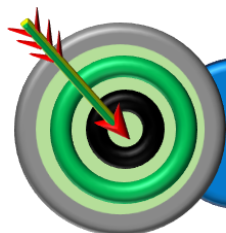


Chapter 03

Reproductive Health



OBJECTIVES



INTRODUCTION



REPRODUCTIVE HEALTH-PROBLEMS AND STRATEGIES



HUMAN POPULATION GROWTH



METHODS OF BIRTH CONTROL



SEXUALLY TRANSMITTED DISEASES



INFERTILITY

INTRODUCTION

Reproductive health refers to healthy reproductive organs with normal functions. However, it has a broader perspective as it involves well-being in other aspects too. According to World Health Organisation (WHO), reproductive health means well being in physical, emotional, behavioural and social aspects of reproduction. Therefore, reproductively, a healthy society comprises of people having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex-related aspects. This chapter deals with problems and strategies for reproductive health, various options of contraception (population control), knowledge of sexually transmitted diseases, causes and remedy of infertility and assisted reproductive technologies.

3.1 REPRODUCTIVE HEALTH - PROBLEMS AND STRATEGIES

Problems and strategies of reproductive health in human beings are explained as follows.

- (i) **Over population:** The main problem of India is its excessive population which is directly connected with reproductive health. To achieve total reproductive health, some plans and programmes were started. Family planning programme was initiated in 1951 in India and was periodically assessed over the past decades. These programmes were popularly named Reproductive and Child Health Care (RCH) programmes. The major tasks carried out under these programmes are to provide facilities and support for building up a reproductively healthy society.
- (ii) **Awareness about reproduction:** Audio-visual and print media, governmental and non-governmental agencies are doing a good job to create awareness among people about reproduction in humans. Parents, close relatives, friends and teachers also have a major role in giving the above information.
- (iii) **Sex Education:** Sex education in schools should also be introduced and encouraged to provide right information about myths and misconceptions about sex-related aspects.
- (iv) **Knowledge of growth of reproductive organs and STDs:** Proper information about reproductive organs, adolescence (period of rapid growth between childhood and adulthood), safe and hygienic sexual practices, sexually transmitted diseases (STDs), e.g., AIDS etc., would help to lead a reproductively healthy life.
- (v) **Birth control devices and care of mother and child:** Fertile couples and people of marriageable age group (should know about available birth control devices, care of pregnant mothers, postnatal (after birth) care of the mother and child, importance of breast feeding, equal importance for the male and female child, etc.
- (vi) **Prevention of sex abuse and sex related crimes:** Awareness of problems due to uncontrolled population growth, social evils like sex abuse and sex-related crimes, etc. need to be created so that people should think and take up necessary steps to prevent them and thereby build up a reproductively healthy society.
- (vii) **Information about reproduction related problems:** The success of plans to attain reproductive health requires good infrastructural facilities, professional expert knowledge and material support. These are necessary to provide medical help and care for reproduction related problems like menstrual problems, infertility, pregnancy, delivery, contraception, abortions, sexually transmitted diseases (STDs). Implementation of better techniques and new strategies is also required to provide better care and help to people for reproductive health.
- (viii) **Amniocentesis - Meaning and Use:** Amniocentesis is a foetal sex and disorder determination test based on the chromosomal pattern of the embryo's cells in the amniotic fluid surrounding the developing embryo.

Procedure: Amniotic fluid contains cells from the skin of the foetus and other sources. These cells can be used to determine the sex of the infant, to identify some abnormalities in the number of chromosomes and to detect certain biochemicals and enzymatic abnormalities. If it is established that the child is likely to suffer from a serious incurable congenital defect, the mother should get the foetus aborted.

Misuse of Amniocentesis: It is being misused to know the sex of unborn baby followed by medical termination of foetus, in case its female.

- (ix) **Research in reproductive health area:** It should be encouraged and supported to find out new methods. "Saheli" a new oral contraceptive for the females was developed by our scientists at Central Drug Research Institute (CDRI) in Lucknow, India.
- (x) **Medical facilities:** Better awareness about sex related problems, prenatal care of mother, medically assisted deliveries and post natal care of mother and infant decrease maternal and infant mortality. Small families, better detection and cure of sexually transmitted diseases (STDs) and increased medical facilities for sex-related problems, etc. indicate improved reproductive health of male and female individuals and children.



Critical Thinking

Percutaneous umbilical cord blood sampling (PUBS), also called cordocentesis, is a diagnostic genetic test that examines blood from the foetal umbilical cord to detect foetal abnormalities. PUBS provides a means of rapid chromosome analysis and is useful when information cannot be obtained through amniocentesis, CVS (chorionic villi sampling) or ultrasound (or if the results of these tests were inconclusive). This test carries a significant risk of complication and is typically reserved for pregnancies determined to be at high risk for genetic defect.

3.1.1 Measures to Control Over Population

- Education:** People, particularly those in the reproductive age group, should be educated about the advantage of a small family. Mass media and educational institutions can play an important role in this campaign. Posters showing a happy couple with two children with a slogan "Hum Do Humare Do" should be displayed. Many couples have even adopted "one child norm".
- Marriageable Age:** Raising of the age of marriage is a more effective means to control the population (now marriageable age of female is 18 years and that of male is 21 years).
- Incentives:** Couples with small families should be given incentives.
- Family planning:** There are many birth control measures which can check birth rate.

TOPIC CENTRIC EXERCISE 01

- Q1. What are the major tasks under RCH programs?**
- (a) Creating awareness among people about various reproduction-related aspects
 - (b) Providing facilities and support for building up a reproductively unhealthy society.
 - (c) None of these
 - (d) Both (a) and (b)
- Q2. The fluid used during amniocentesis is called.**
- (a) Chorionic fluid
 - (b) Placental fluid
 - (c) Amniotic fluid
 - (d) Uterine fluid
- Q3. Statutory ban on amniocentesis in India was necessary because:**
- (a) It is a very expensive
 - (b) It can tell about chromosomal aberrations
 - (c) It is an invasive procedure and carries high risk of abortions
 - (d) It can be used for pre-natal sex determination to be fetus leading to female feticides
- Q4. What does RCH stand for?**
- (a) Reproductive and Complete Health
 - (b) Regional and Central Healthcare
 - (c) Reproductive and Child Healthcare
 - (d) Reproductive and Cumulative Health
- Q5. Choose the correct statements:**
- I. According to the WHO, reproductive health is total well-being in the physical, social, emotional, behavioural aspects of reproduction**

II. According to the WHO, reproductive health is total well being only in the social and emotional aspects of reproduction

III. A reproductively healthy society has people with physically and functionally normal reproductive organs

IV. Reproductively healthy societies have abnormal sex-related emotional and behavioural interactions

(a) I, II, III

(b) II, IV

(c) I, III

(d) I

Q6. Select the statement(s) that relate to reproductive health:

(a) Healthy reproductive organs with normal functions

(b) Emotional aspects of reproduction

(c) Social aspects of reproduction

(d) All of the above

Q7. What is the approximate Indian population according to the recent census (May 2000)?

(a) About 1 billion

(b) About 1 million.

(c) About 10 billion

(d) About 15 million

3.2 HUMAN POPULATION GROWTH:

Population Stabilisation and Birth Control

- Human population is increasing at a very fast rate over relatively short period of time. Such a rapid or exponential increase in population is termed as population explosion.
- Increased health facilities along with better living conditions had an explosive impact on the growth of population. The world population has increased from around 2 billion in 1900 to about 6 billion by 2000 and 7.2 billion in 2011. Similarly in India also population which was approximately 350 million at the time of our independence has crossed 1.2 billion in May 2011.
- The scientific study of human population is called demography.

Reasons for population explosion :

(i) Reduced death rate particularly maternal mortality rate (MMR) and infant mortality rate (IMR)

(ii) Increase in number of people in reproductive age. Through our RCH programmes, population growth rate was brought down marginally.

- According to the 2011 census report, the population growth rate was less than 2 per cent, i.e., 20/1000/year, a rate at which our population could increase rapidly.
- The alarming growth rate could lead to an absolute scarcity of even the basic requirements, i.e., food, shelter and clothing.
- Therefore, the government was forced to take up serious measures to check this population growth rate. The most important step to overcome this problem is to motivate smaller families by using various contraceptive methods.
- Advertisements and posters in the media, etc., showing a happy couple with two children with a slogan Hum Do Humare Do (we two, our two) are used. Many couples, mostly the young, urban, working ones have even adopted a 'one child norm'. Statutory raising of marriageable age in both males and females to 21 years and incentives given to couples with small families are two other measures taken to tackle this problem.

TOPIC CENTRIC EXERCISE 02

Q1. The world population which was around 2 billion (2000 million) in 1900 rocketed to about by 2000.

(a) 7.2 billion

(b) 6 million

(c) 7.2 million

(d) 6 billion

Q2. Which of the following is not a cause for the rapid increase of Indian population today?

- (a) A rapid decline in death rate
 (b) An increase in the number of people in reproductive age
 (c) An increase in the birth rate
 (d) A decrease in infant mortality and maternal mortality rates
- Q3. What was the population of India at the time of independence.**
- (a) 350 million (b) 1.2 billion
 (c) 2 billion (d) 5 million

3.3 METHODS OF BIRTH CONTROL

3.3.1 Contraceptives

They are the devices which prevent conception or pregnancy without interfering in the reproductive health of the individuals in any way. Characteristics of an ideal contraceptive are:

- (i) User friendly, i.e., comfortable and easy to use.
- (ii) Absence of side effects.
- (iii) Reversible, i.e., when the user wants to conceive, it should be easy to be interrupted.
- (iv) Completely effective against pregnancy.

There are several methods of contraception-natural or traditional, barriers, IUDs, oral contraceptives, injectables, implants and surgical methods.

Couple protection is the process of bringing eligible couples under family planning measures. In India, it is over 55% at present and is voluntary in nature. In 2004, there were 60-79 lakh IUD insertions, 48-74 lakh sterilisations or surgical interventions, 249-9 lakh condom users and 87-54 lakh oral pill users.

1. **Natural Methods:** They are the methods which do not require any device, medicine or religious sanction. Natural methods are of three kinds-safe period, withdrawal and breast feeding.
 - (i) **Safe period (Rhythm Method):** Ovulation occurs roughly about the middle of menstrual cycle. Fertility period when fertilisation can occur is upto 24 hours after ovulation. Avoiding sex during the fertility period will naturally prevent conception. Ovulation period can be known as the basal body temperature rises by about 1°F during ovulation. Cervical mucus is slippery abundant, stretchable due to influence of estrogens. Period prior to ovulation is safe. Period after fourth day of rise in temperature (or last positive Spinnbarkeit test) is also considered safe. It is however, always better to avoid sex from day 10-17 of the menstrual cycle.
 - (ii) **Withdrawal Method (Coitus Interruptus):** The method is based on withdrawal of penis before ejaculation. This method has a high failure rate due to pre-ejaculatory emission of sperms or failure to withdraw penis before ejaculation.
 - (iii) **Lactational Amenorrhoea:** Just after parturition, there is a phase of amenorrhoea or absence of menstruation. It is also the phase of intense lactation. Breast feeding the child fully prevents conception. The method is however, effective only upto a maximum period of six months. When a woman breastfeeds, the body produces **prolactin**, a hormone that stimulates milk production. High levels of prolactin inhibit the secretion of the hormones that trigger ovulation (FSH and LH), effectively preventing the release of an egg from the ovaries.
2. **Barrier Methods:** They are mechanical devices which prevent the deposition of sperms into vagina and their passage into uterus. Further, they can be self-inserted by the user in complete privacy. The common barrier methods are condoms, diaphragms, fem shields and cervical caps.
 - (i) **Condom:** It is a tubular latex sheath which is rolled over the male copulatory organ during sex. The common brand provided by family welfare services is Nirodh. The device also provides protection against sexually transmitted diseases including AIDS.
 - (ii) **Fem Shield (Female Condom):** The device is a polyurethane pouch with a ring at either end. The inner ring is smaller and present at the inner closed end. The device covers the external genitalia as well as lines the vagina.

The female condom works by creating a barrier that prevents sperm from entering the uterus and reaching the egg.

It also helps protect against **STIs**, as it covers not just the cervix but also the external genital area (labia), providing additional protection from direct skin-to-skin contact

(iii) **Diaphragm**: It is a tubular rubber sheath with a flexible metal or spring ring at the margin which is fitted inside the vagina.

(iv) **Cervical Cap**: It is a rubber nipple which is fitted over the cervix and is designed to remain there by suction. The device prevents the entry of sperms into uterus.

(v) **Vault Cap**: It is a hemispherical dome-like rubber or plastic cap with a thick rim which is meant for fitting over the vaginal vault over the cervix.

3. **Chemical Methods**: They are the contraceptives which contain spermicidal chemicals. The chemical contraceptives are available in the form of creams (e.g., delfen), jellies (perceptin, volpar paste), foam tablets (e.g., aerosol foam, chlorimin T or contab). They commonly contain lactic acid, boric acid, citric acid, zinc sulphate and potassium permanganate. The contraceptives are introduced in vagina prior to sex. Sponge (Today) is a foam suppository or tablet containing nonoxynol-9 as spermicide. It kills the sperm by disrupting the membrane. It is moistened before use to activate the spermicide. The device also absorbs ejaculate.

4. **Intrauterine Devices (IUDs) (Intrauterine Contraceptive Devices or IUCDs)**: The devices are made of plastic, metal or a combination of the two and are inserted into the uterus to prevent conception. IUDs are called loops, spirals, rings, bows, shields or Ts depending upon the shape. IUDs are of three types- inert, copper releasing and hormone releasing. The inert IUDs are made of polyethylene impregnated with barium sulphate or stainless steel e.g., Lippe's loop.

Physical presence of the Lippes Loop in the uterus triggers an **immune response** that leads to **inflammation**.

This inflammation makes the **uterine lining hostile** to implantation by preventing the normal preparation for a fertilized egg.

It also causes **thickened cervical mucus**, acting as a barrier to sperm

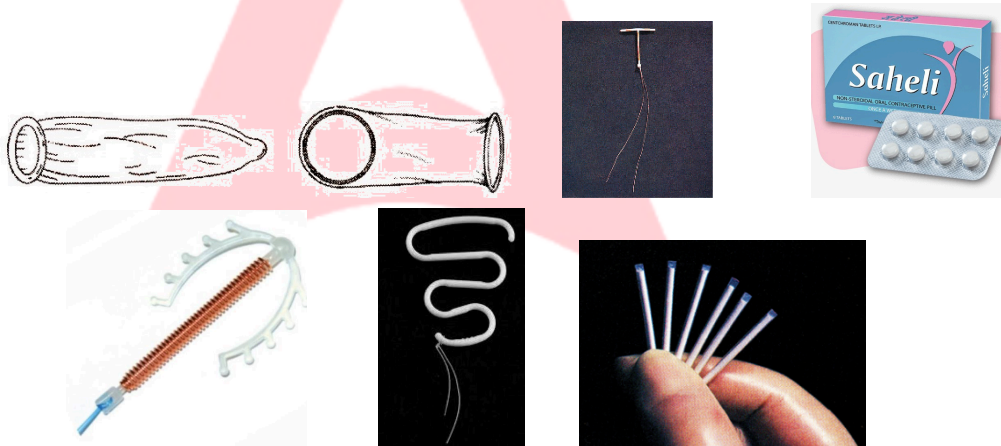


Fig. : Some commonly used contraceptive devices

Copper IUDs commonly called Copper-Ts have ionised copper which slowly diffuses at the rate of some 50 µg/day. It has a local antifertility effect by bringing about release of toxic cytokines. They suppress sperm motility and their ability to fertilize the ovum. The device is to be replaced after 3-5 years when copper release becomes scanty due to calcium deposition. Cu T380A has a replacement period of 7-10 years. Copper IUDs are designated by the exposed surface area of copper in sq mm, e.g., Cu T, Multiload Cu T 250, Multiload 375, Cu 7.

Hormone releasing IUDs include progesterone IUD (e.g., progestasert) and levonorgestrel IUD (e.g., LNG-20). These devices release small quantities of hormones which suppress endometrial changes and changes in cervical mucus, cause anovulation and insufficient luteal activity.

5. **Oral Contraceptives (Oral Pills):** They are preparations containing either progestin (progestogen or synthetic progesterone) alone or a combination of progestogen and oestrogen (estrogen).

The pills are taken orally for 21 days in a menstrual cycle starting from 5th day and ending on 25th day. However, it is advisable to restart the course after a gap of 7 days, irrespective of the onset or nonset of menstruation during the pill free days. When a pill is missed, it should be taken whenever one remembers, sometimes two at a time. This helps in keeping the hormonal level required for contraception. Hormonal pills act by four ways

- Inhibition of ovulation.
- Alteration in uterine endometrium to make it unsuitable for implantation.
- Changes in cervical mucus impairing its ability to allow passage and transport of sperms.
- Altering fallopian tube motility (impairs sperm movement and egg transport)

Oral pills are of two types, combined pills and minipills.

Combined pills contain both oestrogen and progestin. They are synthetic products. Oestrogen is an ovulatory (inhibits FSH production). Progestin is also an ovulatory (inhibits LH production). It protects the endometrial lining from adverse effect of oestrogen. The hormone also changes cervical mucus.

Saheli, a nonsteroidal preparation, is taken once a week after an initial intake of twice-a-week dose for 3 months.



Clue Finder

Injectable Contraceptives (Depo-Provera): Two types of progestin preparations are used singly. They are depot-medroxy progesterone acetate (DMPA) effective for three months and norethisterone enanthate (NET EN) effective for two months. Cyclofem and mesigna are combined injectable contraceptives which are given once every month. They contain progestin preparation as well as oestradiol.

6. **Implants: Contraceptive implants** are small, hormone-releasing rods placed under the skin, providing long-term protection against pregnancy for up to **3 to 5 years**. They work by preventing ovulation, thickening cervical mucus, and altering the uterine lining to make it unsuitable for implantation. Implants are highly effective (more than **99%**), convenient, and hormone-based, making them a great option for those seeking a long-acting, reversible form of contraception

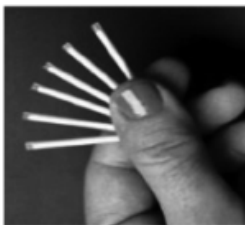


Fig.: Implant

Table: Average Failure Rate of Various Contraceptive Techniques

| Contraceptive method | Average failure rate (Annual pregnancies/100 women) |
|----------------------|---|
| None | 90 |

| | |
|------------------------------------|-------|
| Natural (rhythm) Method | 20-30 |
| Coitus interruptus | 23 |
| Chemical contraceptives | 20 |
| Barrier methods | 10-15 |
| Oral contraceptives | 2-3 |
| Intrauterine contraceptive devices | 6 |
| Implanted contraceptives | <1 |

7. **Emergency Contraception:** It is the treatment for unprotected sex, sexual assault, missed pills and other reasons which have risk of pregnancy. The drugs used for treating emergency contraceptions are called morning-after pills. Insertion of IUD within 72 hours of unprotected sex prevents implantation.
8. **Surgical Methods of Family Planning:** They are also called terminal methods of family planning. Surgical methods are permanent methods of family planning where there is no need of replacement or augmentation but the reversibility is poor. The methods are operative procedures which block the passage of semen in males and ova in females. The techniques are also called sterilisation procedures. They are called vasectomy in males and tubectomy in females.
- This is a surgical procedure in which the **vas deferens** (the tubes that carry sperm from the testes to the urethra) are cut or sealed. This prevents sperm from mixing with semen during ejaculation, making it impossible for a man to impregnate a woman.
- **Procedure:** It is typically done under local anesthesia, and the procedure is relatively simple. After the surgery, the sperm no longer enter the semen, preventing pregnancy is highly effective, with a very low failure rate.
9. **Female Sterilization (Tubectomy or Tubal Ligation):**
- This is a surgical procedure in which the **fallopian tubes** (which carry eggs from the ovaries to the uterus) are either cut, tied, or sealed. This prevents the egg from traveling to the uterus and meeting sperm, effectively preventing fertilization.
 - **Procedure:** It is typically done under general anesthesia. The procedure can be performed through small incisions in the abdomen (laparoscopy).
 - **Effectiveness:** Similar to male sterilization, female sterilization is highly effective form of contraception.
- These techniques are highly effective but their reversibility is very poor.

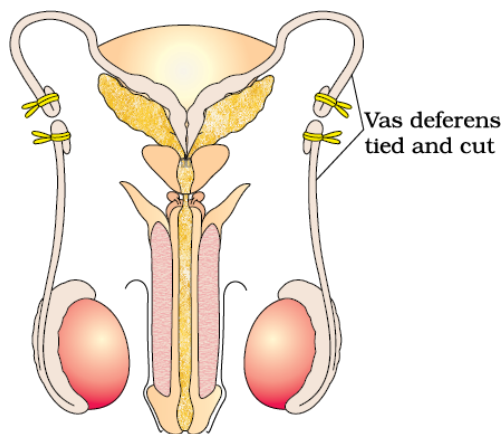
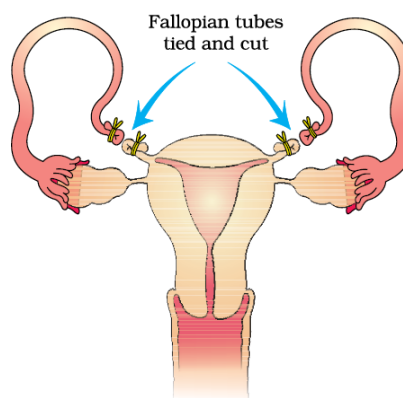


Fig.: (a) Vasectomy



(b) Tubectomy

Table: Difference between vasectomy and Tubectomy

| | Vasectomy | | Tubectomy |
|----|--|----|---|
| 1. | It is the surgical sterilization technique for the males | 1. | It is the surgical sterilization technique for the female. |
| 2. | The two vasa deferentia are interrupted by giving cuts. | 2. | The two oviduct are interrupted by either ligation or cuts. |
| 3. | Transport of sperms is blocked | 3. | Transport ova is blocked. |

- **Side Effects of Contraceptive Methods:** Except the natural methods, all other contraceptive procedures are unnatural. Therefore, they must have some side effects like nausea, abdominal pain, breakthrough bleeding, irregular menstrual bleeding etc. Some even try to link breast cancer with them. However, the major cause of these discomforts is mental burden about accepting an artificial procedure for preventing unwanted pregnancy. Condoms protect the users from catching STDs, including AIDS. One or two children by a couple means a long and satisfying family life, happy reproductive health and well brought-up children.
9. **Induced Abortion:** Abortion refers to the premature expulsion of the conception products from the uterus, usually before the 20th week of pregnancy. An abortion may be spontaneous (naturally occurring), sometimes called a miscarriage or induced (intentionally performed). When birth control methods are not used or fail to prevent an unwanted pregnancy, induced abortion may be performed.
10. **Medical Termination of Pregnancy (MTP)**
- It is voluntary or intentional abortion, induced and performed to end pregnancy before the completion of full term. Worldwide, nearly 20% of the total pregnancies get aborted.
 - The number of MTPs is 40-50 million/yr. Therefore, MTPs have a significant role in containment of population though they are not performed for this purpose.
 - They are mainly meant for removing unsustainable pregnancies. Many countries do not have a law about MTPs because the latter involve emotional, ethical, religious and social issues. However, in India there is a proper act, Medical Termination of Pregnancy Act, 1971. It is mainly meant for preventing unnatural maternal deaths due to unsafe abortions (8.9% of the total maternal deaths).
 - The act was amended in 2002. Under this act, termination of pregnancy can be done upto 20 weeks, if the pregnancy is likely to produce a congenitally malformed child, is a result of rape or contraceptive failure or is likely to harm the mother.
 - MTP is safe if it is performed upto 12 weeks (first trimester) of pregnancy. Misoprostol (prostaglandin) along with mifepristone (antiprogesterone) is an effective combination. Vacuum aspiration and surgical procedures are adopted thereafter.
 - Second trimester abortions are risky. They are generally performed after testing the sex of the baby through amniocentesis or sonography.
 - It has resulted in large scale female foeticide and complications due to unsafe abortions in the hands of untrained persons. To prevent such mis-happenings, the government has enacted a law, Pre-natal diagnostic techniques (Regulation and Prevention of Misuse) Act, 1994 with amendments in 2003. It prohibits preconception and prenatal sex determination.

TOPIC CENTRIC EXERCISE 03**Q1. Natural methods of birth control include?**

| | | |
|------------|--|---|
| | (a) Abstinence | (b) Coitus interruptus |
| | (c) Lactational amenorrhoea | (d) All of these |
| Q2. | In periodic abstinence, the couple must avoid the coitus/sexual contact from day of the menstrual cycle | |
| | (a) 14 to 21 | (b) 18 to 21 |
| | (c) 14 to 15 | (d) 10 to 17 |
| Q3. | Medical termination of pregnancy is. | |
| | (a) Carried out by tubectomy in females | |
| | (b) Induced abortion | |
| | (c) Inability to conceive due to certain problem | |
| | (d) Menopause stage in females | |
| Q4. | Which of the following is used as barrier method | |
| | (a) LNG 20 | (b) i pill |
| | (c) Female condom | (d) None of these |
| Q5. | Emergency contraceptive methods must be employed within: | |
| | (a) 72 hours of ovulation | (b) 72 hours of onset of menstrual flow |
| | (c) 72 hours of unprotected coitus | (d) 72 hours of cessation of menstrual flow |

3.4 SEXUALLY TRANSMITTED DISEASES

- The general term sexually transmitted disease (STD) is applied to any of the large group of diseases that can be spread by sexual contact. The group includes conditions traditionally specified as venereal diseases (VD), such as chlamydia, gonorrhoea, syphilis, and genital herpes. AIDS and hepatitis are sexually transmitted diseases that may be contracted by other ways also. STDs are also called RTI (Reproductive tract infections).
- Except for hepatitis-B, genital herpes and HIV infections, other STDs are completely curable if detected early and treated properly.
- **Early symptoms** include itching, fluid discharge, slight pain, swellings etc. in the genital region. Later complications include pelvic inflammatory disease (**PID**), abortions, still births, ectopic pregnancies, infertility or even cancer of the reproductive tract.
- Though all persons are vulnerable to these infections, but their incidences are high among persons in the age group of **15-24** years.

There is no reason to panic because prevention is possible. One could be free of these infections by following the simple principles given below:

(i) Avoid sex with unknown partners/multiple partners.

(ii) Always try to use condoms during coitus.

(iii) In case of doubt, one should go to a qualified doctor for early detection and get complete treatment if diagnosed with infection.



Critical Thinking

- **Chlamydia Causative agent:** Chlamydia trachomatis. Chlamydia is a sexually transmitted disease caused by the unusual bacterium which cannot reproduce outside the body cells; it "cloaks" itself inside the cells to divide.
- **Gonorrhoea:** Gonorrhoea or "clap" is an infectious sexually transmitted disease caused by the bacterium *Neisseria gonorrhoeae*. Discharge from infected mucous membranes is the source of transmission of the bacteria during sexual contact or during passage of a newborn through the birth canal.
- **Syphilis:** Syphilis is a sexually transmitted disease caused by the bacterium *Treponema pallidum*. It is transmitted through sexual contact or exchange of blood or through /the placenta to a fetus.
- **Genital Herpes:** Type II herpes simplex virus (HSV-2) causes genital infections, such as painful genital blisters on the prepuce, glans penis and penile shaft in males and on the vulva or sometimes high up in the vagina in females. The blisters disappear and reappear in most patients, but the virus itself remains in the body. A related virus, type I herpes simplex virus (HSV-1), causes cold sores on the mouth and lips.
- **Chancroid :** Chancroid is a sexually transmitted disease caused by the short gram -ve bacillus *Haemophilus ducrei*. The incubation period is 3-5 days. The initial lesion at the site of inoculation breaks down to form a painful, soft ulcer with a necrotic base. With lymph node involvement, fever and chills may occur. Women may have no external signs of infections.
- **Genital Warts:** Warts are infectious diseases caused by viruses. Sexual transmission of genital warts is common and is caused by the Human Papilloma Virus (HPV). Patients with a history of genital warts may be at increased risk for cervical, vaginal, anal, vulval and penile cancers.
- **AIDS:** Acquired Immuno Deficiency Syndrome AIDS is caused by Human Immunodeficiency Virus (HIV). HIV can get transmitted through blood and also by sexual contact between males and females through vaginal, oral or anal intercourse.
- **Trichomoniasis** The microorganism *Trichomonas vaginalis*, a flagellated protozoan, causes trichomoniasis, an inflammation of the mucous membrane of the vagina in female and urethra in males where it is a common inhabitant.

TOPIC CENTRIC EXERCISE 04

- Q1. Hepatitis-B and HIV spreads through:**
- (a) Sharing needles (b) Transfusion of blood
(c) Infected mother to foetus (d) All of the above
- Q2. Which is not a reproduction-related problem?**
- (a) STDs (b) Abortion
(c) Gestation (d) Infertility
- Q3. People especially vulnerable to STDs are in the age group:**
- (a) 15-24 (b) 25-40
(c) 5-12 (d) 40-60
- Q4. Which of the given below sexually transmitted disease is completely curable?**
- (a) Trichomoniasis (b) Genital herpes
(c) Hepatitis-B (d) HIV infection
- Q5. Which of the following is not a sexually transmitted disease?**
- (a) Syphilis
(b) Acquired Immuno-Deficiency Syndrome (AIDS)
(c) Trichomoniasis
(d) Encephalitis

3.5 INFERTILITY

- (i) A large number of couples all over the world including India are infertile, i.e., they are unable to produce children in spite of unprotected sexual co-habitation of 1-2 years.

- (ii) The reasons for this could be many—physical, congenital, diseases, drugs, immunological or even psychological.
- (iii) In India, often the female is blamed for the couple being childless.
- (iv) Specialized health care units (infertility clinics, etc.) could help in diagnosis and corrective treatment of some of these disorders and enable these couples to have children. However, where such corrections are not possible, the couples could be assisted to have children through certain special techniques commonly known as assisted reproductive technologies (ART).

3.5.1 In-Vivo Fertilisation

- In it, fertilisation (or fusion of the gametes) occurs within the female in natural conditions.

Techniques :

(A) Gamete Intra Fallopian Transfer (GIFT) :

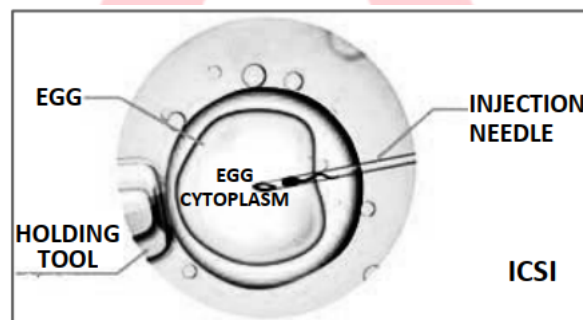
- In this technique, an ovum collected from a donor is transferred into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and further development.

(B) Artificial Insemination (AI):

- Infertility cases either due to inability of the male partner to inseminate the female or due to very low sperm counts in the ejaculates, could be corrected by it.
- 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 (IUI – Intra-Uterine Insemination) of the female.

3.5.2 In Vitro Fertilisation (Ivf) Followed By Embryo Transfer (Et)

- In **IVF**, fertilisation occurs outside the body in almost similar conditions as that in the body.
- This method is popularly known as test tube baby programme.
- In this method, ova from the wife/donor (female) and sperms from the husband/donor (male) are collected and are induced to form zygote under simulated conditions in the laboratory.
- **Intra cytoplasmic sperm injection (ICSI)** is a specialised procedure to form an embryo in the laboratory in which a sperm is directly injected into the ovum.



- After IVF, the formed zygote (or early embryo developed from it) is transferred into the female (genetic or surrogate mother) to complete its further development
- Techniques of embryo transfer (ET):
 - (A) **Zygote Intra Fallopian Transfer (ZIFT)** : In this technique, the zygote or early embryo (with up to 8 blastomeres) is transferred into the fallopian tube.
 - (B) **Intra Uterine Transfer (IUT)** : In this technique, embryo with more than 8 blastomeres is transferred into the uterus. Embryos formed by in-vivo fertilisation also could be used for such transfer to assist those females who cannot conceive
- Though options are many, all these techniques require extremely high precision handling by specialised professionals and expensive instrumentation. Therefore, these facilities are presently available only in

very few centres in the country. Obviously their benefits is affordable to only a limited number of people. Emotional, religious and social factors are also deterrents in the adoption of these methods.

- Since the ultimate aim of all these procedures is to have children, in India we have so many orphaned and Disadvantaged children, who would probably not survive till maturity, unless taken care of. Our laws permit legal adoption and it is as yet, one of the best methods for couples looking for parenthood.

TOPIC CENTRIC EXERCISE 05

- Q1. Assisted reproductive technologies (ART).**
 (a) Include social awareness programmes to educate people about reproductive health and diseases
 (b) Include research organisation working to produce new and more effective contraceptives for birth control
 (c) Include a number of special techniques which assist infertile couples to have children
 (d) Both (b) and (c)
- Q2. Artificial insemination means**
 (a) transfer of sperms of a healthy donor to a test-tube containing ova
 (b) transfer of sperms of husband to a test-tube containing ova
 (c) artificial introduction of sperms of a healthy donor into the vagina
 (d) introduction of sperms of healthy donor directly into the ovary
- Q3. Which among the listed ARTs are included under embryo transfer (ET) technique?**
 (a) ICSI and IUI (b) ZIFT and IUT
 (c) GIFT and ZIFT (d) ICSI and GIFT
- Q4. ZIFT means.**
 (a) Zygote in fallopian tube (b) Zygote intra fallopian transfer
 (c) Zygote inter fallopian tube (d) Zygote inter fallopian transfer
- Q5. Artificial insemination is used in case of.**
 (a) Inability of the male partner to inseminate the female
 (b) Very high sperm counts in the ejaculates
 (c) Both (a) and (b)
 (d) None of these

Solved Examples

- Ex: 1- The permissible use of the technique amniocentesis is for**
 (a) detecting sex of the unborn fetus
 (b) artificial insemination
 (c) transfer of embryo into the uterus of a surrogate mother
 (d) detecting any genetic abnormality.
- Sol. (d):** Amniocentesis is withdrawal of a sample of the fluid (amniotic fluid) surrounding a fetus in the uterus by piercing the amniotic sac through the abdominal wall, under direct ultrasound guidance. As the amniotic fluid contains cells from the fetus, cell cultures enable chromosome patterns to be studied so that prenatal diagnosis of chromosomal abnormalities can be made such as certain metabolic errors and other abnormalities.
- Ex: 2- Which oral contraceptive is developed by CDRI?**
 (a) Saheli (b) Mala-D
 (c) i-pill (d) None of these
- Sol. (a):** 'Saheli', a new oral contraceptive for females was developed by scientists at Central Drug Research Institute (CDRI) in Lucknow.
- Ex: 3- Which of the following statement(s) is/are incorrect regarding reproductive health?**
 (a) Reproductive health simply refers to healthy reproductive organs with normal functions.
 (b) It has a narrow perspective and includes only physical and emotional aspects.

- (c) According to WHO, it means a total well-being is all aspects of reproduction, i.e., physical, emotional, behavioural and social.
 (d) Both (a) and (b)
- Sol. (d):** Reproductive health has a broader perspective and includes the emotional and social aspects of reproduction.
- Ex: 4- Amniocentesis is the detection of**
 (a) chromosomal pattern by taking amniotic fluid
 (b) chorionic fluid from developing embryo
 (c) chromosomal pattern after child birth
 (d) chromosomal pattern before fertilisation.
- Sol. (a):** Amniocentesis is the detection of the chromosomal pattern of developing fetus by taking the amniotic fluid.
- Ex: 5- Barrier methods used to avoid pregnancy work by**
 (a) preventing ovulation
 (b) preventing implantation
 (c) non-maturation of uterine endometrium
 (d) preventing meeting of sperms with egg.
- Sol. (d):** Barrier methods prevent fertilisation by avoiding meeting of sperm and egg.
- Ex: 6- The function of copper ions in copper releasing IUDs is**
 (a) they inhibit gametogenesis
 (b) they make uterus unsuitable for implantation
 (c) they inhibit ovulation
 (d) they suppress sperm motility and fertilising capacity of sperms.
- Sol. (d):** Copper releasing IUDs (i.e., CuT, LNG-20) are placed in the uterus of the females. They are efficient birth control methods. Copper ions released by them suppress motility and fertilising capacity of the sperms.
- Ex: 7- What is the function of progesterone that is present in oral contraceptive pills ?**
 (a) To inhibit ovulation
 (b) To check oogenesis
 (c) To check entry of sperms into cervix and to make them inactive
 (d) To check sexual behaviour
- Sol. (a):** Contraceptive pills contains either progesterone or a combination of estrogen and progesterone. These hormones inhibits ovulation hence pregnancy cannot occur.
- Ex: 8- Find out the correct statement.**
 I. Pills prevent ovulation as a contraception technique.
 II. Copper-T prevents implantation.
 III. After vasectomy semen contains no sperm.
 (a) I and II (b) II and III
 (c) I and III (d) I, II and III
- Sol. (c):** Copper T suppress sperm motility and the fertilising capacity of sperms.
- Ex: 9- Which of the following is hormone-releasing IUD?**
 (a) LNG-20 (b) Multiload 375
 (c) Lippes Loop (d) Cu7
- Sol. (a):** LNG-20 is the hormone releasing IUD, Multiload 375 and Cu7 are copper releasing IUDs and Lippes Loop is a non-medicated IUD.
- Ex: 10- Which of the following is not a barrier method of contraception?**
 (a) Condoms (b) Cervical caps
 (c) Diaphragm (d) Progestasert
- Sol. (d):** Progestasert is a hormone releasing IUDs



Exercise-01 Level -01

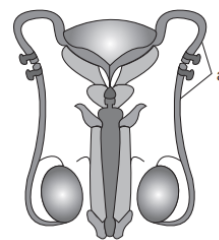
1. Study of chromosomal abnormalities by taken out the amniotic fluid of embryo is called :-
(a) endoscopy (b) amniocentesis
(c) laparoscopy (d) natal endoscopy
2. Which method of contraception has high failure rate?
(a) Barrier method (b) IUD
(c) Sterilization (d) Natural method
3. The programme of 'Family Planning' was initiated in the year _____.
(a) 1950 (b) 1947
(c) 1949 (d) 1951
4. Which one of the following is not legitimate for reducing birth rate?
(a) Ban on marriages
(b) Medical termination of pregnancy
(c) Use of contraceptives
(d) Late marriages
5. Which of the following is a copper releasing IUD?
(a) CUT (b) Multiload 375
(c) Cu 7 (d) All of these
6. Which of the following can be used as an emergency contraceptive ?
(a) 'Mala-D'
(b) 'Saheli'
(c) progestogen-estrogen combinations
(d) Condom
7. CDRI, Lucknow developed which new female contraceptive?
(a) 'Sakhi' (b) 'Saheli'
(c) 'Saloni' (d) 'Smiti'
8. Purpose of tubectomy is to prevent:-
(a) egg formation
(b) embryonic development
(c) Transport of female gamete
(d) coitus
9. IUD stands for
(a) Intra Ureter Device
(b) Intrinsic Uterine Device
(c) Intrauterine Device
(d) Intra Urinogenital Device
10. MTP is relatively safe ?
(a) upto 12 weeks (b) upto 18 weeks
(c) during first trimester (d) Both (a) & (c)
11. Which was the first country in the world to initiate a nationwide programme for reproductive health?
(a) China (b) USA
(c) India (d) Russia
12. MTP is relatively safe ?
(a) upto 12 weeks
(b) upto 18 weeks
(c) during first trimester
(d) Both (a) & (c)
13. The world population was 2000 million in the year
(a) 1980 (b) 1970
(c) 1960 (d) 1990
14. An example of IUD is:-
(a) vasectomy (b) copper T
(c) condom (d) All of the above
15. Which of the following methods of contraception has least side effects?
(a) IUD (b) Pills
(c) Coitus interruptus (d) Cervical cap
16. According to the census report of 2001, the population growth rate was
(a) More than 1.5% (b) less than 2%
(c) 1% (d) 3.1%
17. Example(s) of contraceptive is/are :-
(a) condom, cervical cap and diaphragm
(b) intrauterine device
(c) pill
(d) All of the above
18. The pills used by females to prevent conception contain
(a) Only oestrogen
(b) Only progestogen
(c) Combination of oestrogen progestogen
(d) Both (b) and (c)
19. Which of the following methods of contraception prevents ovulation ?
(a) Pills (b) 'Depo-provera'
(c) 'Norplant' (d) All of these
20. A wise way to encourage small families is by raising the marriageable age of female to _____ years and that of male to _____ years respectively.
(a) 16, 18 (b) 18, 20
(c) 18, 21 (d) 17, 22
21. A contraceptive pill contains:-
(a) progesterone and estrogen
(b) spermicidal agents

- (c) chemicals that cause abortion
(d) chemicals that prevent fertilization of ovum
22. Many couples in the urban working areas have adopted the _____ norm.
- (a) Two child (b) One child
(c) No child (d) Three child



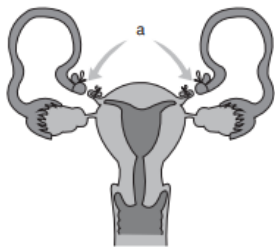
23. Lippes loop is a
 (a) Structure associated with nephron
 (b) Structure associated with male reproductive system
 (c) Structure associated with ligamentous tissue
 (d) A non-medicated IUD
24. In which of the following methods, zygote upto 32 blastomeres is transferred into the uterus?
 (a) IUT (b) ZIFT
 (c) GIFT (d) ICSI
25. Lactational amenorrhea is effective only up to a maximum of _____ months.
 (a) Two (b) Four
 (c) Six (d) Eight
26. Amniocentesis is used for determining :-
 (a) heart disease
 (b) brain disease
 (c) hereditary disease of embryo
 (d) All of the above
27. The 'Pills' have to be taken for contraception continuously for a period _____ days.
 (a) 22 (b) 21
 (c) 24 (d) 25
28. Most important component of oral contraceptive is :-
 (a) thyroxine (b) LH
 (c) progesterone (d) FSH
29. Which of the following techniques is banned in India?
 (a) USG (b) Sterilisation
 (c) Amniocentesis (d) IVF
30. Which of the following is a most widely used contraceptive in India?
 (a) IUD (b) Pills
 (c) Barrier method (d) Natural method
31. Emergency contraceptive should be used within _____ hours of unprotected intercourse.
 (a) 48 (b) 72
 (c) 36 (d) 86
32. Which contraceptive method provides protection against HIV?
 (a) IUD
 (b) Pills
 (c) Condom
 (d) Periodic abstinence
33. Nearly _____ MTPs are preformed in a year all over the world.
 (a) 45 to 50 billion
 (b) 45 to 50 million
 (c) 45 to 50 thousands
 (d) 45 to 50 lacs
34. The chances of fertilisation are very high during :-
 (a) first five days of menstrual cycle
 (b) last seven days of menstrual cycle
 (c) day 10 to day 17 of menstrual cycle
 (d) Both (a) & (b)
35. 32. Multiload 375 is a
 (a) Disease resistant crop
 (b) New viral vector
 (c) Intrauterine Device
 (d) Biological warfare device
36. Progestasert makes the uterus unsuitable for implantation and cervix hostile to the sperms. It is a :-
 (a) copper releasing IUD
 (b) hormone releasing IUD
 (c) non medicated IUD
 (d) Both (b) & (c)
37. Which one of the following was first country of world to adopt family planning programme?
 (a) Japan (b) USA
 (c) India (d) Bangladesh
38. In the _____ method of contraception ovum and sperms are prevented from physically meeting by the use of a membranous sheath.
 (a) Barrier (b) Sterilization
 (c) Natural (d) Pills
39. Family planning programmes were initiated in :-
 (a) 1947 (b) 1951
 (c) 1977 (d) 1955
40. MTPs are harmful to mother and foetus during _____ trimester of pregnancy.
 (a) 1st (b) 2nd
 (c) 3rd (d) None of these
41. 'Saheli', a female contraceptive pill is used:-
 (a) daily (b) weekly
 (c) quarterly (d) monthly
42. Which of the following is not applicable to females for contraception?
 (a) Diaphragms (b) Vasectomy
 (c) Condoms (d) Cervical caps
43. If vasectomy is done, then which condition would occur in a male?
 (a) Teratospermia (b) Asthenospermia

44. Programme called family planning was initiated in _____.
 (a) 1941 (b) 1951
 (c) 1961 (d) 1971
45. Which of the following contraceptive methods make uterus unsuitable for implantation ?
 (a) Diaphragm (b) Condom
 (c) IUD (d) Natural method
46. Natural method of contraception includes:-
 (a) coitus interruptus
 (b) lactational amenorrhea
 (c) periodic abstinence
 (d) All of the above
47. Which of the following is a natural method of contraception ?
 (a) Sterilisation
 (b) IUD
 (c) Diaphragm
 (d) Periodic abstinence
48. If male is impotent and female is normal then which of the following technique can be used to treat infertility?
 (a) ICSI (b) ZIFT
 (c) GIFT (d) AI
49. The age group of _____ years is quite vulnerable to STDs.
 (a) 10 to 19 (b) 15 to 22
 (c) 17 to 27 (d) 15 to 24
50. _____ is a popular brand of condom for males.
 (a) 'Nishodh' (b) 'Nirodh'
 (c) 'Nidosh' (d) 'Nirdosh'
51. Progestasert is a
 (a) Oral contraceptive
 (b) Natural contraceptive
 (c) Hormonal IUD
 (d) Implant contraceptive
52. LNG-20 is a
 (a) Fuel (b) Modified crop
 (c) Hormonal IUD (d) Cu releasing IUD
53. Oral pills work by
 (a) Inhibiting ovulation
 (b) Inhibiting implantation
 (c) Altering the quality of mucus
 (d) All of these
54. The surgical procedure indicated in the figure is



- (a) Tubectomy (b) Hysterectomy
 (c) Vasectomy (d) Orchiectomy
55. 'Saheli', the new oral contraceptive for females, contains a _____ preparation.
 (a) Steroidal (b) Peptide
 (c) Non steroidal (d) Inorganic
56. 'Saheli' is a/an _____ contraceptive pill.
 (a) Emergency (b) One week
 (c) 72 hour (d) One month
57. Apart from pills of progestogen alone or in combination with oestrogen, which other means can be used for contraception?
 (a) Implants (b) Injections
 (c) Both (a) and (b) (d) None of these
58. To prevent further pregnancies, a surgical method called _____ is advised for male/female partner as a means of contraception.
 (a) Radiation (b) Sterilization
 (c) Abortion (d) Neutralization
59. Surgical method for terminal contraception work on which of the following grounds?
 (a) Block gamete transport
 (b) Block gamete generation
 (c) Alter biochemical nature of gamete
 (d) Destroys gamete permanently
60. Which part of reproductive system is odd w.r.t. tubectomy?
 (a) fallopian tube (b) Scrotum
 (c) Uterus (d) Ovary
61. Which of the following is/are the ill-effect/effects of using contraceptives?
 (a) Abdominal pain
 (b) Breast cancer
 (c) Irregular menstrual bleeding
 (d) All of these
62. Intentional or voluntary termination of pregnancy before full term is called _____.
 (a) Medical transformation of pregnancy
 (b) Median terminal pregnancy
 (c) Medical Termination of Pregnancy
 (d) None of these
63. Sexually transmitted diseases are also known as
 (a) Venereal disease
 (b) Vulnerable diseases

- (c) Reproductive tract infections
(d) Both (a) and (c)
64. Which portion of the female reproductive system is cut and ligated as in the figure?



- (a) Uterus (b) Fallopian tubes
(c) Ovary (d) Cervix

65. Which infections can be transmitted by sharing of injection needles, surgical instruments, etc., with infected persons; through transfusion of blood, or from an infected mother to the foetus?
- (a) AIDS (b) Hepatitis B
(c) Genital herpes (d) All of these
66. Which of the following STD is not completely curable?
- (a) Gonorrhoea (b) Genital warts
(c) Genital herpes (d) Chlamydia
67. The reasons for infertility can be
- (a) Physical (b) Diseases
(c) Psychological (d) All of these

Exercise-02 Level -02

- Select the statement which is not a cause of population growth
 - Decline in death rate
 - Rapid increase in MMR and IMR
 - Rapid decline in MMR and IMR
 - Increase in the number of people in the reproductive age group
- Choose the WHO's statement about reproductive health.
 - Healthy reproductive organs with normal functions.
 - Total well-being of physical, emotional, behavioural and social aspects.
 - Free of all STD.

(a) I and II (b) I and III
(c) II and III (d) Only II
- Amniocentesis is:-
 - analysis of chemical composition of chorionic fluid
 - withdrawal of allantoic fluid from pregnant women
 - Both a and b
 - In amniocentesis some of the amniotic fluid of the developing foetus is taken to analyse the fetal cells and dissolved substances
- What is the full form of WHO?
 - Ware House Organization
 - War and Health Organization
 - World Health Office
 - World Health Organization
- Identify the incorrect statement(s) from those given below.
 - RCH programmes created awareness among people about various reproduction related aspects
 - Sexually transmitted diseases can be avoided by educating people with proper information about reproduction, adolescence and related changes, etc.
 - Ultrasounds have been banned as it was used for foetal sex-determination based on chromosomal studies
 - All of the above
- Fertilization outside the body in almost similar conditions as that in the body is termed as
 - In vitro fertilization
 - Ex vivo fertilization
 - In vivo fertilization
 - Ex vitro fertilization
- What is true for an ideal contraceptive?
 - It should be user-friendly
 - It should be easily available
 - It should be effective and reversible with least side effects.
 - It should be interfering in coitus.
 - It should be expensive and effective.

Choose the correct option.


(a) I, IV and III (b) I, IV and V
(c) I, II and III (d) II, IV and V
- What is correct about test tube baby?

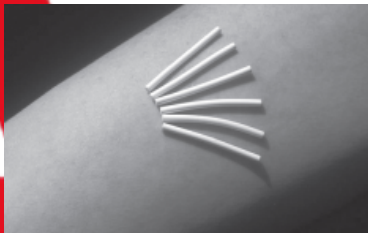
- (a) Fertilisation inside female genital tract and growth in test tube
 (b) Rearing of prematurely born baby in incubator
 (c) Fertilisation outside and gestation inside womb of mother
 (d) Both fertilisation and development outside the female genital tract
9. What are the various aspects of reproduction covered by WHO?
 (a) Physical, Emotional, Behavioural only
 (b) Physical, Emotional, Behavioural, Social
 (c) Physical, Emotional, Gestational, Social
 (d) Physical, Emotional, Social
10. Select the correct statement(s) which includes the steps implemented by government to control the increasing population.
 (a) Increasing the price of contraceptives so they are available to all
 (b) Advertising the benefits of small family, slogans like, 'hum do hamare do', etc.
 (c) Raising the marriageable age, females 18 years, males 21 years
 (d) Both (b) and (c)
11. In order to combat infertility, special techniques are used like _____.
 (a) Stimulated reproductive technologies
 (b) Assisted reproductive technologies
 (c) Fertile reproductive technologies
 (d) In vitro fertilization
12. Which of the following statements are correctly associated with Saheli?
 I. It is a 'once a week' pill with very few side effects.
 II. This contraceptive was developed at CDRI Lucknow.
 III. Saheli is an oral pill containing a steroidal preparation.
 IV. This oral contraceptive is known to cause multiple side effects in women and has low contraceptive value
 (a) III and IV (b) I and II
 (c) 1, II and III (d) All of these
13. Full form of MTP with respect to reproductive health is:-
 (a) Magnetic tape processor
 (b) Mid term plan
 (c) Motion to proceed
 (d) Medical termination of pregnancy
14. The figure indicates which contraceptive device?



- (a) Condom for female (b) Condom for male
 (c) Diaphragm (d) Cervical cap
15. Which one of the following statement is incorrect in the context of amniocentesis?
 (a) It is used for prenatal sex-determination
 (b) It can be used for detection of Down's syndrome
 (c) It can be used for detection of cleft palate
 (d) All of these
16. Identify the correct statements about lactational amenorrhea.
 I. Ovulation does not occur during the lactational period.
 II. Chances of the failure of contraception are almost nil up to six months following parturition.
 III. Side effects are almost nil.
 IV. It is a natural method of contraception.
 V. It increases phagocytosis of sperms.
 (a) II, III, IV and V (b) All except V
 (c) I, III, IV and V (d) All of these
17. A contraceptive pill prevents ovulation by:-
 (a) blocking fallopian tube
 (b) inhibiting release of FSH and LH
 (c) stimulating release of FSH and LH
 (d) causing immediate degeneration of released ovum
18. The reproductive program RCH stands for
 (a) Reproductive and Community Health Care
 (b) Restorative and Communal Health Care
 (c) Reproductive and Child Health Care
 (d) Reproductive and Congenital Health Care
19. Which statement is correct for natural methods of contraception?
 (a) They increase phagocytosis of sperms
 (b) They employ barriers to prevent fertilisation
 (c) They are surgical methods and are terminal methods
 (d) They are natural ways of avoiding chances of fertilization
20. Which statements show the correct purpose of contraceptive pills?
 I. They inhibit ovulation and implantation.
 II. They alter the quality of cervical mucus to prevent or retard the entry of sperms.
 III. They prevent the ejaculated semen from entering the female vagina.

- IV. They inhibit spermatogenesis.
 (a) I, II and IV (b) I, II and III
 (c) I and II (d) I, II, III and IV
21. Identify the false statements regarding the techniques of contraception.
 I. There are many side effects of tubectomy and vasectomy.
 II. Purpose of tubectomy is to prevent egg formation,
 III. The most important component of the oral contraceptive pills is progesterone.
 IV. Contraceptive oral pills help in birth control by preventing ovulation.
 (a) I, II and III (b) I and II
 (c) III, IV and II (d) II and IV
22. Which of the following is a Cu releasing IUD and its function?
 (a) Multiload 375 : It suppresses sperm motility and fertilising capacity of sperms
 (b) Progestasert : It makes uterus unsuitable for implantation and cervix hostile to sperms
 (c) Lippes loop : It increases phagocytosis of sperms
 (d) LNG-20 : It inhibits ovulation and implantation as well as alter the quality of cervical mucus to prevent/retard entry of sperms
23. Consider the following statements for IUD and choose the correct option.
 (a) Increases phagocytosis of sperms
 (b) Releases Cu^{2+} ions, suppresses the sperm motility
 (c) Reduces the fertilising capacity of sperms
 (d) All of the above
24. Which of these options is correct with regards to statements X and Y?
Statement X: Except for hepatitis-B, genital herpes and HIV infections, other diseases are completely curable if detected early and treated properly
Statement Y: incidences of STDs are reported to be very high among persons in the age group of 15-24 years
 (a) Statement 'X' and 'Y' are correct and 'X' is the correct explanation for 'Y'.
 (b) Only statement 'X' is correct.
 (c) Only statement 'Y' is correct.
 (d) Statement 'X' and 'Y' are correct.
25. Which of the following statements about tubectomy (female sterilization) is/are true?
 I. It involves blocking or cutting the fallopian tubes to prevent egg fertilization.
 II. It can be easily reversed if a woman changes her mind later.
 III. Tubectomy is a permanent method of contraception.
 (a) I and II (b) II and III
 (c) I and III (d) All of the above
26. Test tube baby means a baby born when :-
 (a) it is developed in a test tube
 (b) it is developed through tissue culture method
 (c) the ovum is fertilised externally and there afterwards implanted in the uterus
 (d) it develops from a non-fertilized egg
27. Find out the incorrect statement for IUD.
 (a) They can be self-inserted
 (b) They are inserted by expert nurses/doctors
 (c) They may be non-medicated IUDs, copper releasing IUDs or hormone releasing IUDs
 (d) They are intrauterine devices
28. In order to prevent STDs, one of the following is not correct?
 (a) Avoid sex with unknown partners/multiple partners.
 (b) Go to an unqualified doctor at earliest instance of STD.
 (c) Always use condoms during coitus.
 (d) Participate in sex education sessions.
29. Consider the following statements and choose the correct statements:
 I. Numerous children have been produced by in vitro fertilisation but with some abnormalities
 II. Chances of conception are nil until mother breastfeeds the child for two years.
 III. Progestogens alone or in combination with estrogen can also be used by females as injections or implants under the skin
 IV. Emergency contraceptive pills may be taken within 72 hours of coitus to prevent conception
 (a) III and IV (b) I and III
 (c) I and II (d) II and III
30. Coitus interrupts/withdrawal method concerns with:
 (a) Withdrawal of penis from vagina before ejaculation
 (b) Withdrawal of penis from vagina after ejaculation
 (c) Prevention of coitus

- (d) Alternate prevention of coitus
31. What is the work of copper T?
- to inhibit ovulation
 - to prevent fertilisation
 - to inhibit implantation of blastocyst
 - to inhibit gametogenesis
32. Which of the following is a correct statement?
- IUDs once inserted need not be replaced
 - Jellies and cream enable sperms to reach towards ovum speedily
 - IUDs increase phagocytosis of sperms in the uterus
 - Pills used by females like Saheli, suppress semen formation in males
33. Severe complications of STDs lead to further complications like
- Abortion
 - Still birth
 - Ectopic pregnancy
 - All of these
34. Which of the following given statements are not correct?
- A statutory ban has been implemented on amniocentesis because of its misuse
 - Surgical methods are also called sterilisation as they block the release of gametes into secretions.
 - All sexually transmitted diseases are completely curable
 - MTPs are relatively safe up to 30 weeks of pregnancy.
- I and III
 - III and IV
 - II and III
 - I and II
35. Diaphragms are contraceptive devices used by the females. Choose the **correct** option from the statements given below:
- They are introduced into the uterus.
 - They are placed to cover the cervical region.
 - They act as physical barriers to sperm entry.
 - They act as spermicidal agents.
- (i) and (ii)
 - (i) and (iii)
 - (ii) and (iii)
 - (iii) and (iv)
36. A natural method of contraception, periodic abstinence is
- Abstaining from coitus from day 1 to 5 of the menstrual cycle.
 - Abstaining from coitus from day 17 to 22 of the menstrual cycle.
 - Abstaining from coitus from day 10 to 17 of the menstrual cycle.
 - Abstaining from coitus from day 5 to 10 of the menstrual cycle.
37. Which of the following statements are false?
- In barrier methods, ovum and sperms are prevented from physically meeting with the help of barriers
 - Saheli—the new oral contraceptive for the females contains a steroidal preparation
 - The hormone releasing IUDs include Multiload 375, Lippes loop etc.
 - Sex education is necessary in schools.
 - IUDs are ideal contraceptives for the females who want to delay pregnancy and/or space children
- Correct option is
- I, II and III
 - II, III and IV
 - III, IV and V
 - II and III
38. What happens after vasectomy?
- Absence of formation of semen
 - Formed Sperms are dead or inactive
 - Both a and b
 - Absence of sperms in semen
39. Which IUD is shown in the given figure?
- 
- Lippes loop
 - Progestasert
 - Copper T
 - Multiload-375
40. Identify the false statement from the below statements.
- Genital herpes and hepatitis-B are sexually transmitted diseases caused by virus
 - Syphilis is an STD caused by bacterium *Treponema pallidum*
 - In India, there is rapid decline in infant mortality rate and MMR
 - Genital warts is a sexually transmitted disease caused by herpes virus
41. To avoid transmission of STDs.
- Avoid sex with multiple partners.
 - Always have unprotected sex.
 - Use condoms during coitus.
 - Avoid sex with unknown partners.
 - Avoid sharing of needles.
- Choose the correct option.

42. Identify the correct statements.
 (a) Infertility is the inability to produce viable offspring due to the defects in the female or male partner
 (b) Lactation have no role in preventing conception
 (c) Abstaining from coitus from day 10-17 of menstrual cycle when ovulation is expected constitutes natural method of contraception
 (d) Both (a) and (c)
43. STDs lead to the
 I. minor complications like itching, fluid discharge, slight pain, swellings.
 II. major complications like pelvic inflammatory diseases ectopic pregnancies.
 III. problems like infertility, abortions.
 IV. cancer of the reproductive tract.
 Choose the correct option.
 (a) I, II and IV (b) I, II and III
 (c) I, III and IV (d) All of these
44. MMR stands for
 (a) Magnetic Maxima Resonance
 (b) Mortality Memorandum Rate
 (c) Mortality Maternal Rate
 (d) Maternal Mortality Rate
45. Which of the following statements is incorrect about ZIFT?
 (a) Zygote in the Fallopian transfer
 (b) Type of IVF
 (c) Embryo with more than 8 blastomeres are used
 (d) Zygote or embryo with up to 8 blastomeres are used
46. Which of the following statements are correct?
 I. MTPs are generally advised during first trimester.
 II. MTP (Amendment) Act, 2017 was enacted by the government of India to reduce illegal abortions.
 III. Government of India legalised MTP in 1971.
 IV. MTP during the second trimester can be done in case where the child after birth would suffer from some physical or mental abnormalities.
 (a) I, II, III, IV and V (b) I, II, III, V and VI
 (c) I, III, IV, V and VI (d) All of these
47. IMR stands for
 (a) Indigenous Mortality Rate
 (b) Infant Migratory Rate
 (c) Infant Mortality Rate
 (d) Infant Mitigation Rate
48. Which statement is false for GIFT?
 (a) It is Gamete Intra Fallopian Transfer
 (b) Ovum is transferred into the oviduct
 (c) Zygote is transferred into Fallopian tube
 (d) Used when the receptive is sterile
49. Which of the following defines 'Test Tube Baby' correctly?
 (a) Ova and sperms are collected and mixed in test tube to form zygote.
 (b) Ova and sperms are centrifuged in test tube to form zygote.
 (c) Ova and sperms are induced to form zygote under controlled condition.
 (d) Embryogenesis is allowed to continue in test tube under controlled conditions.
50. WHO refers reproductive health as
 (a) Physically healthy reproductive organ
 (b) Functionally healthy reproductive organ
 (c) Normal emotional and behavioural interaction among people in all sex related aspects.
 (d) All the above
51. What is shown in the figure?

 (a) Copper T (b) Implants
 (c) Stents (d) Vault
52. Full form of RCH is
 (a) Reproduction and Contraception Hazard
 (b) Reproductive and Child Health Care
 (c) Research and Care Development
 (d) Reproductive Community Health Centre
53. 'Saheli', oral contraceptive for the females was developed by which institute?
 (a) CDRI, Lucknow (b) NBG, Lucknow
 (c) Kazari, Jodhpur (d) NIV, Pune
54. The following are indicative signs which indicate improved reproductive health of society. Choose the correct combination.
 (i) Better awareness about sex related problem
 (ii) Better detection and cure of STDs
 (iii) Better Postnatal care
 (iv) Increased number of couples with large families

- (a) i and iv only (b) ii, iii and iv only
(c) i and ii only (d) i, ii and iii only
55. India's population grew from 350 million to a billion in 2000 mainly due to
(i) Rapid decline in death rate (MMR and IMR).
(ii) Increase in number of people in reproducecible age group.
(iii) Increase in number of people in post-reproductive age group.
(a) (iii) only (b) (i) and (iii) only
(c) (i) and (ii) only (d) (i) only
56. Motivation for smaller families in India can be provided by
- (a) Slogans like 'Hum Do Hamare Do'.
(b) Raising marriageable age (female-18 years and male-21 years).
(c) Giving incentive to couples with small families.
(d) All the above
57. An ideal contraceptive should be
(a) User-friendly
(b) Easily available
(c) Effective and reversible
(d) With nor or least side-effects
(a) A, B and C only (b) A and D only
(c) B and C only (d) All



Exercise-03 Level -03

Assertion & Reason Based Questions

1. **Assertion (A):** As long as the mother breast -feeds the child fully, chances of conception are almost nil.
Reason (R): Lactational amenorrhea method is based on the fact that ovulation does not occur during the period of intense lactation
 (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false
2. **Assertion (A):** A person should be considered reproductively healthy, if he has healthy reproductive organs, but is emotionally imbalanced.
Reason (R): It is significant to maintain reproductive health of people and society.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
3. **Assertion (A):** Diaphragms, cervical caps and vaults are barriers made up of rubber.
Reason (R): Diaphragms, cervical caps and vaults are inserted into the male reproductive tract during coitus.
 (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false.
4. **Assertion (A):** Family planning is an action plan to attain reproductive health
Reason (R): Some additional improved programmes covering reproduction related areas are currently in operation under the Reproductive and child Healthcare Programmes.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
5. **Assertion (A):** In vasectomy, a small part of the vas deference is removed or tied up.
Reason (R): In tubectomy, a small part of the fallopian tube is removed or tied up.
 (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false.
6. **Assertion (A):** Reproductive and Child Healthcare Programme is for reproduction related areas
Reason (R) Parents, other close relatives, teachers and friends, also have a major role in the dissemination of the above information.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
7. **Assertion (A):** Infertility is the inability to produce children in spite of unprotected sexual co-habitation
Reason (R): Infertile couples could have children using assisted reproductive technologies (ART).
 (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false.
8. **Assertion (A):** Amniocentesis is often misused.
Reason (R): It is meant for determining the genetic disorders in the foetus, but it is being used to determine the sex of the foetus, leading to increase in the female foeticide.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false

- (d) If A is false, but R is true
9. **Assertion (A):** IUT is transfer of embryo with more than 8 blastomeres into the fallopian tubes
Reason (R): IUI is a type of IUT.
 (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false.
10. **Assertion (A):** Rapid decline in death rate, MMR and IMR have lead to staggering rise in population.
Reason (R): Such an alarming growth rate has lead to an absolute scarcity of even the most basic requirements, i.e. food and shelter.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
11. **Assertion (A):** Incidences of STDs are reported to be very high among persons in the age group of 15-24 years – the age group
Reason (R): Except for hepatitis-B, genital herpes and HIV infections, other diseases are completely curable if detected early and treated properly
 (a) If both Assertion (a) and (R) are true and the Reason (R) is a correct explanation of the Assertion (A).
 (b) If both Assertion (a) and Reason (R) are true but Reason (R) is not a correct explanation of the Assertion.
 (c) If Assertion (a) is True but the Reason (R) is False.
 (d) If both assertion and reason are false.
12. **Assertion (A):** Overpopulation has become a serious problem in the developing countries.
Reason (R): Developing countries show characteristics such as high fertility, low or rapidly falling mortality rate, rapid population growth and a very young age distribution.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
13. **Assertion (A):** In barrier methods, ovum and sperms are prevented from physically meeting with the help of barriers
Reason (R): Cu ions released from cu releasing IUD suppress sperm motility and the fertilising capacity of sperms.
 (a) If both Assertion (a) and (R) are true and the Reason (R) is a correct explanation of the Assertion (A).
 (b) If both Assertion (a) and Reason (R) are true but Reason (R) is not a correct explanation of the Assertion.
 (c) If Assertion (a) is True but the Reason (R) is False.
 (d) If both assertion and reason are false.
14. **Assertion (A):** Family planning is done by using contraceptive methods.
Reason (R): Natural contraceptive methods include condoms, diaphragms, etc., while barrier methods include periodic abstinence, lactational amenorrhea, etc.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
15. **Assertion (A):** Mode of action of pills and implants/injectable is similar.
Reason (R): The effective period of pills is much longer as compared to implants/injectables.
 (a) If both Assertion (a) and (R) are true and the Reason (R) is a correct explanation of the Assertion (A).
 (b) If both Assertion (a) and Reason (R) are true but Reason (R) is not a correct explanation of the Assertion.
 (c) If Assertion (a) is True but the Reason (R) is False.
 (d) If both assertion and reason are false.
16. **Assertion (A):** IUDs are safe methods of contraceptions.
Reason (R): Diaphragms, cervical caps and vaults are barrier methods which prevent conceptions by blocking entry of sperms through cervix.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
17. **Assertion (A):** Amniocentesis gives information about developing foetus
Reason (R): In aminocentesis some of the amniotic fluid of the developing foetus is taken to analyse the fetal cells

- (a) If both Assertion (a) and (R) are true and the Reason (R) is a correct explanation of the Assertion (A).
 (b) If both Assertion (a) and Reason (R) are true but Reason (R) is not a correct explanation of the Assertion.
 (c) If Assertion (a) is True but the Reason (R) is False.
 (d) If both assertion and reason are false.
18. **Assertion (A):** Contraceptives are methods to prevent unwanted pregnancies.
Reason (R): Unwanted pregnancies can only be prevented by using oral contraceptives
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
19. **Assertion (A):** Copper-T is an effective contraceptive devices in human female.
Reason (R): Copper – T prevents passage of sperms from vagina upwards into fallopian tubes.
 (a) If both Assertion (a) and (R) are true and the Reason (R) is a correct explanation of the Assertion (A).
 (b) If both Assertion (a) and Reason (R) are true but Reason (R) is not a correct explanation of the Assertion.
 (c) If Assertion (a) is True but the Reason (R) is False.
 (d) If both assertion and reason are false.
20. **Assertion (A):** There is chance of fertilisation during 10th-17th days of menstrual cycle.
Reason (R): Ovulation can be expected during these days.
 (a) If both A and R are true and R is the correct explanation of A
 (b) If both A and R are true, but R is not the correct explanation of A
 (c) If A is true, but R is false
 (d) If A is false, but R is true
-
- Statement Based Questions**
-
21. **Statement I:** According to the 2011 census report, the population growth rate was less than 2 per cent
Statement II: A rapid decline in death rate, maternal mortality rate (MMR) and infant mortality rate (IMR) as well as an increase in number of people in reproductive age are reason of population explosion
- (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
22. **Statement I:** coitus interruptus is a type of barrier method in which the male partner withdraws his penis from the vagina
Statement II: In barrier methods, ovum and sperms are prevented from physically meeting with the help of barriers
 (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
23. **Statement I:** Intra Uterine Devices (IUDs) is popular and effective method of contraception
Statement II: Hormone releasing IUDs include Cu T, Cu7, Multiload 375.
 (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
24. **Statement I:** Saheli is a 'once a week' pill with very few side effects and high contraceptive value
Statement II: Saheli-the new oral contraceptive for the females contains a steroidal preparation
 (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
25. **Statement I:** Surgical intervention blocks gametogenesis and thereby prevent conception
Statement II: Sterilisation procedure in the male is called 'vasectomy' and that in the female, 'tubectomy'
 (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
26. **Statement I:** Infections or diseases which are transmitted through sexual intercourse are collectively called sexually transmitted infections (STI)
Statement II: Hepatitis-B, genital herpes and HIV infections, are completely curable if detected early and treated properly
 (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect
27. **Statement I:** Infertile couples can conceive by some special techniques commonly known as assisted reproductive technologies (ART).

Statement II: All these techniques require extremely high precision handling can be performed by any professionals

- (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect

28. **Statement I:** Intra cytoplasmic sperm injection (ICSI) is a specialised procedure to form an embryo in the laboratory in which a sperm is directly injected into the ovum

Statement II: In Vivo fertilisation followed by transfer of embryo into the female genital tract is commonly known as the 'Test Tube Baby' Programme

- (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect

29. **Statement I:** In traditional/natural methods of contraception, side effects are almost nil, through chances of failure in this method are also high.

Statement II: Lactational amenorrhea is not included in natural method of birth control.

- (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect

30. **Statement I:** Oral contraceptives are popularly called as pills.

Statement II: Saheli pill contains a steroidal preparation

- (a) Both statement I and II are correct
 (b) Statement I is correct but II is incorrect
 (c) Statement I is incorrect but II is correct
 (d) Both Statement I and II is incorrect

Match up Based Questions

31. Match Column-I with Column-II and choose the correct combination from the options given below.

| Column-I | | Column-II | |
|----------|--------------------|-----------|--------------------------------|
| A. | Oral contraceptive | i. | Blocks gamete transport |
| B. | Condoms | ii. | Prevents implantation |
| C. | LNG-20 | iii. | Prevents ovulation |
| D. | Tubectomy | iv. | Prevents sperm reaching cervix |

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

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

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

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

32. Match Column-I with Column-II and choose the correct combination from the options given below.

| Column-I | | Column-II | |
|----------|--|-----------|----------------|
| A. | Curable STD | i. | Syphilis |
| B. | Non-curable STD | ii. | Genital herpes |
| C. | Family planning programme started in India | iii. | 1951 |
| D. | MTP legalized in India | iv. | 1971 |

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

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

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

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

33. Match Column-I with Column-II and choose the correct combination from the options given below.

| Column-I | | Column-II | |
|----------|--------------------|-----------|--------------|
| A. | Natural method | i. | Saheli |
| B. | Barrier method | ii. | Progestasert |
| C. | IUD | iii. | Withdrawal |
| D. | Oral contraceptive | iv. | Diaphragm |

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

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

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

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

34. Given below are four methods (A-D) and their modes of action (p-s) in achieving contraception. Choose the correct options:

| Method | | Mode of Action | |
|--------|-----------|----------------|---------------------------------|
| A. | Pill | i. | Prevents sperms reaching cervix |
| B. | Condom | ii. | Prevents implantation |
| C. | Vasectomy | iii. | Prevents ovulation |
| D. | Copper-T | iv. | Semen contains no sperm |

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

35. Select the correct match:

| | | | |
|----|------------------------|------|--|
| A. | Coitus interruptus | i. | Withdrawl method |
| B. | Lactational amenorrhea | ii. | Absence of menstruation |
| C. | Condoms | iii. | Increase contraceptive efficiency of barrier methods |
| D. | Spermicidal jellies | iv. | Protect the user from STIs |

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

36. Select the correct match

| Contraceptive method | | Example | |
|----------------------|---------------|---------|-----------|
| A. | CDRI | i. | Tubectomy |
| B. | IUD | ii. | Diaphragm |
| C. | Barrier | iii. | Saheli |
| D. | Sterilisation | iv. | CuT |

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

37. Select the correct match:

| | | | |
|----|----------------------------------|------|-------------------------------------|
| A. | GIFT | i. | Gamete intrafallopian transfer |
| B. | ZIFT | ii. | Zygote intrafallopian transfer |
| C. | IUI | iii. | Semen introduced into vagina/uterus |
| D. | Medical termination of pregnancy | iv. | 1971 |

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

38. Match List-I with List-II

| List-I | | List-II | |
|--------|-----------|---------|--|
| A. | Vaults | i. | Entry of sperm through Cervix is blocked |
| B. | IUDs | ii. | Cut and tie of Vas deferens |
| C. | Vasectomy | iii. | Phagocytosis of sperms within the Uterus |
| D. | Tubectomy | iv. | Cut and tie of fallopian tube |

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

39. Given below are four methods (A-D) and their modes of action (i-iv) in achieving contraception. Select their correct matching from the four options that follow.

| Methods | | Mode of Action | |
|---------|-----------|----------------|---------------------------------|
| A. | Oral pill | i | Prevents sperms reaching cervix |
| B. | Condom | ii | Suppresses sperm motility |
| C. | Vasectomy | iii | Prevents ovulation |
| D. | Copper-T | Iv | Semen contains no sperms |

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

40. Which of the following contraceptive methods correctly matches with its mode of action?

| Contraceptive method | | Mode of action | |
|----------------------|---------------|----------------|------------------------------------|
| A. | Sterilization | i | Intra uterine devices |
| B. | Oral pills | ii | Inhibit ovulation and implantation |

| | | | |
|----|------------|-----|--|
| C. | Diaphragms | iii | Spermicidal cream and jellies increases contraceptive efficiency |
| D. | IUDs | iv | Blocks gamete transport |

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

41. Match Column I and Column II w.r.t contraceptive methods and their modes of action.

| Column I | | Column II | |
|----------|---------------|-----------|---|
| A. | Nirodh | i | Inhibits implantation |
| B. | Multiload 375 | ii | Maternal mortality rate |
| C. | MMR | iii | Increases phagocytosis of sperms within the uterus and the Cu ions released suppress sperm motility and fertilizing capacity of sperms. |
| D. | Saheli | iv | Prevents ovum and sperm from physically meeting. |

Choose the correct option.

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

42. Match Column I with Column II and select the correct option.

| Column I | | Column II | |
|----------|--------|-----------|--|
| A. | Saheli | i | Suppresses sperm motility and fertilizing capacity of sperms |
| B. | Condom | ii | Once a week pill |
| C. | Cu7 | iii | protect the user from contracting STIs and AIDS |

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

Exercise-04 Previous Year Questions

1. Which of the following is not a natural/traditional contraceptive method? (2024)
 (a) Periodic abstinence
 (b) Lactational amenorrhea
 (c) Vaults
 (d) Coitus interruptus

2. Match List I with List II : (2024)

| List I | | List II | |
|--------|-----------------------|---------|---------------|
| A. | Non-medicated IUD- | I. | Multiload 375 |
| B. | Copper releasing IUD | II. | Progestogens |
| C. | Hormone releasing IUD | III. | Lippe's loop |

| | | | |
|----|----------|-----|--------|
| D. | Implants | IV. | LNG-20 |
|----|----------|-----|--------|

Choose the correct answer from the options given below:

- (a) A-I, B-III, C-IV, D-II
 (b) A-IV, B-I, C-II, D-III
 (c) A-III, B-I, C-IV, D-II
 (d) A-III, B-I, C-II, D-IV

3. Match List-I with List-II. (2024)

| List-I | | List-II | |
|--------|-----------------------|---------|----------------|
| A. | Non-medicated IUDs | (i) | Multiload 375 |
| B. | Copper releasing IUDs | (ii) | Rubber barrier |

| | | | |
|----|------------------------|-------|-------------|
| C. | Hormone releasing IUDs | (iii) | Lippes loop |
| D. | Vaults | (iv) | LNG-20 |

Choose the correct answer from the options given below: **(2023)**

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

4. Given below are two statements: **(2023)**

Statement I: Intra Cytoplasmic Sperm Injection (ICSI) is another specialized procedure of in-vivo fertilization.

Statement II: Infertility causes due to inability of the male partner to inseminate female can be corrected by artificial insemination (AI).

In the light of the above statements, choose the correct answer from the options given below:

- (a) Statement I is true but statement II is false
 (b) Statement I is false but Statement II is true
 (c) Both Statement I and Statement II are true
 (d) Both Statement I and Statement II are false

5. Which of the following statements are correct?

- A. Reproductive health refers to total well-being in all aspects of reproduction.
 B. Amniocentesis is legally banned for sex determination in India.
 C. "Saheli" – a new oral contraceptive for females was developed in collaboration with ICMR (New Delhi).
 D. Amniocentesis is used to determine genetic disorders and survivability of foetus.

Choose the most appropriate answer from the options given below: **(2023)**

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

6. Given below are two statements: one is labelled as Assertion A and other is labelled as Reason R.

Assertion A : Amniocentesis for sex determination is one of the strategies of Reproductive and Child Health Care Programme.

Reason R : Ban on amniocentesis checks increasing menace of female foeticide.

In the light of the above statements, choose the correct answer from the options given below.

- (2023)**
 (a) Both A and R are true and R is NOT the correct explanation of A.
 (b) A is true but R is false.
 (c) A is false but R is true.

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

7. Match List-I with List-II. **(2023)**

| List-I | | List-II | |
|--------|--------------------|---------|-----------------|
| A. | Vasectomy | (i) | Oral method |
| B. | Coitus interruptus | (ii) | Barrier method |
| C. | Cervical caps | (iii) | Surgical method |
| D. | Saheli | (iv) | Natural method |

Choose the correct answer from the options given below:

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

8. Which of the following is not an Intra Uterine Device? **(2022)**

- (a) Progestasert (b) Progestogens
 (c) Multiload 375 (d) Lippes loop

9. IUDs are small objects made up of plastic or copper that are inserted in the uterine cavity. Which of the following statements are correct about IUDs? **(2022)**

- A. IUDs decreases phagocytosis of sperm within the uterus.
 B. The released copper ions suppress the sperm motility.
 C. IUDs do not make the cervix hostile to the sperm.
 D. IUDs suppress the fertilization capacity of sperm.
 E. The IUDs require surgical intervention for their insertion in the uterine cavity.

Choose the most appropriate answer from the options given below:

- (a) D only (b) A, D and E only
 (c) B and C only (d) B and D only

10. Lippe's loop is a type of contraceptive used as: **(2022)**

- (a) Cervical barrier (b) Vault barrier
 (c) Non-Medicated IUD (d) Copper releasing IUD

11. Match List-I with List-II with respect to methods of Contraception and their respective actions. **(2022)**

| List-I | List-II |
|--------|---------|
|--------|---------|

| | | | |
|----|------------------------|-------|--|
| A. | Diaphragm | (i) | Inhibit ovulation and Implantation |
| B. | Contraceptive Pills | (ii) | Increase phagocytosis of sperm within Uterus |
| C. | Intra Uterine Devices | (iii) | Absence of Menstrual cycle and ovulation following parturition |
| D. | Lactational Amenorrhea | (iv) | They cover the cervix blocking the entry of sperms |

Choose the correct answer from the options given below:

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

12. Match List-I with List-II (2021)

| List-I | | List-II | |
|--------|-----------|---------|--|
| (A) | Vaults | (i) | Entry of sperm through cervix is blocked |
| (B) | IUDs | (ii) | Cut and tie of vas deferens |
| (C) | Vasectomy | (iii) | Phagocytosis of sperms within the uterus |
| (D) | Tubectomy | (iv) | Cut and tie of fallopian tube |

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

13. In which of the following techniques, the embryos are transferred to assist those females who cannot conceive? (2020)

- (a) GIFT and ZIFT (b) ICSI and ZIFT
 (c) GIFT and ICSI (d) ZIFT and IUT

14. Select the option including all sexually transmitted diseases (2020)

- (a) Gonorrhoea, Malaria, Genital herpes
 (b) AIDS, Malaria, Filaria
 (c) Cancer, AIDS, Syphilis

(d) Gonorrhoea, Syphilis, Genital herpes
 15. Which of the following STDs are not curable?

(2020, 2019 Covid Re-NEET)

- (a) Chlamydiasis, Syphilis, Genital warts
 (b) HIV, Gonorrhoea, Trichomoniasis
 (c) Gonorrhoea, Trichomoniasis, Hepatitis B
 (d) Genital herpes, Hepatitis B, HIV Infection

16. Progestogens alone or in combination with estrogens can be used as a contraceptive in the form of (2020 Covid Re-NEET)

- (a) Injections only
 (b) Pills, injections and implants
 (c) Pills only
 (d) Implants only

Answer keys**TOPIC CENTRIC EXERCISE 01 Answer Key**

1. (a) | 2. (c) | 3. (d) | 4. (c) | 5. (c) | 6. (d) | 7. (a)

TOPIC CENTRIC EXERCISE 02 Answer Key

1. (d) | 2. (d) | 3. (a)

TOPIC CENTRIC EXERCISE 03 Answer Key

1. (d) | 2. (d) | 3. (b) | 4. (c) | 5. (c)

TOPIC CENTRIC EXERCISE 04 Answer Key

1. (d) | 2. (c) | 3. (a) | 4. (a) | 5. (d)

TOPIC CENTRIC EXERCISE 05 Answer Key

1. (c) | 2. (c) | 3. (b) | 4. (b) | 5. (a)

Exercise-01 Level -01 Answer Key

1. (b) 8. (c) 15. (c) 22. (b) 29. (c) 36. (b) 43. (c) 50. (b) 57. (c) 64. (b)
 2. (d) 9. (c) 16. (b) 23. (d) 30. (a) 37. (c) 44. (b) 51. (c) 58. (d) 65. (d)
 3. (d) 10. (d) 17. (d) 24. (a) 31. (b) 38. (a) 45. (c) 52. (c) 59. (a) 66. (c)
 4. (a) 11. (c) 18. (d) 25. (c) 32. (c) 39. (b) 46. (d) 53. (d) 60. (b) 67. (d)
 5. (d) 12. (d) 19. (d) 26. (c) 33. (b) 40. (b) 47. (d) 54. (c) 61. (d)
 6. (c) 13. (d) 20. (c) 27. (b) 34. (c) 41. (b) 48. (d) 55. (c) 62. (c)
 7. (b) 14. (b) 21. (a) 28. (c) 35. (c) 42. (a) 49. (d) 56. (b) 63. (d)

Exercise-02 Level -02 Answer Key

1. (b) 7. (c) 13. (d) 19. (d) 25. (a) 31. (b) 37. (d) 43. (d) 49. (c) 55. (c)
 2. (c) 8. (c) 14. (b) 20. (c) 26. (c) 32. (c) 38. (d) 44. (d) 50. (d) 56. (d)
 3. (d) 9. (b) 15. (c) 21. (b) 27. (a) 33. (d) 39. (c) 45. (c) 51. (b) 57. (d)
 4. (d) 10. (d) 16. (b) 22. (a) 28. (b) 34. (b) 40. (d) 46. (d) 52. (b)
 5. (c) 11. (b) 17. (b) 23. (d) 29. (a) 35. (c) 41. (d) 47. (c) 53. (a)
 6. (a) 12. (b) 18. (c) 24. (d) 30. (a) 36. (c) 42. (d) 48. (c) 54. (b)

Exercise-03 Level -03 Answer Key

1. (b) 6. (b) 11. (b) 16. (b) 21. (a) 26. (b) 31. (b) 36. (b) 41. (d)
 2. (d) 7. (b) 12. (a) 17. (b) 22. (c) 27. (b) 32. (a) 37. (d) 42. (c)
 3. (c) 8. (a) 13. (b) 18. (c) 23. (b) 28. (b) 33. (d) 38. (a)
 4. (b) 9. (b) 14. (c) 19. (a) 24. (b) 29. (b) 34. (c) 39. (c)
 5. (b) 10. (b) 15. (c) 20. (a) 25. (c) 30. (b) 35. (b) 40. (a)

Exercise-04 Previous Year Questions

1. (c) 3. (c) 5. (c) 7. (a) 9. (d) 11. (b) 13. (d) 15. (d)
 2. (c) 4. (b) 6. (c) 8. (b) 10. (c) 12. (a) 14. (d) 16. (b)