

# Reproductive Health

## NEET KEY NOTES

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

### Reproductive Health–Problems and Strategies

- India initiated many action plans and programmes like ‘family planning’ (1951) at national level to attain total reproductive health.
- Currently, **Reproductive and Child Healthcare (RCH)** programmes are under operation. RCH is an initiative to create awareness among the people about reproduction related aspects and providing facilities and support for building up a reproductive healthy society.
- Introduction of sex education in schools is also being encouraged to provide right information to the young, so as to discourage children from believes in myths and misconception about sex-related aspects.
- Proper information about reproductive organs, adolescence and related changes, safe and hygienic sexual practices and Sexually Transmitted Diseases (STDs), it would help people to lead a reproductively healthy life.
- Successful implementation of various action plans have improved reproductive health as indicated by better awareness about sex related matters, increased number of medically assisted deliveries, better detection and cure of STDs, statutory ban on amniocentesis and overall increased medical facilities for all reproduction related problems.

- **Amniocentesis** It is a technique used to find out genetic disorders such as Down’s syndrome, haemophilia, etc., in developing foetus by using amniotic fluid.
- It is also misused to check foetal sex. Sex-determination is based on the chromosomal pattern in the amniotic fluid surrounding the developing foetus.
- A statutory ban has been implemented on this technique for sex-determination to legally check increasing menace of female foeticides.

### Population Stabilisation and Birth Control

- Increased health facilities, rapid decline in death rate, **Maternal Mortality Rate (MMR)** and **Infant Mortality Rate (IMR)** as well as an increase in number of people in reproducible age and better living conditions had an explosive impact on the growth of population. This population explosion could lead to the scarcity of even basic requirements like food, shelter, etc.
- The population growth can be controlled by motivating small families, by using various contraceptive methods. Statutory raising of marriageable age of the female to 18 years and male to 21 years and incentives given to couples with small families are two other methods to tackle population growth.
- An ideal contraceptive should be user-friendly, easily available, effective, reversible with no or least side effects. It should also in no way interfere with sexual desire and sexual act of the user.

Contraceptive methods could be divided into following categories

#### 1. Natural Methods

- It works on the principle of avoiding chances of ovum and sperm meeting. It includes
  - **Periodic abstinence** in which couples avoid coitus from day 10 to 17 of menstrual cycle, as chances of fertilisation are very high during this period.

- **Withdrawal or Coitus interruptus** in which male partner withdraws penis from vagina just before ejaculation to avoid insemination.
- **Lactational amenorrhea method** includes the absence of menstruation after parturition and due to intense lactation and no ovulation in this period, chances of fertilisation is nil.

## 2. Barrier Methods

- In this, ovum and sperms are prevented from physical meeting with the help of barriers. These include
  - **Condoms** are barriers made up of rubber or latex sheath, used to cover the penis in the male or vagina and cervix in the female. They also prevent from STDs.
  - **Diaphragms, cervical caps and vaults** are barriers made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus.
- **Spermicidal creams, jellies and foams** are usually used along with these to increase their contraceptive efficiency. These help to kill the sperms.

## 3. Intra Uterine Devices (IUDs)

- These are inserted by doctor or trained nurses into the female uterus through vagina. IUDs may be **non-medicated** (e.g. Lippes loop), **copper releasing** (Cu-T, Cu-7, Multiload-375) and the **hormone releasing** (Progestasert, LNG-20).
- These IUDs increase phagocytosis of sperms within the uterus, suppress the fertilising capacity and motility of sperms and make the uterus unsuitable for implantation and the cervix hostile to the sperms.

## 4. Oral Pills

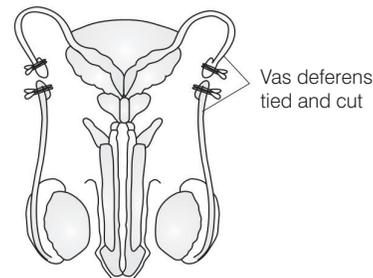
- These are progesterone or progesterone-oestrogen combination used by females in the form of tablets and hence popularly called the **pills**.
- They inhibit ovulation and implantation as well as change the quality of cervical mucus to prevent/retard entry of sperms. For example, Saheli, developed by scientists at Central Drug Research Institute (CDRI) Lucknow, India, is once a week pill with non-steroidal preparation.
- Administration of pills within 72 hours of coitus is found to be very effective as emergency contraceptives.

## 5. Injectable and Implants

- These are the methods in which progesterone alone or in combination with oestrogen can be used by females under the skin.
- Such injectables and implants are functionally similar to pills and their effective period is much longer.

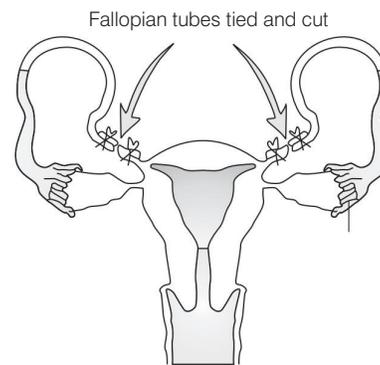
## 6. Surgical Methods

- It is also called **sterilisation**. These are used as terminal method of contraception in male and female to prevent any more pregnancy by blocking gamete transport. These include
  - **Vasectomy** is the surgical method in male, a small part of the vas deferens is removed or tied up through a small incision on the scrotum to prevent release of sperms.



Vasectomy

- **Tubectomy** is the surgical method in females in which small part of Fallopian tube is removed surgically. These techniques are highly effective but poorly reversible.



Tubectomy

## Medical Termination of Pregnancy (MTP)

- An intentional or voluntary termination of pregnancy before full term or before the foetus becomes viable is called **Medical Termination of Pregnancy (MTP)** or induced abortion.
- Nearly 45 to 50 million, MTPs are performed in a year all over the world which accounts to 1/5th of the total number of conceived pregnancies in a year.

- Government of India legalised MTP in 1971 with some strict conditions to avoid its misuse, especially to check indiscriminate and illegal female foeticides, which are reported to be high in India.
- The Medical Termination of Pregnancy (Amendment) Act, 2017 was enacted by the government of India with the intension of reducing the incidence of illegal abortion and consequent maternal mortality and morbidity.
- According to this Act, a pregnancy may be terminated on certain considered grounds within the first 12 weeks of pregnancy on the opinion of one registered medical practitioner. If the pregnancy has lasted more than 12 weeks, but fewer than 24 weeks, two registered medical practitioners must be of the opinion, formed in good faith, that the required ground exist.
- The grounds for such termination of pregnancies are
  - The continuation of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury physical or mental health.
  - There is a substantial risk that of the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped.

## Sexually Transmitted Infections (STIs)

- Diseases which are transmitted through sexual intercourse are called **Sexually Transmitted Infections (STIs)** or **Veneral Diseases (VDs)** or **Reproductive Tract Infections (RTIs)**.
- **Genital herpes, syphilis, gonorrhoea, chlamydia, genital warts, hepatitis-B** and **AIDS** (caused by HIV) are some common STIs.
- STIs like hepatitis-B and HIV can also be transmitted by the following
  - Sharing of contaminated injection needles, surgical instruments, etc., with infected persons.
  - Transfusion of blood.
  - From infected mother to foetus.
- Except for hepatitis-B, genital herpes and HIV infections, all other diseases are completely curable, if detected early and treated properly.
- The early symptoms of STIs are minor and include itching, fluid discharge, slight pain, swellings, etc., in the genital region.
- Infected females may often be asymptomatic and hence may remain undetected for long.
- The patients remain undetected due to the following reasons
  - The absence or less significant symptoms in early stages of infection.
  - Social stigma attached to the STIs.

- The **late detection** leads to complications like **Pelvic Inflammatory Diseases (PIDs)**, abortions, still births, ectopic pregnancies, infertility or even cancer of the reproductive tract.
- One should not panic because prevention from STIs is possible and one could be free of these infections, by following these simple principles as given below
  - (i) Avoid sex with unknown/multiple partners.
  - (ii) Always use condoms during coitus.
  - (iii) In case of doubt, consult a doctor as early as possible for early detection and get completely treated if diagnosed with disease.

## Infertility

- Couples who are not able to produce children inspite of unprotected sex are considered infertile. The reason for this could be many physical, congenital, diseases, drugs or even psychological.
- Various methods are now available to help such couples. These techniques are together called **Assisted Reproductive Technologies (ARTs)**.
- **In Vitro Fertilisation (IVF)** is the fertilisation outside the body followed by **embryo transfer**, which is commonly called **test tube baby** programme.
  - The zygote or early embryo (upto 8 blastomeres) could be transferred into Fallopian tube called **ZIFT** (Zygote Intra Fallopian Transfer) and embryo with more than 8 blastomeres into the uterus called **IUT** (Intra Uterine Transfer) to complete its further development.
- Embryos formed by **in vivo fertilisation** (fertilisation within the female body) also could be used for such transfer to assist those females who cannot conceive.
  - **GIFT** (Gamete Intra Fallopian Transfer) is the transfer of gametes collected from a donor into Fallopian tube of another female who do not produce ovum.
  - **ICSI** (Intra Cytoplasmic Sperm Injection) is specialised procedure to form an embryo in laboratory in which sperm is directly injected into the ovum.
  - **Artificial Insemination (AI)** used in the infertility cases in which male partner is unable to inseminate the female or have a very low sperm counts (azospermia) in the ejaculates. In this technique, semen collected from donor is artificially introduced into the vagina or uterus of the female by **IUI** (Intra Uterine Insemination).

# Mastering NCERT

## MULTIPLE CHOICE QUESTIONS

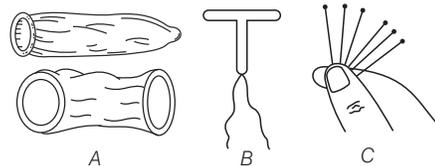
### TOPIC 1 ~ Reproductive Health-Problems and Strategies

- 1** Reproductive health is the well-being of  
(a) physical aspects  
(b) emotional and behavioural aspects  
(c) social aspects  
(d) All of the above
- 2** Family planning programme was initiated in  
(a) 1951 (b) 1920 (c) 1930 (d) 1950
- 3** What is the full form of RCH?  
(a) Reproductive and Child Healthcare  
(b) Reproduction, Contraception and Health  
(c) Reproduction and Child Health  
(d) None of the above
- 4** What are the various ways through which the reproductive health can be improved?  
I. Education II. Awareness  
III. Encouraging myths IV. Ban on amniocentesis  
(a) I and II (b) II and III (c) III and IV (d) I, II and IV
- 5** Amniocentesis is the detection of  
(a) chromosomal pattern by taking amniotic fluid  
(b) chorionic fluid from developing embryo  
(c) chromosomal pattern after childbirth  
(d) chromosomal pattern before fertilisation
- 6** Which of the following cannot be detected in a developing foetus by amniocentesis? **NEET 2013**  
(a) Klinefelter's syndrome  
(b) Sex of the foetus  
(c) Down's syndrome  
(d) Jaundice
- 7** Indicators of improved reproductive health of the society are  
(a) better detection and cure of STDs  
(b) improved medical facilities  
(c) decreased maternal and infant mortality rates  
(d) All of the above

### TOPIC 2 ~ Population Stabilisation and Birth Control

- 8** Population explosion is  
(a) increased frequency of diseases in population  
(b) rapid increase in population number  
(c) rapid decrease in population number  
(d) None of the above
- 9** India's population cross 1 billion in  
(a) May 2001 (b) Dec 1999  
(c) May 2000 (d) Dec 1991
- 10** Causes for increased population growth in India is/are  
(a) increase in birth rate  
(b) decrease in maternal mortality rate  
(c) lack of education  
(d) All of the above
- 11** Which of the following are the consequences of over population?  
(a) It increases the poverty of a country  
(b) It leads to shortage of food supply  
(c) It results in unemployment  
(d) All of the above
- 12** An ideal contraceptive should be  
(a) user friendly (b) reversible  
(c) Both (a) and (b) (d) decrease sexual drive
- 13** Natural methods of contraception are the natural ways to  
(a) increase spermicidal activity  
(b) prevent fertilisation  
(c) decrease mortality  
(d) increase mortality
- 14** One of the legal method of birth control is **NEET 2013**  
(a) abortion by taking an appropriate medicine  
(b) by abstaining from coitus from day 10-17 of the menstrual cycle  
(c) by having coitus at the time of day break  
(d) by a premature ejaculation during coitus
- 15** Periodic abstinence is avoiding sex during  
(a) follicular phase  
(b) ovulatory phase  
(c) menstrual phase  
(d) None of the above
- 16** The lifespan of a sperm in female body is  
(a) 1-2 days (b) 3 days  
(c) 4 days (d) Only 1 day

- 17** Coitus interruptus is the withdrawal method of natural contraception involving
- withdrawal of penis from vagina before ejaculation
  - withdrawal of penis from vagina after ejaculation
  - sex during ovulation
  - no sex during ovulation
- 18** Lactational amenorrhoea is the
- absence of menses in adult age
  - absence of menses in elderly age
  - absence of menses during lactation
  - no menses during pregnancy
- 19** Condoms or Femidoms are made up of thin rubber/latex sheath which is used to cover
- penis in male
  - cervix in female
  - Both (a) and (b)
  - None of these
- 20** Diaphragms, cervical caps and vaults are
- non-usable
  - for female use only
  - for male use only
  - None of these
- 21** Spermicidal creams are used in addition to condoms, diaphragms, cervical cap and vaults for
- lubrication
  - killing germs
  - increasing contraceptive effectiveness
  - None of the above
- 22** IUDs stands for
- Inter Uterine Devices
  - Intra Uterine Devices
  - Inter Uterine Development
  - Intra Uterine Development
- 23** Example of the non-medicated IUD is
- Cu-T
  - Cu-7
  - Multiload-375
  - Lippes loop
- 24** Example of copper releasing IUD is/are
- Cu-T
  - Cu-7
  - Multiload-375
  - All of these
- 25** An injectible form of the hormone based contraceptive is
- Norplant
  - Depo-provera
  - Mala-D
  - Saheli
- 26** Select the hormone releasing intrauterine devices.
- Multiload-375, Progestasert
  - Progestasert, LNG-20
  - Lippes loop, Multiload-375
  - Vaults, LNG-20
- NEET 2019**
- 27** Copper releasing IUDs are used for suppressing the
- activity of ova
  - activity of the uterus
  - motility of the sperms
  - motility of ova
- 28** Lippes loop prevent contraception by
- preventing ovulation
  - phagocytosis of sperms
  - suppressing sperm motility
  - All of these
- 29** ...A... makes the uterus unsuitable for implantation and the cervix hostile to ...B... .
- A–Hormone releasing IUD; B–spermatogonia
  - A–Hormone releasing IUD; B–sperms
  - A–Sperms; B–hormonal releasing IUD
  - A–Sperms; B–ova
- 30** The females wanting to delay pregnancy or space children should use
- Femidoms
  - IUDs
  - Tubectomy
  - Vaults and caps
- 31** Oral contraceptives have hormonal preparation of
- progesterone
  - oestrogen
  - Both (a) and (b)
  - None of these
- 32** Pills have to be taken daily for period of ...A... days starting preferably within first five days of menstrual cycle. After a gap of ...B... days, it has to be repeated in the same pattern.
- A–27, B–1
  - A–21, B–7
  - A–22, B–5
  - A–24, B–4
- 33** Oral contraceptives inhibit ...A... and implantation as well as quality of ...B... to prevent the entry of sperms.
- A–ovulation, B–cervical mucus
  - A–oogenesis, B–structure
  - A–oogenesis, B–nucleus
  - A–spermatogenesis, B–cervical mucus
- 34** The contraceptive ‘Saheli’
- NEET 2019**
- is an IUD
  - increases the concentration of oestrogen and prevents ovulation in females
  - blocks oestrogen receptors in the uterus preventing eggs from getting implanted
  - is a post-coital contraceptive
- 35** Implants (the progesterone or progesterone-oestrogen combination) are used by the females usually under the
- skin of the inner arm above elbow
  - vagina
  - upper skin of stomach
  - cervix
- 36** Choose the correct option from A, B and C.



- A–Condoms, B–Copper-T, C–Implants
- A–Tubectomy, B–Implants, C–Copper-T
- A–Vasectomy, B–Condoms, C–Copper-T
- A–Copper-T, B–Condoms, C–Implants

**37** Administration of progesterone, progesterone-oestrogen combination or IUDs are effective within ..... hours of coitus.

- (a) 72 (b) 48 (c) 24 (d) 96

**38** What is the difference in oral contraceptives and hormonal implants?

- (a) They differ in their sites of implantation  
 (b) They differ in their duration of action  
 (c) Both (a) and (b)  
 (d) None of the above

**39** Which of the following contraceptive methods do involve a role of hormone? **NEET 2019**

- (a) Barrier method, lactational amenorrhoea, pills  
 (b) Cu-T, pills, emergency contraceptives  
 (c) Pills, emergency contraceptives, barrier methods  
 (d) Lactational amenorrhoea, pills, emergency contraceptives

**40** Tubectomy is a method of sterilisation in which **CBSE-AIPMT 2014**

- (a) small part of the Fallopian tube is removed or tied up  
 (b) ovaries are removed surgically  
 (c) small part of vas deferens is removed or tied up  
 (d) uterus is removed surgically

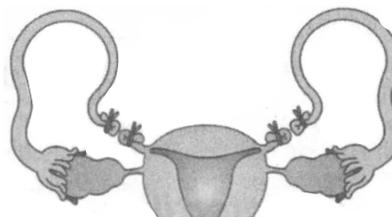
**41** Name the part cut and tied in male sterilisation. Also, name the procedure.

- (a) Vas deferens, tubectomy  
 (b) Vas deferens, vasectomy  
 (c) Vasa efferentia, tubectomy  
 (d) Vasa efferentia, vasectomy

**42** Which of the following approaches does not give the defined action of contraceptive? **NEET 2016**

- |                             |   |
|-----------------------------|---|
| (a) Intra uterine devices   | Increase phagocytosis of sperms, suppress sperm motility and fertilising capacity of sperms |
| (b) Hormonal contraceptives | Prevent/ retard entry of sperms, prevent ovulation and fertilisation                        |
| (c) Vasectomy               | Prevents spermatogenesis  |
| (d) Barrier methods         | Prevent fertilisation   |

**43** What is the figure given below showing in particular? **CBSE-AIPMT 2012**



- (a) Ovarian cancer  
 (b) Uterine cancer  
 (c) Tubectomy  
 (d) Vasectomy

**44** Which of the following birth control measure can be considered as the most effective and reliable?

- (a) The rhythm method  
 (b) Use of physical barriers  
 (c) Intra uterine devices  
 (d) Sterilisation techniques

## **TOPIC 3** ~ *Medical Termination of Pregnancy and Sexually Transmitted Infections*

**45** MTP stands for

- (a) Medical Termination of Pregnancy  
 (b) Mental Trauma Phase  
 (c) Menstrual Trauma Pain  
 (d) Menstrual Temporary Pain

**46** MTP helps to overcome pregnancy that result due to

- (a) rapes  
 (b) unsafe sex  
 (c) failure of contraceptives  
 (d) All of the above

**47** During which phase of the pregnancy MTP is safe?

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

**48** MTP is of much risk in which phase of the pregnancy?

- (a) 2nd trimester (b) 1st trimester  
 (c) 1st week (d) 2nd week

**49** MTP is being ...A... to abort even normal foetus. Specially when sex of the foetus is ...B... .

Choose the correct option for A and B.

- (a) A-used, B-male (b) A-misused, B-female  
 (c) A-used, B-abnormal (d) A-misused, B-male

**50** The other names for STIs or STDs are

- (a) venereal diseases (b) reproductive tract infections  
 (c) Both (a) and (b) (d) None of these

**51** Hepatitis-B and HIV spread through

- (a) sharing needles (b) transfusion of blood  
 (c) infected mother to child (d) All of these

**52** Which of the following sexually transmitted diseases is not completely curable? **NEET 2019**

- (a) Genital warts
- (b) Genital herpes
- (c) Chlamydia
- (d) Gonorrhoea

**53** Which of the following sexually transmitted diseases do not specifically affect reproductive organs?

**NEET (Odisha) 2019**

- (a) Genital warts and Hepatitis-B
- (b) Syphilis and Genital herpes
- (c) AIDS and Hepatitis-B
- (d) Chlamydia and AIDS

**54** STIs caused by bacteria include

- (a) syphilis
- (b) gonorrhoea
- (c) Both (a) and (b)
- (d) hepatitis

**55** Incidence of STIs are very high among persons, in the age group of

- (a) 15-35 years
- (b) 15-30 years
- (c) 15-24 years
- (d) 15-45 years

**56** The timely detection of STIs is hindered by which of the following factors?

- (a) Absence of advanced diagnostics
- (b) Social stigma attached to STIs
- (c) Initial asymptomatic condition of patients
- (d) Both (b) and (c)

**57** The preventive measures of STIs include

- (a) using condoms
- (b) avoid multiple sexual partner
- (c) hygienic sexual practices
- (d) All of the above

## TOPIC 4 ~ Infertility

**58** A couple can be infertile because of

- (a) physical defect
- (b) congenital defect
- (c) psychological defect
- (d) All of these

**59** Assisted reproductive technology, IVF involves transfer of

**CBSE-AIPMT 2014**

- (a) ovum into the Fallopian tube
- (b) zygote into the Fallopian tube
- (c) zygote into the uterus
- (d) embryo with 16 blastomeres into the Fallopian tube

**60** IVF in which the early zygote with up to 8 blastomeres is transferred to the Fallopian tube is called

- (a) ZIFT
- (b) GIFT
- (c) ICSI
- (d) IUI

**61** The test tube baby programme employs which one of the following techniques?

**CBSE-AIPMT 2012**

- (a) Intra Cytoplasmic Sperm Injection (ICSI)
- (b) Intra Uterine Insemination (IUI)
- (c) Gamete Intra Fallopian Transfer (GIFT)
- (d) Zygote Intra Fallopian Transfer (ZIFT)

**62** IUT Stands for

- (a) Inter Uterine Transfer
- (b) Intra Uterine Transfer
- (c) In-Uterus Transfer
- (d) None of these

**63** Embryo with more than 16 blastomeres formed due to *in vitro* fertilisation is transferred into

**NEET 2016**

- (a) uterus
- (b) Fallopian tube
- (c) fimbriae
- (d) cervix

**64** IVF in which embryo with more than 8 blastomeres is transferred into female body is called

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

**65** Difference between ZIFT and IUT lies in the

- (a) methodology
- (b) nature of the sperms
- (c) nature of the cells
- (d) number of the cells

**66** Specialised health care units help in diagnosis and corrective treatment of disorders which result in fertility. However, when such connections are not possible, couples are advised

- (a) *in vitro* fertilisation
- (b) Artificial insemination
- (c) *in vivo* fertilisation
- (d) All of the above

**67** GIFT can be advised to couples where female partner is

- (a) unable to produce eggs
- (b) unable to support a foetus
- (c) unable to provide suitable environment for fertilisation and maturation of foetus
- (d) All of the above

**68** A childless couple can be assisted to have a child through a technique called GIFT. The full form of this technique is

**CBSE-AIPMT 2015**

- (a) Gamete Inseminated Fallopian Transfer
- (b) Gamete Intra Fallopian Transfer
- (c) Gamete Internal Fertilisation and Transfer
- (d) Germ Cell Internal Fallopian Transfer

**69** During ICSI technique,

- (a) fertilisation is done *in vivo*
- (b) embryo transfer is done at 32 blastomere stage
- (c) sperm directly injected into ovum
- (d) All of the above

**70** In case of a couple, where the male is having a very low sperm count, which technique will be suitable for fertilisation ? **NEET 2017**

- (a) Intra Uterine Transfer
- (b) Gamete Intracytoplasmic Fallopian Transfer
- (c) Artificial Insemination
- (d) Intracytoplasmic Sperm Injection

**71** Artificial insemination refers to

- (a) artificial introduction of sperms from a donor into female vagina
- (b) direct introduction of sperms into ovaries

- (c) transfer of sperms to into Fallopian tube of surrogate
- (d) transfer of sperms from husband/donor into a test tube containing ova

**72** The 'ART' in which the semen collected either from the husband or a healthy donor and artificially introduced either into the vagina or into the uterus is

- (a) Intra uterine devices
- (b) Intra uterine insemination
- (c) Inter uterine insemination
- (d) Intra cytoplasmic sperm injection

# NEET

## SPECIAL TYPES QUESTIONS

### I. Assertion and Reason

■ **Directions** (Q. No. 73-89) *In each of the following questions, a statement of Assertion (A) is given followed by corresponding statement of Reason (R). Of the statements, mark the correct answer as*

- (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

**73 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.

**74 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.

**75 Assertion (A)** Reproductive and Child Healthcare Programme is for reproduction related areas.

**Reason (R)** It deals with creating awareness among various reproduction related aspects.

**76 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.

**77 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.

**78 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.

**79 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.

**80 Assertion (A)** Reusable contraceptives 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. They are reusable.

**81 Assertion (A)** Contraceptives are methods to prevent unwanted pregnancies.

**Reason (R)** Unwanted pregnancies can only be prevented by using oral contraceptives.

**82 Assertion (A)** There is chance of fertilisation during 10th-17th days of menstrual cycle.

**Reason (R)** Ovulation can be expected during these days.

**83 Assertion (A)** Barrier methods prevent conception.

**Reason (R)** These prevent the physical meeting of sperm and ova.

**84 Assertion (A)** Sterilisation is a surgical method of contraception.

**Reason (R)** It blocks gamete transport and thereby prevents conception.

**85 Assertion (A)** Use of condoms is a safeguard against AIDS and sexual diseases besides preventing pregnancy.

**Reason (R)** Certain contraceptives are planted under the skin of the upper arm to prevent pregnancy.

**86 Assertion (A)** Syphilis, chlamydiasis, Genital herpes and trichomoniasis are STIs.

**Reason (R)** Their incidences are reportedly high in people belonging 15-24 years age groups.

**87 Assertion (A)** Both male and female can be infertile.

**Reason (R)** Infertile couples can have children with the help of ARTs.

**88 Assertion (A)** In zygote intra Fallopian transfer, the zygote is transferred to the Fallopian tubes of the female.

**Reason (R)** ZIFT is an *in vivo* fertilisation method.

**89 Assertion (A)** Artificial insemination is method of introduction of semen inside the female.

**Reason (R)** This technique is used in those cases where males have low sperm count.

## II. Statement Based Questions

**90** Select the statement which is not a cause of population growth.

- (a) Decline in death rate
- (b) Rapid increase in MMR and IMR
- (c) Rapid decline in MMR and IMR
- (d) Increase in the number of people in the reproductive age group

**91** Identify the incorrect statement(s) from those given below.

- (a) RCH programmes created awareness among people about various reproduction related aspects
- (b) Sexually transmitted diseases can be avoided by educating people with proper information about reproduction, adolescence and related changes, etc.
- (c) Ultrasounds have been banned as it was used for foetal sex-determination based on chromosomal studies
- (d) All of the above

**92** 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)

**93** Which one of the following statement is incorrect in the context of amniocentesis? **NEET 2016**

- (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) It is usually done when a woman in between 14-16 weeks pregnant

**94** 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 fertilisation

**95** Diaphragms are the contraceptive devices, used by the females.

- I. They are introduced into the uterus.
- II. They are placed to cover the cervical region.
- III. They act as physical barriers to the sperm entry.
- IV. They act as spermicidal agents.

Choose the correct statements.

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

**96** Consider the following statements for IUD and choose the correct option.

- (a) Increases phagocytosis of sperms
- (b) Releases  $\text{Cu}^{2+}$  ions, suppresses the sperm motility
- (c) Reduces the fertilising capacity of sperms
- (d) All of the above

**97** 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

**98** Which of the following is a correct statement?

- (a) IUDs once inserted need not be replaced
- (b) Jellies and cream enable sperms to reach towards ovum speedily
- (c) IUDs increase phagocytosis of sperms in the uterus
- (d) Pills suppress gametogenesis in males

**99** Which of the following is incorrect regarding vasectomy? **NEET 2016**

- (a) No sperm occurs in seminal fluid
- (b) No sperm occurs in epididymis
- (c) Vasa deferentia is cut and tied
- (d) Irreversible sterility

- 100** 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
- 101** Identify the correct statements.
- Infertility is the inability to produce viable offspring due to the defects in the female or male partner
  - Lactation have no role in preventing conception
  - Abstaining from coitus from day 10-17 of menstrual cycle when ovulation is expected constitutes natural method of contraception
  - Both (a) and (c)
- 102** Which of the following statements is incorrect about ZIFT?
- Zygote in the Fallopian transfer
  - Type of IVF
  - Embryo with more than 8 blastomeres are used
  - Zygote or embryo with up to 8 blastomeres are used
- 103** Which statement is false for GIFT?
- It is Gamete Intra Fallopian Transfer
  - Ovum is transferred into the oviduct
  - Zygote is transferred into Fallopian tube
  - Used when the receptive is sterile
- 104** Choose the correct matched statements from the following.
- IUT – Embryo is transferred into the uterus after *in vitro* fertilisation.
  - GIFT – Gametes are collected and injected in the Fallopian tube.
  - AI – Taking semen from donor and transferring it into female genital tract.
  - ZIFT – Zygote inserted into the Fallopian tube.
  - ICSI – One sperm transferred into the ovum.
- I, II and III
  - II, III and IV
  - III, IV and V
  - I, II, III, IV and V
- 105** 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.
- I and II
  - I and III
  - II and III
  - Only II
- 106** 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.
- I, IV and III
  - I, IV and V
  - I, II and III
  - II, IV and V
- 107** Which of the following statements are correctly associated with Saheli?
- It is a 'once a week' pill with very few side effects.
  - This contraceptive was developed at CDRI Lucknow.
  - Saheli is an oral pill containing a steroidal preparation.
  - This oral contraceptive is known to cause multiple side effects in women and has low contraceptive value.
- III and IV
  - I and II
  - I, II and III
  - All of these
- 108** Identify the correct statements about lactational amenorrhoea.
- Ovulation does not occur during the lactational period.
  - Chances of the failure of contraception are almost nil up to six months following parturition.
  - Side effects are almost nil.
  - It is a natural method of contraception.
  - It increases phagocytosis of sperms.
- II, III, IV and V
  - All except V
  - I, III, IV and V
  - All of these
- 109** Which statements show the correct purpose of contraceptive pills?
- They inhibit ovulation and implantation.
  - They alter the quality of cervical mucus to prevent or retard the entry of sperms.
  - They prevent the ejaculated semen from entering the female vagina.
  - They inhibit spermatogenesis.
- I, II and IV
  - I, II and III
  - I and II
  - I, II, III and IV
- 110** Identify the false statements regarding the techniques of contraception.
- There are many side effects of tubectomy and vasectomy.
  - Purpose of tubectomy is to prevent egg formation.
  - The most important component of the oral contraceptive pills is progesterone.
  - Contraceptive oral pills help in birth control by preventing ovulation.
- I, II and III
  - I and II
  - III, IV and II
  - II and IV

- 111** Find out the correct statements about tubectomy.
- The failure rate of this approach is almost zero per cent.
  - It is also known as tubal ligation.
  - It is more difficult than vasectomy and is even more difficult to reverse.
- (a) I and II                      (b) II and III  
(c) I and III                      (d) All of these

- 112** Consider the following statements and choose the correct statements.
- Numerous children have been produced by *in vitro* fertilisation but with some abnormalities.
  - Chances of conception are nil until mother breastfeeds the child for two years.
  - Birth control pills are likely to cause cardiovascular problems due to oestrogen present in them.
  - 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

- 113** Which of the following given statements are not correct?
- A statutory ban has been implemented on amniocentesis because of its regular 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 20 weeks of pregnancy.
- (a) I and III                      (b) III and IV  
(c) II and III                      (d) I and II

- 114** Which of the following statements are false?
- Abortions could happen spontaneously too.
  - Oral pills are very popular contraceptives among the rural women.
  - Removal of gonads can be considered as a contraceptive option.
  - Sex education is necessary in schools.
  - Amniocentesis for sex-determination is banned in our country.

Correct option is

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

- 115** 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.

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

- 116** STDs lead to the

- minor complications like itching, fluid discharge, slight pain, swellings.
- major complications like pelvic inflammatory diseases ectopic pregnancies.
- problems like infertility, abortions.
- 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

- 117** Which of the following statements are correct?

- MTPs are generally advised during first trimester.
- MTP (Amendment) Act, 2017 was enacted by the government of India to reduce illegal abortions.
- Government of India legalised MTP in 1971.
- 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

### III. Matching Type Questions

- 118** Match the following columns.

Column I	Column II
A. Amniocentesis	1. Venereal disease
B. Reproductive tract infections	2. Deformed joints and paralysis
C. Syphilis	3. Foetal sex-determination
D. Gonorrhoea	4. Baby of infected person born blind

Codes

- |       |   |   |   |       |   |   |   |
|-------|---|---|---|-------|---|---|---|
| A     | B | C | D | A     | B | C | D |
| (a) 3 | 1 | 2 | 4 | (b) 1 | 2 | 3 | 4 |
| (c) 2 | 3 | 1 | 4 | (d) 4 | 3 | 2 | 1 |

- 119** Match the following columns.

Column I	Column II
A. Saheli	1. Intra uterine device
B. Diaphragms	2. Prevent ovulation and implantation
C. Spermicides	3. Prevent sperms from reaching the cervix
D. Lippes loop	4. Sperm killing agent

Codes

- |       |   |   |   |
|-------|---|---|---|
| A     | B | C | D |
| (a) 1 | 2 | 4 | 3 |
| (b) 2 | 3 | 4 | 1 |
| (c) 2 | 3 | 1 | 4 |
| (d) 4 | 3 | 2 | 1 |

**120** Match the following columns.

Column I (Infertility conditions)	Column II (Features)
A. Oligospermia	1. Ovarian cyst formation
B. Azospermia	2. Inflammation of ovary due to infection
C. Cryptorchidism	3. Decreased sperm count
D. Oophorocystosis	4. Absence of living sperms
E. Oophoritis	5. Non-descendence of testes from abdominal cavity to scrotum

**Codes**

	A	B	C	D	E
(a)	3	4	5	1	2
(b)	1	2	3	4	5
(c)	5	4	3	2	1
(d)	4	1	2	5	3

**121** Match the following columns.

Column I (STDs)	Column II (Causal agents)
A. Chlamydiasis	1. <i>Chlamydia trachomatis</i>
B. Chancroid	2. <i>Haemophilus ducreyi</i>
C. Trichomoniasis	3. <i>Trichomonas vaginalis</i>
D. Genital herpes	4. Herpes simplex virus

**Codes**

	A	B	C	D		A	B	C	D
(a)	1	3	2	4	(b)	4	1	3	2
(c)	1	2	3	4	(d)	1	2	4	3

**122** Match the following columns.

Column I (STDs)	Column II (Treatments)
A. AIDS	1. Zidovudine drug
B. Genital warts	2. Cryosurgery
C. Syphilis	3. Penicillin and tetracycline
D. Enterobiasis	4. Anthelmintic tablets

**Codes**

	A	B	C	D		A	B	C	D
(a)	4	3	2	1	(b)	1	3	4	2
(c)	2	4	1	3	(d)	1	2	3	4

**123** Given below are the four methods and their modes of action in achieving contraception. Select their correct matching from the four options that follows.

Column I (Birth control measures)	Column II (Modes of action)
A. Pill	1. Prevents sperms reaching cervix
B. Condom	2. Prevents implantation
C. Vasectomy	3. Prevents ovulation
D. Copper-T	4. Semen contains no sperms

**Codes**

	A	B	C	D
(a)	3	4	1	2
(b)	2	3	1	4
(c)	3	1	4	2
(d)	4	1	2	3

**124** Match the following columns.

Column I (Contraceptive methods)	Column II (Categories)
A. Periodic abstinence	1. Natural methods
B. Vasectomy	2. Barrier methods
C. Coitus interruptus	3. Surgical methods
D. IUDs	
E. Lactational amenorrhea	
F. Cervical caps	

**Codes**

	A	B	C	D	E	F
(a)	1	1	2	3	2	3
(b)	1	3	2	1	3	2
(c)	2	1	2	1	3	3
(d)	1	3	1	2	1	2

**125** Match the following columns.

Column I (Names of IUDs)	Column II (Examples of IUDs)
A. Non-medicated IUD	1. Progestasert and LNG-20
B. Copper releasing IUD	2. Lippes loop
C. Hormone releasing IUD	3. Cu-T, Cu-7 and Multiload-375

**Codes**

	A	B	C
(a)	3	2	1
(b)	1	2	3
(c)	2	3	1
(d)	2	1	3

**126** Match the following columns.

Column I	Column II
A. Government of India legalised MTP in	1. 1951
B. Family planning introduced in India	2. 1971
C. Nirodh	3. Barrier method
D. Mala-D and Mala-N	4. Hormonal method

**Codes**

	A	B	C	D
(a)	1	2	3	4
(b)	2	1	3	4
(c)	4	3	2	1
(d)	1	4	3	2

**127** Match the following columns.

Column I	Column II
A. Collected gametes are made to form the zygote in the laboratory.	1. <i>In vivo</i> fertilisation
B. Zygote or Early embryo with up to 8 blastomeres is transferred into the oviduct.	2. IUT
C. Zygote with more than 8 blastomeres, is transferred into the uterus.	3. ZIFT
D. Fusion of the gametes in the female reproductive tract.	4. IVF

**Codes**

	A	B	C	D
(a)	4	3	2	1
(b)	3	1	4	2
(c)	4	2	3	1
(d)	2	1	3	4

**128** Match the following sexually transmitted diseases (Column I) with their causative agent (Column II) and select the correct option. **NEET 2017**

Column I	Column II
A. Gonorrhoea	1. HIV
B. Syphilis	2. <i>Neisseria</i>
C. Genital warts	3. <i>Treponema</i>
D. AIDS	4. Human papilloma virus

**Codes**

	A	B	C	D		A	B	C	D
(a)	2	3	4	1	(b)	3	4	1	2
(c)	4	2	3	1	(d)	4	3	2	1

**129** Match Column I with Column II and select the correct option from the given codes.

Column I (Diseases)	Column II (Diagnostic tests)
A. Syphilis	1. PCR Test
B. Genital herpes	2. VDRL Test
C. AIDS	3. Urine Test
D. Gonorrhoea	4. ELISA

**Codes**

	A	B	C	D		A	B	C	D
(a)	1	2	3	4	(b)	2	1	4	3
(c)	4	3	2	1	(d)	3	4	1	2

# NCERT Exemplar

## MULTIPLE CHOICE QUESTIONS

**130** A national level approach to build up a reproductively healthy society was taken up in our country in

- (a) 1950s (b) 1960s  
(c) 1980s (d) 1990s

**131** Increased IMR and decreased MMR in a population will

- (a) cause rapid increase in growth rate  
(b) result in decline in growth rate  
(c) not cause significant change in growth rate  
(d) result in an explosive population

**132** Intensely lactating mothers do not generally conceive due to the

- (a) suppression of gonadotropins  
(b) hypersecretion of gonadotropins  
(c) suppression of gametic transport  
(d) suppression of fertilisation

**133** Condoms are one of the most popular contraceptives because of the following reasons.

- (a) These are effective barriers for insemination  
(b) They do not interfere with coital act  
(c) These help in reducing the risk of STDs  
(d) All of the above

**134** Diaphragms are contraceptive devices used by the females. Choose the correct option from the statements given below.

- I. They are introduced into the uterus.  
II. They are placed to cover the cervical region.  
III. They act as physical barriers for sperm entry.  
IV. They act as spermicidal agents.  
(a) I and II (b) I and III (c) II and III (d) III and IV

**135** Choose the right one among the statements given below. **NEET (Odisha) 2019**

- (a) IUDs are generally inserted by the user herself  
(b) IUDs increase phagocytosis reaction in the uterus  
(c) IUDs suppress gametogenesis  
(d) IUDs once inserted need not be replaced

**136** Emergency contraceptives are effective if used within 72 hrs of

- (a) coitus (b) ovulation  
(c) menstruation (d) implantation

**137** The correct surgical procedure as a contraceptive method is

- (a) ovariectomy (b) hysterectomy  
(c) vasectomy (d) castration

- 138** From the sexually transmitted diseases mentioned below, identify the one which does not specifically affect the sex organs.
- Syphilis
  - AIDS
  - Gonorrhoea
  - Genital warts
- 139** Choose the correct statement regarding the ZIFT procedure.
- Ova collected from a female donor are transferred to the Fallopian tube to facilitate zygote formation
  - Zygote is collected from a female donor and transferred to the Fallopian tube
  - Zygote is collected from a female donor and transferred to the uterus
  - Ova collected from a female donor and transferred to the uterus
- 140** The method of directly injecting a sperm into ovum is assisted by reproductive technology is called
- GIFT
  - ZIFT
  - ICSI
  - ET
- 141** Sterilisation techniques are generally foolproof methods of contraception with least side effects. Yet, this is the last option for the couples because
- it is almost irreversible.
  - of the misconception that it will reduce sexual urge/drive.
  - it is a surgical procedure.
  - of lack of sufficient facilities in many parts of the country.
- Choose the correct option.
- I and III
  - II and III
  - II and IV
  - I, II, III and IV
- 142** Following statements are given regarding MTP. Choose the correct option given below.
- MTPs are generally advised during first trimester.
  - MTPs are used as a contraceptive method.
  - MTPs are always surgical.
  - MTPs require the assistance of qualified medical personnel.
- Codes**
- I and III
  - II and III
  - I and IV
  - I and II

## Answers

### > Mastering NCERT with MCQs

1 (d) 2 (a) 3 (a) 4 (a) 5 (a) 6 (d) 7 (d) 8 (b) 9 (c) 10 (d) 11 (d) 12 (c) 13 (b) 14 (b) 15 (b)  
 16 (b) 17 (a) 18 (c) 19 (c) 20 (b) 21 (c) 22 (b) 23 (d) 24 (d) 25 (b) 26 (b) 27 (c) 28 (b) 29 (b) 30 (b)  
 31 (c) 32 (b) 33 (a) 34 (c) 35 (a) 36 (a) 37 (a) 38 (c) 39 (d) 40 (a) 41 (b) 42 (c) 43 (c) 44 (d) 45 (a)  
 46 (d) 47 (a) 48 (a) 49 (b) 50 (c) 51 (d) 52 (b) 53 (c) 54 (c) 55 (c) 56 (d) 57 (d) 58 (d) 59 (b) 60 (a)  
 61 (d) 62 (b) 63 (a) 64 (a) 65 (d) 66 (d) 67 (d) 68 (b) 69 (c) 70 (c) 71 (a) 72 (b)

### > NEET Special Types Questions

73 (d) 74 (b) 75 (a) 76 (a) 77 (b) 78 (b) 79 (c) 80 (a) 81 (c) 82 (a) 83 (a) 84 (a) 85 (b) 86 (b) 87 (b)  
 88 (c) 89 (a) 90 (b) 91 (c) 92 (d) 93 (c) 94 (d) 95 (c) 96 (d) 97 (a) 98 (c) 99 (b) 100 (d) 101 (d) 102 (c)  
 103 (c) 104 (d) 105 (d) 106 (c) 107 (b) 108 (b) 109 (c) 110 (b) 111 (d) 112 (a) 113 (b) 114 (d) 115 (d) 116 (d) 117 (d)  
 118 (a) 119 (b) 120 (a) 121 (c) 122 (d) 123 (c) 124 (d) 125 (c) 126 (b) 127 (a) 128 (a) 129 (b)

### > NCERT Exemplar Questions

130 (a) 131 (c) 132 (a) 133 (d) 134 (c) 135 (b) 136 (a) 137 (c) 138 (b) 139 (b) 140 (c) 141 (a) 142 (c)

## Answers & Explanations

- 1 (d)** The term 'reproductive health' simply refers to healthy reproductive organs with normal functions. However, in broader perspectives it includes a total well-being in all aspects of reproduction, i.e. emotional, behavioural, physical and social.
- 4 (a)** Reproductive health can be improved by educating and creating awareness among the people about various aspects of reproductive health.
- 5 (a)** Amniocentesis is a foetal sex-determination test based on the analysis of chromosomal pattern using the amniotic fluid surrounding the developing embryo.
- 6 (d)** Jaundice is a condition not based on chromosomal pattern, hence it cannot be detected by amniocentesis. It is a disease related to liver dysfunctioning.
- 7 (d)** There are some indicators of improved reproductive health of the society. These include better awareness about

- sex related problems, pre-natal care of the mother, medically assisted deliveries, post-natal care of the mother and infant, decrease maternal and infant mortality, small families, better detection and cure of Sexually Transmitted Diseases (STDs), increased medical facilities for sex related problems, etc.
- 12 (c)** An ideal contraceptive should be user-friendly, easily available, effective and reversible with no or least side effects. It also should in no way interfere with the sexual drive, desire and/or the sexual act of the user.
- 14 (b)** One of the legal method of birth control is periodic abstinence in which couples abstain from coitus from day 10-17 of the menstrual cycle. For other options, Abortion by taking medicine is not a legal method. A day break coitus may increase the chances of contraception. A premature ejaculation during coitus will result in fertilisation.
- 15 (b)** Periodic abstinence is avoiding sex during ovulatory phase, i.e. from day 10th-17th of the menstrual cycle. It is also known rhythm method. It is done as a contraceptive method because chances of fertilisation are very high during this period.
- 18 (c)** Lactational amenorrhea is the absence of menstruation during lactation. It is a natural contraception method in which the chances of conception are almost nil in a breastfeeding mother due to the absence of ovulation. This method is effective only up to a maximum period of six months after childbirth.
- 19 (c)** Condoms or Femidoms are barriers made up of thin rubber/ latex sheath that are used to cover the penis in the male or vagina and cervix in the female, just before coitus. So, that the ejaculated semen would not enter into the female reproductive tract.
- 20 (b)** Diaphragms, cervical caps and vaults are barrier method used by females only. These are made up of rubber that are inserted into the female reproductive tract to cover the cervix during coitus. They prevent conception by blocking the entry of sperms through the cervix. They are reusable.
- 21 (c)** Spermicidal creams contain chemicals, which kill the sperms. If they are used along with the barrier contraceptive methods, then these increases contraceptive efficiency.
- 25 (b)** Depo-provera is an injectible form of the hormone based contraception. These are progesterone derivative injections, which are taken every two-three months. These release hormone slowly and prevent ovulation.
- 26 (b)** Progestasert and LNG-20 are hormone releasing Intra Uterine Devices (IUDs). These devices release small quantities of hormone which suppresses endometrial changes, ovulation and causes insufficient luteal activity.
- 27 (c)** The copper releasing IUDs, release  $\text{Cu}^+$  ions which suppress the sperm motility and the fertilising capacity of sperms.
- 30 (b)** The females wanting to delay pregnancy or space children should use IUDs, i.e. Intra Uterine Devices. These provide long term but reversible contraception. Other options like tubectomy is an irreversible method and femidoms, vaults and caps are barrier methods which do not provide long term contraception.
- 31 (c)** Oral contraceptives have hormonal preparation of small doses of either progesterone or progesterone-oestrogen combination in the form of tablets. These are used by females.
- 32 (b)** Pills have to be taken daily for 21 days starting within the first 5 days of menstrual cycle. After a gap of 7 days (during which menstruation occurs) these has to be repeated in the same pattern till the female desires to prevent conception.
- 34 (c)** The oral contraceptive 'Saheli' blocks oestrogen receptors in the uterus preventing eggs from getting implanted. It is a type of mini pill that contains a non-steroidal preparation centchroman. It is taken once in a week after an initial intake of twice a week dose for 3 months. This non-hormonal preparation contains progestin only and no oestrogen.
- 35 (a)** Implants, i.e. six matchstick-sized capsules containing steroids are inserted under the skin of the inner arm above the elbow. These steroid capsules slowly release the synthetic progesterone or progesterone-oestrogen combination for about 5 years.
- 38 (c)** Option (c) is correct. As hormonal implants and oral contraceptives have the same combination of oestrogen and progesterone hormones. Their mode of working is same but the site of implantation is different, i.e. implants are placed under the skin, while oral contraceptives are orally consumed. The duration of their effective period also varies since implants have long lasting effects compared to pills.
- 39 (d)** Lactational amenorrhea, pills and emergency contraceptives provide contraception due to the role of hormones. In lactational amenorrhea, high prolactin level during active lactation period decreases the gonadotropin level in the blood. Pills usually contain progesterone or progesterone-oestrogen hormonal combinations which prevent ovulation. Emergency contraceptives also contain progesterone and oestradiol preparations. Other contraceptive methods include barrier method, represent a physical method of contraception. Also, copper-T (Cu-T) acts by releasing copper and not any hormone.
- 40 (a)** Tubectomy is a sterilisation method of contraception. During this procedure, a small part of the Fallopian tube in females is removed or tied up and blocked to restrict the entry of sperms reaching the ova. It is a permanent birth control method.
- 42 (c)** Option (c) does not give the defined action of contraceptive. It can be corrected as Vasectomy prevents transport of sperms and not its production, i.e. spermatogenesis.

In this method of contraception, small part of vas deferens is removed or tied up through a small incision on the scrotum.

- 44** (d) Sterilisation techniques include vasectomy and tubectomy. These are very reliable methods of birth control, because their approximate failure rate is less than 1%.
- 47** (a) MTP (Medical Termination of Pregnancy) is considered as safe until 1st trimester (12 weeks) of the pregnancy. It becomes more risky after the 1st trimester period of pregnancy, as the foetus becomes intimately associated with the maternal tissue.
- 50** (c) The other name for Sexually Transmitted Diseases (STDs) are Venereal Diseases (VDs) or Reproductive Tract Infections (RTIs). These diseases or infections are transmitted through sexual intercourse with infected persons.
- 51** (d) Mode of infection of AIDS and hepatitis-B are same. These diseases spread from an infected person to healthy person through sharing of needles, transfusion of blood and from infected mother to child. Both diseases are also incurable.
- 52** (b) Genital herpes is a sexually transmitted disease which is not completely curable. It is caused by type-II herpes simplex virus. Treatment is available for herpes symptoms, but the virus is unaffected and remains in the body, thus can become active again.
- 53** (c) AIDS and Hepatitis-B are sexually transmitted diseases which do not specifically affect reproductive organs. AIDS affects the overall immune system of the individual and hepatitis-B affects the liver. These are called STDs because they spread through *via* body fluids unsafe sex or use of needles, etc.
- 55** (c) Incidence of STIs or STDs are very high among persons in the age group of 15-24 years. This is due to the fact that young people
- Have multiple sex partners.
  - Engage in unprotected sex.
  - Use drugs and alcohol at high rate.
  - Engage in high risk behaviours, while under the influence of drugs and /or alcohol.
- 58** (d) A large number of couples are unable to produce children in spite of unprotected sex, i.e. are infertile. The reasons for this could be physical, congenital diseases, drugs, immunological or even psychological defect.
- 59** (b) IVF is an Assisted Reproductive Technology (ART) that involves transfer of zygote into Fallopian tube. *In vitro* fertilisation is a process in which an egg is fertilised by sperm outside the woman's womb and the zygote up to 8-celled stage is implanted into the Fallopian tube. IVF is a major treatment for infertility.
- 60** (a) In ZIFT (Zygote Intra Fallopian Transfer), the zygote up to 8-celled stage is transferred to Fallopian tube, rest of the development takes place as that of the natural zygote in the uterus.
- 61** (d) The test tube baby programme is a method involving *In Vitro* Fertilisation (IVF). It employs the technique of

Zygote Intra Fallopian Transfer (ZIFT) as only in this technique, fertilisation allowed to occur outside the body in laboratory.

- 64** (a) If an embryo containing more than 8 blastomeres (cells) is transferred into uterus of female's body then, it is called as IUT (Intra Uterine Transfer). It is also a method of IVF.
- 65** (d) Difference between ZIFT and IUT lies in the number of the cells. As in ZIFT, the embryo or zygote transfer is done up to 8 blastomere stage and in IUT, the embryo transfer is done when embryo is above 8 blastomere stage.
- 66** (d) IVF (*In Vitro* Fertilisation), AI (Artificial Insemination) and *in vivo* fertilisation are all procedures of ART (Assisted Reproductive Technologies). When the correction of infertility related disorders is not possible couples are advised to have children through these processes.
- 68** (b) The full form of GIFT is Gamete Intra Fallopian Transfer. It is a technique in which ovum is transferred into the Fallopian tube of another female, who cannot produce one, but can provide suitable environment for fertilisation and further development.
- 69** (c) ICSI (Intra Cytoplasmic Sperm Injection) is a technique in which a sperm is directly injected into the ovum to form the zygote and further into an embryo in the laboratory (*in vitro*). This embryo is then transferred into the uterus or Fallopian tube as required.
- 70** (c) Artificial insemination is commonly used in cases, where male partners are unable to inseminate the female due to very low sperm counts in the ejaculate. In this method, the semen is collected either from husband or a healthy donor and then artificially introduced into the vagina or into the uterus of the female.
- 73** (d) Assertion is false, but Reason is true. Assertion can be corrected as  
According to the World Health Organisation (WHO), a person is reproductively healthy when he is physically, emotionally, behaviourally and socially healthy, i.e. overall healthy.
- 74** (b) Both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion. The correct explanation is as follows  
Family planning is an action plan mediated by RCH (in 1952) to achieve population stabilisation goals and also promotes reproductive health, reduces maternal, infant and child mortality. This was achieved by delaying the childbirth till mother is over 20 yrs of age, spacing between children and limited size of family.
- 75** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.  
Reproductive and Child Healthcare (RCH) programmes were initiated in 1951 by government of India to deal with reproduction related areas. These programmes are aimed at creating awareness among people about various aspects such as sex education, reproduction and STDs, knowledge of birth control and pregnancy, sex abuse, etc.

**76** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

Amniocentesis, a medical procedure used in prenatal diagnosis of chromosomal abnormalities and foetal infections is being misused for determining the sex of unborn foetus. If the sex comes is revealed as female, it is followed by medical termination of foetus. This has led to an increase in the number of female foeticide in our country and is major reason for a ban being implemented on it.

**77** (b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. The correct explanation is as follows

Rapid decline in death rate, MMR (Maternal Mortality Rate) and IMR (Infant Mortality Rate) have all happened due to significant improvement in quality of life, increased medical facilities, awareness about reproduction related facts such as pre and post-natal care of mother's vaccination of children, etc., supported by better living conditions.

As a result, there has been a staggering rise in population.

**78** (b) Both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion. The correct explanation is as follows

Overpopulation has become a serious problem in the developing countries because of the improved medical facilities and quality of life.

**79** (c) Assertion is true, but Reason is false. Reason can be corrected as

Contraceptives help in family planning by inhibiting fertilisation of gametes. Natural methods work on the principle of avoiding chances of ovum and sperms meeting, e.g. periodic abstinence, lactational amenorrhoea.

In barrier methods, ovum and sperm are prevented from physically meeting with the help of barrier, e.g. condoms, cervical caps, diaphragms, etc.

**80** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

Reusable contraceptives are safe methods because they prevent exchange of body fluids during intercourse by preventing the entry of sperms into vagina and uterus. These include diaphragms, cervical caps, vaults, etc., and are inserted before intercourse and can be reused.

**81** (c) Assertion is true, but Reason is false. Reason can be corrected as

Contraceptive can be broadly grouped into natural, barrier, IUDs, oral contraceptives, injectables, implants and surgical methods. These all methods are used to prevent unwanted pregnancies.

**82** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

There is a chance of fertilisation during 10-17 days of menstruation cycle because most in females, ovulation is expected to occur during these days. Thus, the couple practicing periodic abstinence refrains from sexual intercourse during this period.

**83** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

Barrier methods prevent conception because they do not allow the ovum and sperms to physically meet, thereby preventing fertilisation, e.g. condoms, diaphragms, etc.

**84** (a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

Sterilisation is a surgical method of contraception as it blocks the transport of gametes and hence prevent fertilisation. The process is called as vasectomy in males and tubectomy in females.

**85** (b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. The correct explanation is as follows

Condoms act as a barrier that prevents the male ejaculate from entering female body and thus avoids conception and also prevents the transmission of STDs such as AIDS.

In females, implants are placed under the skin as the method of contraceptive.

**86** (b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion. The correct explanation is as follows

Syphilis, chlamydia, genital herpes and trichomoniasis are STIs because they spread from infected person to other through sexual contact or unsafe, unhygienic sexual practices.

**87** (b) Both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.

Both male and female can be infertile, i.e. unable to conceive or bear children. This can happen because of various reasons which can be physical congenital immunological or even psychological disorders, e.g. cryptorchidism, hyperthermia STDs, alcoholism (in males), PCOs, blocked Fallopian tube, irregular menstrual cycle, etc (in females).

**88** (c) Assertion is true, but Reason is false. Reason can be corrected as

ZIFT is an *in vitro* fertilisation method, in which zygote is transferred into Fallopian tube of the female.

**90** (b) Statements in option (b) is not a cause for population growth. As a rapid increase in IMR and MMR contributes to population growth.

Other options are correct.

**91** (c) Statement in option (c) represents the incorrect statement and can be corrected as

Amniocentesis was banned by government due to its misuse in detection of sex of child based on chromosomal studies. This information lead to an increase in female foeticides.

Rest of the statements are correct.

**93** (c) Statement in option (c) represents the incorrect statement and can be corrected as

Cleft palate is a developmental abnormality which may occur in the developing foetus. So, it can be detected by sonography, not by amniocentesis.

Rest of the statements are correct.

**94** (d) Statement in option (d) is correct about natural method of contraception.

Natural methods of contraception include lactational amenorrhea, coitus interruptus and periodic abstinence. These methods work on the natural ways to avoiding chances of ovum and sperm meeting.

While other statements are related to barrier methods.

**97** (a) The statement in option (a) is incorrect about IUD. It can be corrected as

Intra Uterine Devices (IUDs) are popular methods of contraception. These devices are inserted by doctors or expert nurses in the uterus through vagina.

Rest other statements are correct for IUDs.

**98** (c) Statements in option (c) is correct.

Other statements are incorrect and can be corrected as

- IUDs can be removed as these are a reversible contraception method.
- Jellies are cream are spermicidal and immobilise the sperms.
- Pills inhibits ovulation and implantation in females.

**99** (b) Statement in option (b) gives incorrect information regarding vasectomy. It can be corrected as

Sperms are produced by testes in the male reproduction system and sent to the epididymis by vasa efferentia and are temporarily stored here. These sperms do not reach to seminal vesicle when vas deferens is cut and tied in vasectomy.

**100** (d) Statement in option (d) is false. It can be corrected as Genital warts is a sexually transmitted disease caused by Human Papilloma Virus. (HPV).

**101** (d) Statements in option (a) and (c) are correct. Statement in option (b) is incorrect. It can be corrected as

Lactation prevents conception because ovulation and menstrual cycle does not occur during the period of intense lactation up to 6 months following parturition.

**102** (c) Statement in option (c) represents the incorrect statement about ZIFT. It can be corrected as

In ZIFT, zygote or embryo up to 8-cells is transferred to the Fallopian tubes. Embryos with more than 8 blastomeres are used in IUT (Intra Uterine Transfer).

**103** (c) Statement in option (c) represents the false statement. It can be corrected as

In GIFT (Gamete Intra Fallopian Transfer), gamete (ovum) from donor is transferred into the Fallopian tube of female who can provide suitable environment for fertilisation and foetal growth, but cannot produce ova.

**105** (d) Statement II is correct about WHOs. According to the World Health Organisation (WHO), reproductive health means a total well-being in all aspects of reproduction, i.e. physical, emotional, behavioural and social.

Therefore, a society with people having physically and functionally normal reproductive organs and normal emotional and behavioural interactions among them in all sex related aspects might be called reproductively healthy.

**106** (c) Statements I, II and III are characteristics of an ideal contraceptive.

An ideal contraceptive should be user friendly, easily available, effective and reversible with least side-effects. It also should not interfere with the sexual drive, desire and sexual act of the user.

**107** (b) Statements I and II are correct for Saheli pills.

'Saheli' a new oral contraceptive for females was developed at CDRI in Lucknow. It is once in a week pill with non-steroidal preparation. It has few side effects and a high contraceptive value.

**108** (b) All statements are correct except (V). It can be corrected as

Lactational amenorrhea is based on the fact that ovulation does not occur during lactation, so chances of conception are almost nil, up to six months following parturition. It is a natural method of contraception associated with the females, whereas phagocytosis of sperms is associated with males.

**109** (c) Statements I and II show the correct purpose of contraceptive pills. Statements III and IV are incorrect and can be corrected

- Condoms prevent the ejaculated semen from entering the female vagina.
- Contraceptive pills have not effect on spermatogenesis.

**110** (b) Statements I and II are false and can be corrected as

- There are little or no side effects of tubectomy and vasectomy.
- The purpose of tubectomy is to block the passage of ova.

Rest of the statements are correct.

**112** (a) Statements III and IV show the correct statement. Statements I and II are incorrect. These can be corrected as

- Chances of conception are nil until the mother breastfeeds child up to six months following parturition.
- Children produced by IVF are not born with abnormalities. An abnormality will only occur if the donor gamete has some genetical abnormality in it.

**113** (b) Statements III and IV are incorrect. They can be corrected as

- Sexually transmitted diseases are completely curable except hepatitis-B, genital herpes and HIV infections.
- MTPs are relatively safer up to 12 weeks of pregnancy. Rest other statements are correct.

**114** (d) Statements II and III are correct and can be corrected as

- Contraceptive oral pills are most popular among urban women.
- Removal of gonads is not a contraceptive procedure. Rest other statements are true.

**115** (d) Statements I, III, IV and V are correct. Statement II is incorrect and can be corrected as

To avoid transmission of sexually transmitted diseases, one should always practice safe sex, i.e. have protected sex by using condoms during coitus.

**130** (a) India was amongst the first country in the world to initiate action plans and programmes at a national level to attain total reproductive health as a social goal. These programmes called 'family planning' were initiated in 1950s and were periodically assessed over the past decades to determine their effects.

**131** (c) IMR (Infant Mortality Rate) and MMR (Maternal Mortality Rate) both are responsible for affecting the growth rate inversely.

Here, if IMR has been increased then it will result in decline in growth rate. While, decreased MMR will cause rapid increase in growth rate.

Therefore, in the above situation, if IMR has been increased and MMR has been decreased in a population, it will not cause any significant change in growth rate.

**132** (a) Breastfeeding is one of the natural contraceptive methods. It is known to suppress the production of Gonadotropin-Releasing Hormone (GnRH) and Follicle Stimulating Hormone (FSH).

The release of these hormones triggers ovulation. Breastfeeding also leads to increased level of prolactin, a hormone that inhibits ovulation. So, intensely lactating mothers do not generally conceive due to the suppression of gonadotropins.

**133** (d) Condoms are barriers made of thin rubber/latex sheath used to cover the penis in the males or vagina and cervix in females. It prevents the deposition of ejaculated semen into the vagina of the female. They do not interfere with coital activity and protects the user from contracting STDs.

**134** (c) Option (c) represents the correct statements.

Diaphragms are physical barriers made of rubber that are inserted into the female reproductive tract to cover the cervix during coitus. They prevent the entry of sperms through cervix.

**135** (b) Option (b) represents the right statement. Other statements are incorrect and can be corrected as

- IUDs are inserted by doctors or expert nurses in the uterus through vagina.
- They do not suppress gametogenesis.
- IUDs can be replaced whenever needed by the females.

**136** (a) Administration of higher doses of progestogens or progestogen-oestrogen combinations within 72 hrs of

coitus have been found to be very effective as emergency contraceptives as they could be used to avoid possible pregnancy due to rape or casual unprotected intercourse. These drugs delay/disrupt the ovulation and fertilisation process.

**137** (c) The correct surgical procedure as a contraceptive method is vasectomy performed in males, while in females, is called tubectomy.

**138** (b) AIDS (Acquired Immuno Deficiency Syndrome) is a set of symptoms caused by HIV virus in humans. It is transmitted through sexual contact from infected to a healthy person. The HIV virus does not directly affect sex organs as such but produces other set of symptoms in the body of infected person.

**139** (b) The correct statement regarding ZIFT is option (b). The zygote or early embryo with up to 8 blastomeres is collected from a female donor and transferred into the Fallopian tube, this process is called Zygote Intra Fallopian Transfer or ZIFT. Embryo more than 8 blastomeres is transferred into the uterus by the process called Intra Uterine Transfer or IUT.

When ovum is collected from donor and transferred to Fallopian tube of other female who cannot produce ovum, this is known as Gamete Intra Fallopian Transfer (GIFT).

**140** (c) ICSI (Intra Cytoplasmic Sperm Injection) is a specialised procedure to form an embryo in the laboratory in which a sperm is directly injected into the ovum placed in a nutrient broth.

**141** (a) Statements I and III represent the correct reason for why couples choose sterilisation techniques as a last option for contraception.

Statements II and IV are incorrect and can be corrected as

- Sterilisation techniques have no effect on the sexual urge/drive.
- At present sufficient facilities are available in most parts of our country for couples who want to undergo sterilisation procedures.

**142** (c) Statements I and IV are correct, while statements II and III are incorrect regarding MTPs.

MTPs are done to get rid of unwanted pregnancies either due to casual unprotected intercourse or failure of the contraceptive used during coitus or rapes. MTPs are also essential in certain cases where continuation of the pregnancy could be harmful or even fatal either to the mother or to the foetus or both. So, it requires the assistance of qualified medical personnel.