion is also called as medical termination of pregnancy (MTP) that has been legalised in India in 1971.
- S23. (d)** STD's are diseases that are transferred through sexual intercourse, they are also called as sexually transmitted diseases or venereal diseases or reproductive tract infections.
- S24. (c)** Hepatitis-B and HIV are transmitted from mother to foetus also.
- S25. (b)** in this method, after fertilisation under lab conditions, the zygote upto 8-blastomeres is transferred into the fallopian tube of the female.
- S26. (a)** in this method, after fertilisation is achieved, the embryo with more than 8-blastomeres is transferred in the uterus of the female.
- S27. (b)** In GIFT, gamete intra fallopian transfer technique, an ovum is collected from a donor and is transferred to the fallopian tube of a female who cannot produce one but can provide a suitable environment for the further development of the baby.
- S28. (c)** ICSI, stands for intra cytoplasmic sperm injection.
- S29. (c)** In artificial insemination, semen is collected either from husband or a healthy donor and is artificially introduced into the vagina or in the uterus.

- S30. (d)** STDs are infections that are passed through a sexual intercourse, if any one partner is infected then chances are high for the other one of getting infected.
- S31. (b)** emergency contraceptives are very useful in preventing unwanted pregnancies due prevailing rape cases.
- S32. (a)** AIDS is the only STD that directly affects the immune system of an individual, though the virus gets sexually transferred.
- S33. (a)** the RCH programmes are new tech-based programme that are in current operation so as to spread awareness among people.
- S34. (c)** educating people about reproduction related issues and sex related issues creates awareness among people, this automatically cuts down the population growth rate.
- S35. (b)** In 1951, many family planning programmes were initiated in India and were periodically assessed over time.
- S36. (c)** IUD are intra uterine devices that is a method of contraception.
- S37. (b)** in test tube baby technique ova from wife/female (donor) and sperm from the husband/donor (male) are collected and induced to form zygote under stimulated conditions in the laboratory.
- S38. (b)** vasectomy is a male sterilization procedure in which a small part of vas deferens is removed or tied up through a small incision on the scrotum.
- S39. (b)** Nirodh is a popular brand of condom for male these are barrier methods that besides preventing insemination also protect the user from contacting STIs.
- S40. (d)** in copper releasing IUDs increase the phagocytosis of the sperms and the copper ions released suppress sperm motility and the fertilization capacity of the sperm.
- S41. (c)** AIDS is caused due to a retro virus called HIV.
- S42. (c)** surgical methods also called sterilization methods are generally advised for the male and female partner as a terminal method to prevent any more pregnancy, surgical interventions like vasectomy and tubectomy blocks the transports of sperms and prevent contraception.
- S43. (d)** STIs can be prevented from contracting by adopting above methods.
- S44. (c)** The Government legalised MTP in the year 1971 with some strict conditions to avoid its misuse.
- S45. (c)** MTP procedure has been legalised in India because in some cases a couple cannot continue with the pregnancy because of some harmful

effects on mother or the child, in such cases, a doctor has to adopt MTP procedure.

- S46. (b)** the government has legalised this procedure in India with the intention of reducing illegal abortions and cases of female foeticide.
- S47. (c)** the sterilization techniques adopted for males and females a very good method to prevent pregnancy but these methods are not reversible that is once done a person cannot reproduce again.
- S48. (b)** Among the above STDs, genital warts can be cured if detected in early stages.
- S49. (a)** MTP is considered safe during the first trimester that is up to 12 weeks of pregnancy, in second trimester abortions are much riskier.
- S50. (d)** Skin implants of progestogen or progestogen-estrogen combination have similar mode of action as that of pill and their effective periods are also longer.

#### ASSERTION AND REASON

- S1. (b)** Condoms are the contraceptive measure that prevent pregnancy and protect from many other sexually transmitted diseases because they prevent the contact of body fluids between the male and females. There are many contraceptive methods that are implanted under the skin or the upper arm that reduce a certain type of hormones and chemicals that prevent the pregnancy but not the sexually transmitted diseases because in that case to the body fluids are coming in contact.
- S2. (a)** In amniocentesis some of the amniotic fluid of the developing foetus is taken to analyse the fetal cells and dissolved substances. This procedure is used to test for the presence of certain genetic disorders such as, Down's syndrome, haemophilia, sickle-cell anemia, etc.

**S3. (a)**

**S4. (a)**

#### TRUE AND FALSE

- S1. (True)**
- S2. (True)**
- S3. (False)** LNG-20 is a hormone releasing IUD.
- S4. (False)** *In vitro*- fertilisation followed by transfer of embryo into the female genital tract is commonly known as the 'Test Tube Baby' Programme.

## PRACTICE SOLUTIONS

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| <p><b>S1. (d)</b> IUDs are most widely accepted method of contraception.</p> <p><b>S2. (b)</b> second trimester abortions are risky.</p> <p><b>S3. (c)</b> Condom is a barrier method of contraception and can prevent the virus from passing from male to female.</p> <p><b>S4. (b)</b> Amniocentesis can be used to detect abnormalities but it can also be misused.</p> <p><b>S5. (a)</b> Ban on marriages is not an option for reducing the birth rate.</p> <p><b>S6. (c)</b> tubectomy prevents fertilisation.</p> <p><b>S7. (b)</b> in vasectomy, a small part of the vas deferens is removed or tied up through a small incision on the scrotum.</p> <p><b>S8. (b)</b> The IUCDs are small devices that are placed inside the uterus to prevent pregnancy. These devices are currently available in form of copper releasing IUDs (e.g., CuT, Cu7, Multiload 375) and the hormone releasing IUDs (e.g., Progestasert, LNG-20).</p> <p><b>S9. (d)</b> All are contraceptives.</p> <p><b>S10. (a)</b> Contraceptive pills contain hormones such as estrogen &amp; progesterone, these work to inhibit the body's natural cyclical hormones to prevent pregnancy.</p> <p><b>S11. (c)</b></p> <p><b>S12. (c)</b></p> <p><b>S13. (d)</b> A combination of progesterone and oestrogen is injected or implanted under the skin as an effective contraceptive</p> <p><b>S14. (d)</b> sperms first enter into epididymis then into vas deferens, through vas deferens it won't further enter into Ejaculatory duct as vas deferens has been cut.</p> <p><b>S15. (c)</b> The zygote upto 8 blastomeres is transferred to the fallopian tube called ZIFT. IUT involves the transfer the embryo more than 8 blastomeres to the uterus.</p> <p><b>S16. (d)</b> Periodic abstinence is a method where the couple avoids coitus from the day 10-17 of menstrual cycle because these are the most fertile days and the chances of pregnancy are high.</p> | <p><b>S17. (b)</b> pills of estrogen prevent ovulation and implantation.</p> <p><b>S18. (a)</b> condom is a barrier method has a high failure rate.</p> <p><b>S19. (a)</b></p> <p><b>S20. (c)</b> Coitus interruptus is a natural method of contraception and has least side effects.</p> <p><b>S21. (b)</b> Gamete intra-fallopian transfer (GIFT) is a three-step procedure that involves removing the eggs, combining them with sperm, and immediately placing them in the <u>fallopian tubes</u>, where the egg is fertilized.</p> <p><b>S22. (a)</b> The zygote or early embryos (with upto 8 blastomeres) could then be transferred into the fallopian tube (ZIFT-zygote intra fallopian transfer) and embryos with more than 8 blastomeres, into the uterus (IUT – intra uterine transfer), to complete its further development.</p> <p><b>S23. (c)</b> Saheli is a mini oral contraceptive pill that contains only progesterone. It was developed by CDRI, Lucknow.</p> <p><b>S24. (d)</b> AI - Artificial insemination (AI) also known as Intrauterine insemination (IUI) is a technique in which the sperm of the healthy donor is placed into the vagina or cervix of a female when a woman is ovulating. This technique can be used if the male is impotent and the female is normal</p> <p><b>S25. (b)</b> Saheli is a non-steroidal pill and is taken weekly.</p> <p><b>S26. (c)</b> Condoms are barriers made of thin rubber/ latex sheath that are used to cover the penis in the male or vagina and cervix in the female, just before coitus so that the ejaculated semen would not enter into the female reproductive tract. This can prevent conception. Diaphragms, cervical caps and vaults are also barriers made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus</p> <p><b>S27. (c)</b> the government put a ban on MTP to stop its misuse.</p> <p><b>S28. (d)</b> Except for Hepatitis-B, genital herpes and HIV infections, other diseases are completely curable if detected early and treated properly.</p> <p><b>S29. (c)</b> ICSI is intra cytoplasmic sperm injection. It is one of the techniques of Assisted Reproductive Technology (ART) that help couples to overcome their infertility. In ICSI, sperm is directly injected into ovum, in vitro to form zygote. The embryo, formed is later implanted through ZIFT into woman.</p> <p><b>S30. (d)</b></p> |
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### ASSERTION AND REASON

**S1. (c)** Natural methods work on the principle of avoiding chances of meeting of ovum and sperm, e.g. periodic abstinence, lactational amenorrhea. In barrier methods, ovum and sperm are prevented from physically meeting with help of a barrier, e.g. condoms, cervical caps, etc.

**S2. (c)** Government of India legalised MTP in 1971 with some strict conditions to avoid its misuse. Such restrictions are all the more important to check indiscriminate and illegal female foeticides which are reported to be high in India.

**S3. (a)**

**S4. (c)** IUDs are ideal contraceptives for the females who want to delay pregnancy and/or space children