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Reproductive Health

TOPIC 1

Birth Control Measures and Amniocentesis

- 01** Which one of the following is an example of hormone releasing IUD? [NEET 2021]

- (a) Cu-T (b) LNG-20
(c) Cu-7 (d) Multiload-375

Ans. (b)

Levonorgestrel hormone is released from LNG-20. It is highly effective for contraception. The risk of unwanted pregnancy is lower with LNG-20 because it causes endometrial atrophy and alter the stroma to inhibit the process of implantation.

Lippes loop is an IUD impregnated with barium sulphate. IUDs like CuT and multiload-375 release copper that suppress the motility of sperm thus reducing its fertilising capacity. Thus, Lippes loop, CuT and multiload-375 are not hormone releasing IUDs.

- 02** Match the List-I with List-II.

List I	List II
A. Vaults	1. Entry of sperm through cervix is blocked
B. IUDs	2. Removal of vas deferens
C. Vasectomy	3. Phagocytosis of sperms within the uterus
D. Tubectomy	4. Removal of Fallopian tube

Choose the correct answer from the options given below.

[NEET 2021]

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

Ans. (b)

(A)-(1),(B)-(3),(C)-(2),(D)-(4)

Vaults is a rubber dome, which fits over the vaginal vault or cervix. They prevent the entry of sperm into the uterus.

IUDs are the devices which are inserted by the doctors or trained nurses into the uterus of female. These IUDs increase phagocytosis of sperm in uterus.

Vasectomy Surgical removal of the small part of vas deferens. It is a form of male birth control that inhibits transport of male gamete.

Tubectomy Surgical removal of the small part of Fallopian tube to prevent the sperm from reaching the egg to fertilise it.

- 03** Progestogens alone or in combination with oestrogens can be used as a contraceptive in the form of [NEET (Oct.) 2020]

- (a) implants only
(b) injections only
(c) pills, injections and implants
(d) pills only

Ans. (c)

Progesterone alone or in combination with oestrogens can be used as a contraceptive in the form of pills, injections and implants under the skin.

They inhibit ovulation and implantation of the zygote as well as alter the quality of cervical mucus to prevent/retard entry of sperms.

- 04** Which of the following is a correct statement? [NEET (Odisha) 2019]

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

Ans. (c)

Option (c) is correct as Intrauterine Devices (IUDs) increase phagocytosis of sperms within the uterus and the Cu ions released suppress sperm motility and fertilising capacity of sperms.

Other statements can be corrected as IUDs can be removed as these are a reversible contraception method.

IUDs are inserted by doctors or expert nurses in the uterus through vagina. IUDs do not affect gametogenesis.

- 05** Select the hormone-releasing Intra-Uterine Devices. [NEET (National) 2019]

- (a) Multiload 375, Progestasert
(b) Progestasert, LNG-20
(c) Lippes Loop, Multiload 375
(d) Vaults, LNG-20

Ans. (b)

Progestasert and LNG-20 are hormone releasing Intrauterine Devices (IUDs). These devices release small quantities of hormone which suppresses endometrial changes, cause an ovulation and insufficient luteal activity.

- 06** Which of the following contraceptive methods do involve a role of hormone?

[NEET (National) 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

Ans. (d)

Lactational amenorrhoea, pills and emergency contraceptives provide contraception due to the role of hormones.

In lactational amenorrhoea, high prolactin level during active lactation period decreases the gonadotropin level in the blood.

Pills usually contain progesterone or progesterone- oestrogen combinations which prevent ovulation. Emergency contraceptives also contain progesterone and estradiol preparation. Other contraceptive methods include Intrauterine Devices(IUDs) which release copper and destroys the sperms. On the other hand, barrier method represents a physical method of contraception. Also, copper-T (Cu-T) acts by releasing copper and not any hormone.

07 The function of copper ions in copper releasing IUD's is
[NEET 2017]

- (a) they suppress sperm motility and fertilising capacity of sperms
- (b) they inhibit gametogenesis
- (c) they make uterus unsuitable for implantation
- (d) they inhibit ovulation

Ans. (a)

An intra uterine device is a small, often T-shaped birth control device that is inserted into a woman's uterus to prevent pregnancy. The copper releasing IUD's primarily work by disrupting sperm motility and damaging sperm. Copper acts as a spermicide. It can also alter the endometrial lining, preventing implantation.

08 Which of the following approaches does not give the defined action of contraceptive? [NEET 2016, Phase I]

(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

Ans. (c)

In vasectomy, a small part of the vas deferens is removed or tied up through a small incision on the scrotum in males. Vasectomy blocks the gamete transport and does not affect spermatogenesis.

09 In context of amniocentesis, which of the following statement is incorrect? [NEET 2016, Phase I]

- (a) It is used for prenatal sex-determination
- (b) It can be used for detection of down syndrome
- (c) It can be used for detection of cleft palate
- (d) It is usually done when a woman is between 14-16 weeks pregnant

Ans. (c)

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

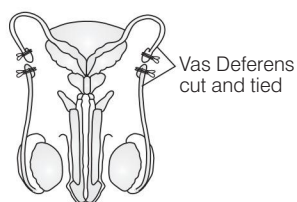
Amniocentesis is being misused for foetal sex-determination test so it is banned in India.

10 Which of the following is incorrect regarding vasectomy? [NEET 2016, Phase II]

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

Ans. (b)

Epididymis is an accessory duct present in the male reproductive system.



Vasectomy

Sperms produced by testes are sent here 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.

11 Which of the following is hormone-releasing IUD? [NEET 2016, Phase II]

- (a) LNG-20
- (b) Multiload-375
- (c) Lippes loop
- (d) Cu-7

Ans. (a)

Hormone releasing IUD (Intra Uterine Devices) is LNG-20. The IUD's are ideal contraceptive methods used by females to prevent pregnancy. The hormone releasing IUD's make the uterus unsuitable for implantation and the

cervix hostile to the sperms. Hence, option (a) is correct.

Concept Enhancer Lippes loop is a non-medicated IUD whereas Cu-7 and Multiload-375 are copper releasing IUDs.

12 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

Ans. (a)

Tubectomy is a type of sterilisation. During this procedure female's, Fallopian tubes are cut and tied up to block entry of sperms into the ovary. In females, this is permanent birth control.

13 Which of the following is a hormone releasing Intrauterine Device (IUD)? [CBSE AIPMT 2014]

- (a) Multiload 375
- (b) LNG-20
- (c) Cervical cap
- (d) Vault

Ans. (b)

LNG-20 is a hormone releasing IUD, that makes the uterus unsuitable for implantation and cervix hostile to sperm. Intra uterine devices are plastic or metal objects which are inserted by the doctors into the uterus through vagina. These are available as:

Non-medicated IUDs (i.e. lippes loop)
Copper releasing IUDs (e.g. multiload 375)
Hormone releasing (e.g. progestasert).

Cervical caps and vaults are made up of rubber and are inserted into the female reproductive tract to cover the cervix before coitus. They prevent conception.

14 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

Ans. (d)

Amniocentesis is a foetal sex determination test based on the chromosomal pattern in the amniotic fluid surrounding the developing embryo. Jaundice is a condition not based on chromosomal pattern. It is a disease related to liver dysfunctions.

15 One of the legal methods of birth control is [NEET 2013]

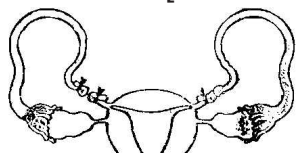
- (a) abortion by taking an appropriate medicine
- (b) by abstaining from coitus from day 10-17 of the menstrual cycle
- (c) by having coitus at the time of day break
- (d) by a premature ejaculation during coitus

Ans. (b)

One of the legal method of birth control is periodic abstinence in which couples abstain from coitus from day 10 to 17 of the menstrual cycle. Abortion by taking medicine is not a legal method. A day break coitus may increase the chances of contraception.

16 What is the figure given below showing in particular?

[CBSE AIPMT 2012]



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

Ans. (c)

The figure depicts tubectomy. The process of cutting and ligating both the oviducts or Fallopian tubes of female is called tubectomy. It is very reliable method of birth control, the approximate failure rate of which is less than 1%.

17 Which one of the following is the most widely accepted method of contraception in India, at present? [CBSE AIPMT 2011]

- (a) Cervical caps
- (b) Tubectomy
- (c) Diaphragms
- (d) IUDs (Intra Uterine Devices)

Ans. (d)

At present, the most widely accepted method of contraception in India is IUDs (Intra Uterine Devices). These devices are effective and popular. These devices are inserted by doctors and expert nurses in the uterus through vagina.

18 The permissible use of the technique amniocentesis is for [CBSE AIPMT 2010]

- (a) detecting sex of the unborn foetus
- (b) artificial insemination

- (c) transfer of embryo into the uterus of a surrogate mother
- (d) detecting any genetic abnormality

Ans. (d)

Amniocentesis is a technique for the diagnosis of congenital abnormalities before birth. By karyotypic studies of somatic cells, abnormalities due to the changes in chromosome number like Down's syndrome, Turner's syndrome, Klinefelter's syndrome, etc, can be determined.

It can be used as a pre-natal diagnostic technique. These days, amniocentesis is being misused also. Mothers even get their normal foetus aborted if it is a female.

19 Cu ions released from copper-releasing Intra Uterine Devices (IUDs)

[CBSE AIPMT 2010, 2000]

- (a) make uterus unsuitable for implantation
- (b) increase phagocytosis of sperms
- (c) suppress sperm motility
- (d) prevent ovulation

Ans. (c)

Intra Uterine Device (IUD) is a small device made up of copper, plastic or stainless steel. It is inserted by a doctor and experts nurses into the uterus through vagina and can be left there for long periods. This device needs to be replaced after 3-5 yrs when Cu release become scanty due to calcium deposition. It suppress the sperm mobility and fertilising capacity of sperms.

20 Consider the statement given below regarding contraception and answer as directed thereafter [CBSE AIPMT 2008]

1. Medical Termination of Pregnancy (MTP) during first trimester is generally safe.
2. Generally chances of conception are nil until mother breast-feeds the infant up to two years.
3. Intra uterine devices like copper-T are effective contraceptives.
4. Contraception pills may be taken upto one week after coitus to prevent contraception.

Which two of the above statements are correct?

- (a) 1, 3
- (b) 1, 2
- (c) 2, 3
- (d) 3, 4

Ans. (a)

Option I and III are correct as. Intra uterine devices like copper-T are effective contraceptives for birth control. It suppresses sperm motility and the fertilising capacity of the sperm. Medical termination of pregnancy or induced abortion is voluntary or intentional termination of pregnancy before full term of foetus. It is comparatively safe up to 12 weeks (the first trimester) of pregnancy.

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

[CBSE AIPMT 2008]

Method	Mode of Action
A. The pill	(i) Prevents sperms reaching cervix
B. Condom	(ii) Prevents implantation
C. Vasectomy	(iii) Prevents ovulation
D. Copper-T	(iv) Semen contains no sperms

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

Ans. (c)

The contraceptive pills are hormones either in combination or progesterone only that primarily prevent release of egg. It is convenient and highly effective, significant non-contraceptive health benefits such as protection against ovarian and endometrial cancers.

Condom is thin rubber sheath for penis that collects semen. It is easy to use, effective and inexpensive.

Vasectomy is the cutting and tying off the ductus deference so, that sperm cannot enter the ejaculate.

Copper-T is small plastic device placed in the uterus that prevent fertilisation or implantation.

22 In a population, unrestricted reproductive capacity is called [CBSE AIPMT 2002]

- (a) biotic potential
- (b) fertility
- (c) carrying capacity
- (d) birth rate

Ans. (a)

The biotic potential or innate capacity to increase of a population refers to the maximum rate of increase in the population that can possibly occur under ideal conditions (unlimited resources, no hindrances).

23 Progesterone, which is the most important component of oral contraceptive pills, prevents pregnancy by [CBSE AIPMT 2000]

- (a) preventing the formation of egg
- (b) preventing the cleavage of the fertilised egg
- (c) creating unfavourable chemical environment for the sperms to survive in the female reproductive tract
- (d) blocking ovulation

Ans. (d)

Most contraceptive pills contain the hormones oestrogen and progesterone. Progesterone, alongwith oestrogen, disturbs the normal menstrual cycle to prevent ovulation. It inhibits the pituitary from secreting FSH and LH, which leads to blocking of ovulation.

24 Tablets to prevent contraception contain [CBSE AIPMT 1999]

- (a) progesterone (b) FSH
- (c) LH (d) Both (b) and (c)

Ans. (a)

Contraceptive pills for women contain female sex hormones oestrogen and progesterone. These prevent development of eggs and ovulation by inhibiting secretion of FSH.

Some pills contain progesterone only in such cases, ovulation may occur but cervical mucus is thickness preventing the entry of sperm.

25 Amniocentesis is a process to [CBSE AIPMT 1997]

- (a) determine any disease in heart
- (b) determine any hereditary disease in the embryo
- (c) know about the disease of brain
- (d) All of the above

Ans. (b)

Cells of amniotic fluid are cultured to increase their number and to obtain dividing cells. The chromosomes of the dividing cells can be examined for abnormalities.

The cells and the fluid sample may also be tested for products of faulty genes (e.g. high level of α -fetoprotein, i.e. AFP) indicated high risk of birth defects.

26 Human population growth in India [CBSE AIPMT 1996]

- (a) tends to follow a sigmoid curve as in case of many other animal species
- (b) tends to reach zero population growth as in case of some animal species
- (c) can be reduced by permitting natural calamities and enforcing birth control measures
- (d) can be regulated by following the National programme of family planning

Ans. (d)

Though India is very crowded and over populated country but still human population can be regulated by following the National programme of family planning.

27 In India, human population is heavily weighed towards the younger age groups as a result of [CBSE AIPMT 1995]

- (a) short life span of many individuals and low birth rate
- (b) long life span of many individuals and low birth rate
- (c) short life span of many individuals and high birth rate
- (d) long life span of many individuals and high birth rate

Ans. (c)

In India human population is heavily weighed towards the younger age group as a result of high birth rate and short life span of individuals.

TOPIC 2 Sexually Transmitted Diseases

28 Venereal diseases can spread through [NEET 2021]

- I. Using sterile needles.
- II. Transfusion of blood from infected person.
- III. Infected mother to foetus.
- IV. Kissing.
- V. Inheritance.

Choose the correct answer from the options given below

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

Ans. (c)

Veneral disease or sexually transmitted disease is defined as a medical condition that can be passed from one person to another via sexual contact, transfusion of blood from infected person and by infected mother to foetus.

Thus, option (c) is correct.

29 Which of the following STDs are not curable? [NEET (Oct.) 2020]

- (a) Genital herpes, hepatitis-B, HIV infection
- (b) Chlamydia, Syphilis, genital warts
- (c) HIV, gonorrhoea, trichomoniasis
- (d) Gonorrhoea, trichomoniasis, hepatitis-B

Ans. (a)

Except for hepatitis-B, genital herpes and HIV infections other sexually transmitted diseases are completely curable if detected early and treated properly. Diseases or infections which are transmitted through sexual intercourse are collectively called Sexually Transmitted Diseases (STDs) or Venereal Disease (VD) or Reproductive Tract Infections (RTI).

30 Select the option including all sexually transmitted diseases. [NEET (Sep.) 2020]

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

Ans. (d)

Gonorrhoea, syphilis, genital herpes are sexually transmitted diseases.

Gonorrhoea is caused by a bacterium *Neisseria gonorrhoeae*. It is a sexually transmitted disease (STD) that can infect both men and women. It can cause infections in the genitals, rectum and throat.

Syphilis is caused by a bacterium *Treponema pallidum*. It starts as painless sore typically on the genitals, rectum or mouth. Genital herpes is caused by a virus Type-II Herpes simplex virus.

It causes herpetic sores, which are painful blisters (fluid-filled bumps) that can break open and ooze fluid.

31 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

Ans. (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 STD because these spread through unsafe sex or unprotected sex.

32 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) | 2 | 3 | 4 | 1 |
| (b) | 3 | 4 | 1 | 2 |
| (c) | 4 | 2 | 3 | 1 |
| (d) | 4 | 3 | 2 | 1 |

Ans. (a)

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

TOPIC 3

Infertility and Assisted Reproductive Technologies

33 In which of the following techniques, the embryos are transferred to assist those females who cannot conceive? [NEET (Sep.) 2020]

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

Ans. (d)

Option (d) is the correct answer because the techniques by which the embryos are transferred to assist those females who cannot conceive are ZIFT and IUT, i.e. Zygote Intra Fallopian Transfer and Intra Uterine Transfer respectively, both are Embryo Transfer (ET) methods. Option (a), (b) and (c) are incorrect because in GIFT (Gamete Intra Fallopian Transfer), gamete is transferred into the Fallopian tube of female who cannot produce ova. ICSI is Intra Cytoplasmic Sperm Injection in which sperm is directly injected into the ovum.

34 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) Intrauterine Transfer
- (b) Gamete Intracytoplasmic Fallopian Transfer
- (c) Artificial Insemination
- (d) Intracytoplasmic Sperm Injection

Ans. (c)

Assisted Reproductive Technologies (ARTs) is a general term referred to the method used to achieve pregnancy by artificial means or partial artificial means and is primarily used in infertility treatment. Artificial insemination is a type of ARTs.

35 Embryo with more than 16 blastomeres formed due to *in vitro* fertilisation is transferred into [NEET 2016, Phase II]

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

Ans. (a)

Embryo with more than 16 blastomeres formed due to *in vitro* fertilisation is transferred into the uterus to complete its further development.

Concept Enhancer Intra Uterine Transfer or IUT is an assisted reproductive technology to solve the infertility problems.

In this process, the implantation of embryo takes place in the uterus where it develops into a foetus which forms a child. On completion of gestation, the mother will give birth to a normal child.

36 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

Ans. (b)

The full form of GIFT is "Gamete Intra Fallopian Transfer".

This method is used in females who cannot produce ova but can provide suitable environment for fertilisation and further development of embryo in the oviducts. In such cases, ovum from the donor female is surgically removed and is then introduced into the Fallopian tube of such females. Such women then accept sperms from her husband during copulation.

37 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

Ans. (b)

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. The process involves hormonally controlled ovulatory process, removing ova from the woman's ovaries and letting sperm fertilise them in fluid medium.

The Zygote or the embryo up to 8-celled stage is then transferred into the patient's Fallopian tube with the intent to be successful. When the zygote is more than 8 blastomere stage it is placed directly into the uterus to establish pregnancy.

38 Artificial insemination means [NEET 2013]

- (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

Ans. (c)

Artificial Insemination (AI) means artificial introduction of sperms of a healthy male donor into the vagina of female. Infertility due to the inability of the male to inseminate the female or due to very low sperm counts in the ejaculates can be corrected by artificial insemination.

39 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)

Ans. (d)

The test-tube baby programme employs the technique of *in vitro* fertilisation (IVF) and Zygote Intra Fallopian Transfer (ZIFT) technique. ZIFT is a method used to treat infertility in which an egg fertilised *in vitro* (outside the body) is placed into a women's Fallopian tube (oviduct).

It is an assisted reproductive procedure similar to IVF and embryo transfer, the difference being that zygote proembryo is transferred into the Fallopian tube instead of the uterus. Because the fertilised egg (zygote) is directly transferred into the tubes the procedure is also referred to as tubal embryo transfer.

40 Medical Termination of Pregnancy (MTP) is considered safe up to how many weeks of pregnancy? [CBSE AIPMT 2011]

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

Ans. (b)

Intentional or voluntary termination of pregnancy before full term is called Medical Termination of Pregnancy (MTP) or induced abortion. MTPs are considered relatively safe during the first trimester, i.e. upto 12 weeks of pregnancy.

Second trimester abortions are much more riskier.

41 *In vitro* fertilisation is a technique that involves transfer of which one of the following into the Fallopian tube? [CBSE AIPMT 2010]

- (a) Embryo only, up to 8 cell stage
- (b) Either zygote or early embryo up to 8 cell stage
- (c) Embryo of 32 cell stage
- (d) Zygote only

Ans. (b)

In vitro fertilisation (IVF) or test-tube baby technique involves fertilising one or more eggs outside the body and then transferring the fertilised eggs known as pre-embryos back into the uterus.

Zygote Intra Fallopian Transfer (ZIFT) is an example of IVF. In this, the zygote or early embryos up to 8 blastomeres are transferred into the Fallopian tube. If the embryo has more than 8 blastomeres then it is transferred into uterus this is known as IUT.

42 Certain characteristic demographic features of developing countries are [CBSE AIPMT 2004]

- (a) high fertility, low or rapidly falling mortality rate, rapid population growth and a very young age distribution
- (b) high fertility, high density rapidly rising mortality rate and a very young age distribution
- (c) high infant mortality, low fertility uneven population growth and a very young age distribution
- (d) high mortality high density uneven population growth and a very old age distribution

Ans. (a)

The characteristic demographic features of developing countries is high fertility, low or rapidly falling mortality rate, rapid population growth and a very young age distribution.

In India it is all due to the reproductive and child health care programmes operating throughout the country

43 Test-tube baby means a baby born when [CBSE AIPMT 2003]

- (a) the ovum is fertilised externally and there after implanted in the uterus
- (b) it develops from a non-fertilised egg
- (c) it is developed in a test-tube
- (d) it is developed through tissue culture method

Ans. (a)

Patrick Stepote and Robert Edward first time developed test-tube baby technique in 1978. In certain cases, where normal fertilisation is not possible, ovum from the female and the sperm from the male are mated *in vitro*. The zygote, later on is implanted in the uterus where further development into baby take place.

44 Test-tube baby is one who [CBSE AIPMT 1996]

- (a) is born out of artificial insemination
- (b) has undergone development in a test-tube
- (c) is born out of the technique of fertilisation *in vitro*
- (d) has been developed without fertilisation

Ans. (c)

Test-tube baby technique is a recent solution to infertility. In this technique *in vitro* fertilisation is done in which after viewing through a pencil thin laproscope a ripe egg is removed from a woman ovary.

The egg is kept in laboratory culture dish and mixed with sperm from future father.

The fertilised egg undergoes cleavage in the laboratory dish and when it reaches the 8-celled stage, it is transferred into the mothers uterus for implantation. A normal baby can be born to such a mother.