

## BYJU'S Study Planner for Board Term I (CBSE Grade 12)

Date: 13/11/2021

Subject: Biology

Topic : Reproductive Health

Class: Standard XII

1. What is the purpose of contraceptive pills?
  - I. They inhibit ovulation and implantation.
  - II. They alter the quality of cervical mucous to prevent or retard the entry of sperms.
  - III. They prevent the ejaculated semen from entering the female vagina.
  - IV. They inhibit spermatogenesis.

- ☐ A. I, II and IV
- ☐ B. I, II and III
- ☒ C. I and II
- ☐ D. I, II, III and IV

Pills work on female body hence they not stop spermatogenesis as well as these pills do not act as barriers against entry of sperm.

The birth control pill is a daily pill that contains hormones to change the way the body works and prevent pregnancy. Most birth control pills are "combination pills" containing a mix of the hormones estrogen and progesterone to prevent ovulation (the release of an egg during the monthly cycle).

The pill also works by thickening the mucus around the cervix, which makes it difficult for sperm to enter the uterus and reach any eggs that may have been released. The hormones in the Pill can also sometimes affect the lining of the uterus, making it difficult for an egg to attach to the wall of the uterus.

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2. The technique called Gamete Intra Fallopian Transfer (GIFT) is recommended for the females:

- ☒ A. Who cannot produce an ovum
- ☐ B. Who cannot retain the fetus inside the uterus
- ☐ C. Whose cervical canal is too narrow to allow the passage for the sperms
- ☐ D. Who cannot provide suitable environment for fertilization

GIFT (Gamete Intra Fallopian Transfer) is the transfer of an ovum collected from a donor into the fallopian tube of another female who cannot produce one, but can provide suitable environment for fertilisation and further development.

3. Progesterone in the contraceptive pill:

- ☒ A. Prevents ovulation
- ☐ B. Inhibits estrogen
- ☐ C. Checks attachment of zygote to endometrium
- ☐ D. All of the above

Oral administration of the small doses of either progestogens or progestogen-oestrogen combinations is one of the contraceptive method used by the females. They are used in the form of tablets and hence, are popularly called the pills. Pills have to be taken daily for a period of 21 days, starting preferably within the first five days of menstrual cycle. After a gap of 7 days (during which menstruation occurs) it has to be repeated in the same pattern till the female desires to prevent conception. They inhibit ovulation and implantation as well as alter the quality of cervical mucous to prevent/retard entry of sperms. Pills are very effective with lesser side effects and are well accepted by the females.

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4. In IVF technique, a fusion of ovum and sperm occurs in:

- ☐ A. Uterus
- ☐ B. Vagina
- ☐ C. Fallopian tube
- ☒ D. Laboratory under simulated conditions

IVF (in vitro fertilisation) refers to the fusion of an egg and a sperm outside the woman's body. In IVF technique, fusion of ovum and sperm takes place in the laboratory under simulated conditions. The fertilized ovum or egg is then allowed to grow for some time in a special culture medium, before being implanted in the womb of the woman who is to undergo the pregnancy.

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5. Which of the following given statements is/are not correct?

(I) MTP was legalized in 1971.

(II) Inability to conceive or produce children even after unprotected sexual cohabitation is called infertility.

(III) Surgical method of contraception prevents gamete formation.

(IV) MTPs are relatively safe up to 20 weeks of pregnancy.

☒ A. I and III

☐ B. III and IV

☒ C. III and II

☒ D. I and II

**Medical Termination of Pregnancy (MTP):** It is intentional or voluntary termination of pregnancy before the full term. It is also called induced abortion. MTP was legalized by the Government of India in 1971. MTP is to get rid of unwanted pregnancy due to the failure of contraceptive or rapes, and when continued pregnancy leads to harmful or fatal consequences for mother or foetus or both. MTP is considered safe during the first trimester (12 weeks) of pregnancy.

**Infertility** is the inability to conceive or produce children even after unprotected sexual cohabitation.

**Surgical method of contraception** blocks gamete transport and thereby prevent conception.

Hence, statements III and IV are incorrect.

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

- ☐ A. Tubectomy → Make the uterus unstable for implantation
- ☒ B. Oral pills → Inhibit ovulation and implantation
- ☐ C. Diaphragms → Spermicidal and increases phagocytosis of sperms within the uterus
- ☐ D. IUDs → Blocks gamete transport

The following are the contraceptive methods with its mode of action:

- Tubectomy - Blocks gamete transport
- Oral pills - Inhibit ovulation and implantation
- Diaphragms - Prevent sperm from reaching an ovum
- IUDs - Increase phagocytosis of sperms within the uterus

7. Progestasert and LNG-20 are:

- ☐ A. Implants
- ☐ B.  $Cu^{2+}$  releasing IUD
- ☒ C. Hormone releasing IUD
- ☐ D. Non medicated IUD

Intra Uterine Devices (IUDs) are contraceptive devices that are inserted into the uterus through the vagina by doctors or expert nurses. There are three main types of IUDs

1. Non medicated: Lippes loop
2.  $Cu^{2+}$  releasing : Copper T, Cu7 and Multiload 375
3. Hormone releasing : Progestasert, LNG-20

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8. Lactational amenorrhea is a natural method of birth control and is usually effective upto \_\_\_\_\_ after parturition.

- ☐ A. two months
- ☐ B. six years
- ☒ C. six months
- ☐ D. one year

Lactational amenorrhea is the absence of menstruation in the females. After parturition, the mother is in an intense lactation period during which ovulation and menstrual cycle does not occur.

This natural birth control method is effective upto a maximum period of six months after parturition. Moreover, this method has high chances of failure.

9. STDs can lead to:

- ☐ A. Itching, fluid discharge, slight pain
- ☐ B. Pelvic inflammatory diseases(PID), ectopic pregnancies
- ☐ C. Stillbirth, infertility, abortions
- ☒ D. All of these

Infections or diseases which are transmitted through sexual intercourse with an infected individual are collectively called sexually transmitted infections.

Early symptoms of most of these 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 absence of less significant symptoms in the early stages of infection and the social stigma attached to the STIs deter the infected persons from going for timely detection and proper treatment.

This could lead to complications later, which include pelvic inflammatory diseases (PID), abortions, stillbirths, ectopic pregnancies, infertility, cancer of the reproductive tract, or even severe fatal immunodeficiencies, etc.

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10. Select the correct statement among the following.

☒ A. 'Saheli' is a new contraceptive for males

☒ B. Condoms are available only for males

☒ C. Ovulation is facilitated by breast-feeding

☒ D. A combination of progestogen and estrogen is injected or implanted under the skin as an effective contraceptive  
Hormonal contraceptives use a combination of progestogen and estrogen. They can be used as implants under the skin or can be injected in order to achieve contraception.

Saheli is a non-steroidal contraceptive for females, with least known side effects. It inhibits the implantation of the fertilised egg without disturbing the hormonal balance of the female.

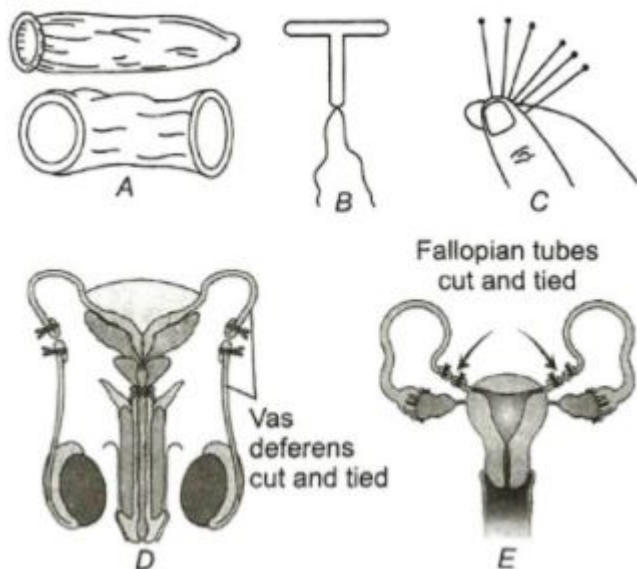
Condoms are available for both males and females. Condoms are barriers made up of rubber/thin latex and prevent the meeting of sperm and the ovum.

During the period of intense lactation, there is suppression of ovulation and menstruation. Hence ovulation is not facilitated by breast-feeding.

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11. Match the following figures with their respective identify:

- |               |               |
|---------------|---------------|
| I. Tubectomy  | II. Vasectomy |
| III. Implants | IV. Condoms   |
| V. Copper-T   |               |

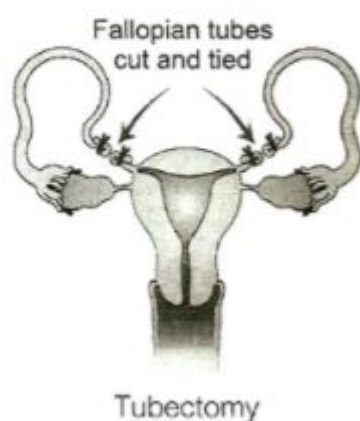
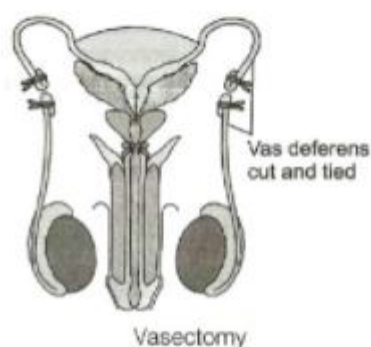
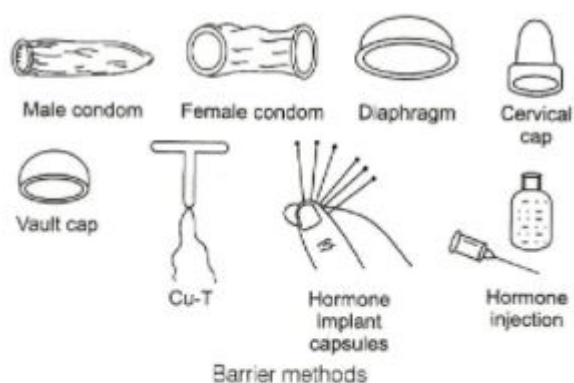


- ☒ A. A-IV; B-V; C-III; D-II; E-I
- ☐ B. A-IV; B-IV; C-II; D-I; E-V
- ☐ C. A-I; B-II; C-III; D-IV; E-V
- ☐ D. A-III; B-IV; C-V; D-I; E-II

Correct labels are as follows:



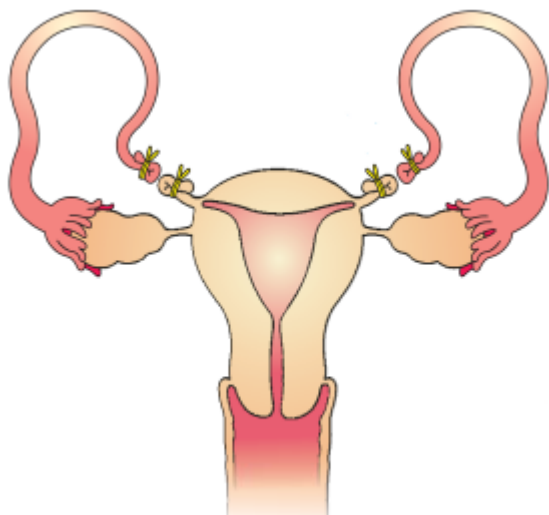
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Hence, correct order is: A-Condoms, B-Copper-T, C-Implants, D-Vasectomy, E-Tubectomy.

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12. What is the image given below showing in particular?



- ☐ A. Vasectomy
- ☐ B. Ovarian cancer
- ☐ C. Uterine cancer
- ☒ D. Tubectomy

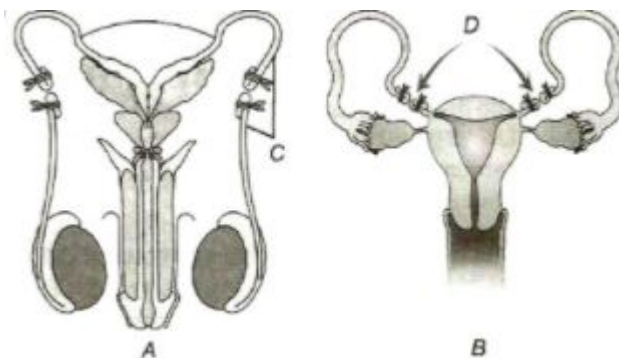
The image given here is human female reproductive system. In the image, fallopian tubes are cut and cut ends are sealed. This blocks the gamete transport and prevents conception. This is a surgical method of permanent birth control and is called tubectomy. These techniques are highly effective with poor reversibility.

The permanent method of birth control in males is called vasectomy.

Ovarian cancer and uterine cancer are disorders of the female reproductive system.

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13. Choose the correct option for A, B, C and D.

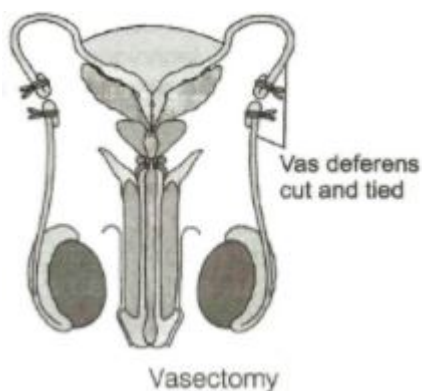


- ☒ A. A-Tubectomy, B-Vasectomy, C-Fallopian tube cut and tied, D-Vas deferens cut and tied
- ☒ B. A-Tubectomy, B-Vasectomy, C-Cervix, D-Vas deferens cut and tied
- ☒ C. A-Vasectomy, B-Tubectomy, C-Vas deferens cut and tied, D-Fallopian tube cut and tied
- ☒ D. A-Tubectomy, B-Vasectomy, C-Vas deferens cut and tied, D-Fallopian tube cut and tied

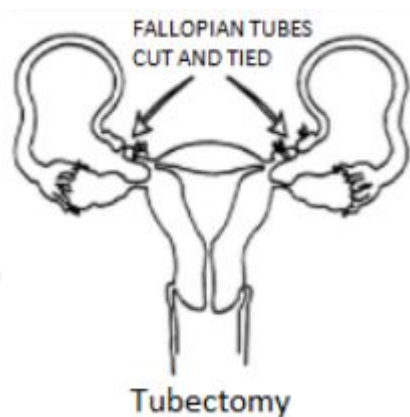
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Surgical method of contraception (sterilization) are terminal and the permanent methods, which blocks the transport of gametes by preventing conception. They are two types:

- **Vasectomy:** In males, a small portion of the vas deferens is removed or tied up through a small incision on the scrotum called vasectomy.



- **Tubectomy:** In females, a small part of the fallopian tube is removed or tied up through a small incision in the abdomen called tubectomy.



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14. Name the duct that is tied and cut in the image given below?



- ☐ A. Rete testis
- ☐ B. Urethra
- ☐ C. Epididymis
- ☒ D. Vas deferens

The image given in the question depicts the male reproductive system in which the vas deferens is tied and cut. This is a surgical method of contraception in males which is called vasectomy.

Male reproductive system consists of the following accessory ducts : rete testis → vasa efferentia → epididymis → vas deferens → urethra.

The accessory ducts are connected to each other and help in the transport of sperms from the testes to the exterior.

Vas deferens connects the epididymis to urethra. Thus, vasectomy prevents the sperms from reaching the urethra during ejaculation of semen.

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15. The image given below represents which contraceptive method ?



- ☒ A. Oral contraceptives
- ☒ B. Barrier methods
- ☒ C. Surgical methods
- ☒ D. Implants

The image in the question represents implants which are progestogens alone or in combination with estrogen. These are placed under the skin. Implants inhibit ovulation and implantation of embryos and thus prevent pregnancy.

Oral contraceptives are pills consumed orally by females to prevent pregnancy.

Surgical methods are permanent methods of contraception in which the accessory reproductive ducts such as the vas deferens in males and the fallopian tubes in females are tied and cut.

Barrier methods include condoms, diaphragms, cervical caps and vaults which prevent entry of sperms in the female reproductive tract.

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16. Assertion: ZIFT can help a female to conceive even if both her fallopian tubes are damaged.

Reason: In ZIFT, embryo having 4 blastomeres can be transferred easily into the uterus.

- ☒ A. Both assertion and reason are correct and reason is the correct explanation of assertion
- ☒ B. Both assertion and reason are correct but reason is an incorrect explanation of the assertion
- ☒ C. Only assertion is correct
- ☒ D. Both assertion and reason are incorrect

ZIFT (zygote intra fallopian transfer) is a type of assisted reproductive technology in which the zygote or early embryos (with upto 8 blastomeres) are transferred into the fallopian tube.

Therefore, if both the fallopian tubes are damaged then ZIFT may not be a successful conception technique.

Hence both assertion and reason are incorrect.

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17. Assertion: Government takes several measures to promote awareness about STDs.

Reason: Overcoming the social stigma and myths about STDs is a must to avoid consequences that can be dangerous to society.

- ☒ A. Assertion and reason are true and the reason is the correct explanation
- ☐ B. Assertion and reason are true but the reason is not the correct explanation
- ☐ C. Assertion is true but the reason is false
- ☐ D. Both the statements are false

The biggest myth about sexually transmitted diseases(STDs) is that it spreads only by sexual contact. These can spread by sharing syringes, needles, blades with an infected person.

It can also be transmitted from an infected mother to the fetus through the placenta.

The social stigma and myth about STDs refrain the infected persons from coming forward to get tested or seek appropriate help. This may lead to social isolation and depression. Moreover, if an infected individual does not get tested he/she may not be aware of it and may continue to spread it further.

The government has roped in celebrities to bring attention to the facts about STDs and help spread awareness thereby overcoming the stigma and myth about these helping the infected people to seek the appropriate help. Steps are also taken by the government to educate the public about the preventive methods of STDs.

Hence the reason is the correct explanation for the assertion.



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18. An embryologist was involved in a test tube baby programme. He successfully induced zygote formation under simulated laboratory conditions and kept it safely on Friday. On Tuesday, he came back to the lab and found the fertilised specimen to be in a healthy condition.

Which of the following procedures should be used to successfully transfer the specimen into a female?

- ☐ A. ZIFT
- ☐ B. GIFT
- ☒ C. IUT
- ☐ D. ICSI

During the in vitro fertilisation technique (fertilisation outside the body of the female) followed by embryo transfer (ET), also called test tube baby programme, ova from the female and sperm from male are collected and induced to form zygote in the laboratory.

The zygote or early embryos (with upto 8 blastomeres) are transferred into the fallopian tube and this is called ZIFT (zygote intra fallopian transfer). The embryos with more than 8 blastomeres are transferred into the uterus and this is called IUT (intra uterine transfer).

According to the information provided in the question, fertilisation took place on a Friday. The embryo develops into 16 celled stage in 3-4 days after fertilisation and is termed morula. Hence, after 4 days, the embryo would be at 16 celled stage, making it suitable for IUT.

Gamete intra fallopian transfer (GIFT) is a technique in which the female gamete is transferred from a donor into the fallopian tube of the female who cannot produce ova but can provide a suitable environment for fertilisation and development.

In intra cytoplasmic sperm injection (ICSI), a tiny needle is used to inject sperm directly into the egg and an embryo is formed in the laboratory.

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19. A 29-year-old female who was 6 weeks pregnant was tested positive for an incurable STD. She was advised to undergo MTP by her medical practitioner. Which one of the following reasons could be the medical practitioner's concern?

- ☐ A. The child might be stillborn
- ☐ B. The child might have severe birth defects
- ☐ C. The child might get infected from the mother which may not be cured
- ☒ D. All of the above

STDs are sexually transmitted diseases that are caused due to the transmission of pathogenic organisms from an infected person to a non-infected person by sexual contact.

If a pregnant woman is infected there might be several complications that can occur namely,

- Certain viruses can be transferred from the mother to the foetus through the placenta.
- Baby can be born without signs of life - stillborn
- Some STDs cause severe birth defects, where the baby can be born with severe deformities that may affect the child physically or mentally.

MTP is medical termination of pregnancy that is safer to carry out within the first trimester of pregnancy. If the mother is diagnosed with any incurable STI, it may be advisable to discontinue the pregnancy to avoid the above complications as per decided by the medical practitioner as case to case basis.

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20. To avoid transmission of STDs.

1. One must avoid sexual intercourse with multiple partners.
2. One must use condom during coitus.
3. Avoid sexual intercourse with unknown partners.
4. Always have unprotected sexual intercourse.
5. Avoid sharing needles.

Choose the correct statements.

- ☐ A. 1,2,3,4
- ☒ B. 1,2,3,5
- ☐ C. 1,3,4
- ☐ D. 1,2,4,5

To avoid transmission of Sexually Transmitted Diseases(STD)

- One should avoid sexual intercourse with multiple partners as it increases the chances of the spread of the disease as there may be a possibility of them being infected.
- Use of condoms during coitus/sexual intercourse acts as a barrier and prevents both fertilisation of sperm and ovum and transmission of STDs.
- One must avoid sexual intercourse with unknown partners as it also increases the spread of disease as there may be a possibility of them being infected.
- One must not indulge in unprotected intercourse as it may lead to STD through an infected individual.
- Many STDs can spread through a lot of body fluids also, thus sharing needles also increases the spread of diseases. One should always use single-use needles or sterilized needles for injections and stay away from sharing with others.