

Chapter 4: Reproductive Health

NCERT Exemplar · Class 12 · Biology

Multiple Choice Questions

Question 1

The method of directly injecting sperm into the ovum assisted by reproductive technology is called:

A.

GIFT

B.

ZIFT

C.

ICSI

D.

ET

Answer

Correct option: C

Solution

Ans: The correct answer is (c)

ICSI stands for Intracytoplasmic sperm injection. It is the method of directly injecting sperm into the ovum assisted by reproductive technology. Hence, the correct answer is option c.

Question 2

Increased IMR and decreased MMR in a population will:

A.

Cause a rapid increase in growth rate

B.

Result in decline in growth rate

C.

Not cause a significant change in growth rate

D.

Result in an explosive population/exp

Answer

Correct option: C

Solution

Ans: The correct answer is (c)

The increased IMR and the decreased MMR in a population will not cause any significant change in the growth rate. This is because IMR(infant mortality rate) & MMR(maternal mortality rate)both affect the rate of population growth in an inverse manner. Hence, the correct answer is option c.

Question 3

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 fertilization

Answer

Correct option: A

Solution

Ans: The correct answer is (a)

Due to the suppression of the gonadotropins, intensely lactating mothers generally do not conceive. Gonadotropins are the peptide hormones that regulate the functions of the ovaries & the testis. Hence, the correct answer is option a.

Question 4

Sterilization techniques are generally foolproof methods of contraception with the least side effects. Yet, this is the last option for the couples because:

- (i) It is almost irreversible
- (ii) Of the misconception that it will reduce sexual urge/drive
- (iii) It is a surgical procedure
- (iv) Of lack of sufficient facilities in many parts of the country

Choose the correct option:

A.

(i) and (iii)

B.

(ii) and (iii)

C.

(ii) and (iv)

D.

(i), (ii), (iii) and (iv)

Answer

Correct option: D

Solution

Ans: The correct answer is (d)

The sterilization techniques are generally foolproof methods of contraception with the least side effects. Yet, this is the last option for the couples because it is almost irreversible, it is of the misconception that it will reduce sexual urge/drive, it is a surgical procedure and also due to the lack of sufficient facilities in many parts of the country.

Hence, the correct answer is option d.

Question 5

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

Answer

Correct option: A

Solution

Ans: The correct answer is (a)

A national-level approach to building up a reproductively healthy society was taken up in our country in the 1950s. Hence, the correct answer is option a.

Question 6

Emergency contraceptives are effective if used within:

A.

72 hrs of coitus

B.

72 hrs of ovulation

C.

72 hrs of menstruation

D.

72 hrs of implantation

Answer

Correct option: A

Solution

Ans: The correct answer is (a)

Emergency contraceptives are effective if they are used within 72 hrs of coitus. Hence, the correct answer is option a.

Question 7

Choose the right one among the statements given below:

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

Answer

Correct option: B

Solution

Ans: The correct answer is (b)

The IUDs increase phagocytosis reaction in the uterus is the correct statement & a qualified medical professional is needed to insert the IUD. They have no effect on gametogenesis because ovulation takes place in the ovary while they are placed at the junction of the fallopian tubes and uterus. They can be easily taken out. Hence, the correct answer is option b.

Question 8

Following statements are given regarding MTP. Choose the correct options given below:

(i) MTPs are generally advised during first trimester

(ii) MTPs are used as a contraceptive method

(iii) MTPs are always surgical

(iv) MTPs require the assistance of qualified medical personnel

A.

(ii) and (iii)

B.

(ii) and (iii)

C.

(i) and (iv)

D.

(i) and (ii)

Answer

Correct option: C

Solution

Ans: The correct answer is (c)

The MTPs are generally advised during the first trimester therefore the first statement is correct. The MTP is carried out after conception and therefore it cannot be a contraceptive method therefore the second statement is wrong. The MTP involves curettage of the fetus by inserting a suitable tool in the uterus and this does not involve any type of surgery therefore the third statement is wrong. The MTPs require the assistance of qualified medical personnel. Therefore the first and fourth statements will be corrected. Hence, the correct answer is option c.

Question 9

From the sexually transmitted diseases mentioned below, identify the one which does not specifically affect the sex organs:

A.

Syphilis

B.

AIDS

C.

Gonorrhea

D.

Genital warts

Answer

Correct option: B

Solution

Ans: The correct answer is (b)

AIDS is a disease that can be transmitted through sexual contact but it does not affect the reproductive system rather it affects the immune system. Hence, the correct answer is option b.

Question 10

Condoms are one of the most popular contraceptives because of the following reasons:

A.

These are effective barriers to insemination

B.

They do not interfere with the coital act

C.

These help in reducing the risk of STDs

D.

All of the above

Answer

Correct option: D

Solution

Ans: The correct answer is (d)

Condoms are the effective barriers for insemination. Also they do not interfere with the coital act. Using condoms helps in reducing the risk of sexually transmitted diseases (STDs). Hence, all the statements are correct. Therefore the correct answer is option d.

Question 11

Choose the correct statement regarding the ZIFT procedure:

A.

Ova collected from a female donor are transferred to the fallopian tube to facilitate zygote formation.

B.

Zygote is collected from a female donor and transferred to the fallopian tube

C.

Zygote is collected from a female donor and transferred to the uterus

D.

Ova collected from a female donor and transferred to the uterus

Answer

Correct option: B

Solution

Ans: The correct answer is (b)

The ZIFT stands for Zygote Intra Fallopian Transfer. The name itself shows that the zygote is transferred to the fallopian tube. During this process, the egg from the ova mixed with sperms in the

laboratory after that zygote is being transferred back to the female body(fallopian tube) for further development. Hence, the correct answer is option b.

Question 12

The correct surgical procedure as a contraceptive method is:

A.

Ovariectomy

B.

Hysterectomy

C.

Vasectomy

D.

Castration

Answer

Correct option: C

Solution

Ans: The correct answer is (c)

Out of four, the correct surgical procedure as a contraceptive method is vasectomy. Ovariectomy is the removal of the ovary which is carried out in case of ovarian cyst or cancer. A hysterectomy is the removal of the uterus which is carried out in case of uterine cancer or risk of uterine cancer. The castration is done in males (usually in the animals). Hence, the correct answer is option c.

Question 13

Diaphragms are contraceptive devices used by 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) & (iv)

Answer

Correct option: C

Solution

Ans: The correct answer is (c)

The diaphragms are made of rubber and rubber has no spermicidal property therefore they act as a physical barrier for sperm entry. The diaphragm is placed to cover the cervix. Therefore the second and third statements are correct. Hence, the correct answer is option c.

Very Short Answer Questions

Question 1

Reproductive health refers only to healthy reproductive functions, comment.

Solution

Ans: This statement is not true, since reproductive health not only refers to the healthy reproductive function but also to other aspects of reproduction such as the emotional, social and behavioral.

Question 2

Comment on the Reproductive and Child Health Care programme of the government to improve the reproductive health of the people.

Solution

Ans: The given statement is true. The reproductive and the Child Health Care Programme try to address all the aspects regarding reproductive health. This programme focuses on the proper care of the newborn and the mother. It also promotes the proper use of contraceptives so that family size can be planned and can be limited also. This programme has been continuous for many decades and has obtained good results.

Question 3

The present population growth rate in India is alarming. Suggest ways to check it.

Solution

Ans: Some of the ways to check the population growth in India are given as follows:

1. By increasing public awareness about the benefits of small families.
 2. By improving newborn care and mother care.
 3. By providing access to various contraceptive methods for the masses.
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Question 4

STDs can be considered as self-invited diseases. Comment.

Solution

Ans: STDs (Sexually Transmitted Diseases) are communicable diseases. Such kinds of diseases can spread from one person to another. All the STDs happen due to the lack of precaution during coitus. STDs can be avoided by taking sufficient precautions. Therefore it can be said that STDs are self-invited diseases.

Question 5

Suggest the reproduction-related aspects in which counseling should be provided at the school level.

Solution

Ans: The reproduction-related aspects in which counseling should be provided at the school level are given as follows:

1. The physical and psychological changes at the time of puberty.
2. The misconceptions about the reproductive system.
3. Awareness about STDs.
4. Importance of reproductive health.

Question 6

Mention the primary aim of the “Assisted Reproductive Technology” (ART) programme.

Solution

Ans: To help childless couples in becoming parents with the help of certain special techniques is the primary aim of the “Assisted Reproductive Technology” (ART) programme.

Question 7

What is the significance of progesterone-estrogen combination as a contraceptive measure?

Solution

Ans: The significances of progesterone-estrogen combination as a contraceptive pill are given as follows:

1. They are convenient since they need to be taken orally.
2. They have the least side effects and thus are user-friendly.

Question 8

Strict conditions are to be followed in medical termination of pregnancy (MTP) procedures. Mention two reasons.

Solution

Ans: The two reasons for need the strict conditions in MTP are given as follows:

1. Many people resort to MTP for female feticide.
2. It may result in serious consequences for the woman if performed at the wrong trimester of the pregnancy.

Question 9

Males in whom testes fail to descend to the scrotum are generally infertile. Why?

Solution

Ans: The temperature of the testis should be lower than the body temperature for optimum sperm production. If testes fail to descend to the scrotum then the temperature of the testis would be the same as that of the body temperature. Because of this reason the males in whom testes fail to descend to the scrotum are generally infertile.

Question 10

Mention two advantages of lactational amenorrhea as a contraceptive method.

Solution

Ans: The two advantages of lactational amenorrhea as a contraceptive method are given as follows:

1. This has no side effects.
2. This does not hamper regular sexual activity.

Short Answer Questions

Question 1

Suggest some important steps that you would recommend to be taken to improve the reproductive health standards in India.

Solution

Ans: Some of the steps which should be followed to improve the reproductive health standards in India are given as follows:

1. By providing the proper education to girls and boys right from the school level to make them aware of the reproduction-related aspects.
2. By preventing child marriage.
3. By the prevention of female feticide.
4. By the strict regulation and monitoring of MTP.
5. By distributing free contraceptives to poor people.
6. By the good network of the healthcare workers up to the small villages.

Question 2

The procedure of GIFT involves the transfer of female gamete to the fallopian tube. Can gametes be transferred to the uterus to achieve the same result? Explain.

Solution

Ans: No, the transfer of gametes to the uterus will not give the same result. To understand this, we need to recall the process starting from the insemination till the implantation. This happens in the following stages: After ovulation, the ovum enters the fallopian tube. The sperm needs to reach the ampulla in order to fertilize the eggs. The fertilization cannot happen inside the uterus. After the process of fertilization, the zygote undergoes several rounds of mitosis for the production of the blastocyst. All these developments take place inside the ampulla and the isthmus of the fallopian tube. The blastocyst then goes to the uterus where the process of implantation takes place. Therefore the GIFT involves the transfer of the female gamete to the fallopian tube rather than to the uterus.

Question 3

Copper ions-releasing IUDs are more efficient than non-medicated methods. Why?

Solution

Ans: The IUDs induce phagocytosis of sperms and hence prevent conception. The non-medicated IUDs such as the Lippies loop work on this concept. The copper ions-releasing IUDs give some add-on benefits apart from the normal effect of IUDs. The copper ions suppress sperm motility. Therefore the sperms are unable to reach the fallopian tube. In the case of the non-medicated IUDs, some of the sperms may be able to reach the fallopian tube and by this, the failure rate of IUDs can increase. Therefore the copper ions-releasing IUDs are more efficient than that of the non-medicated methods.

Question 4

What are the probable factors that contributed to the population explosion in India?

Solution

Ans: Many of the factors have contributed to the population explosion in India.

Some of them are given as follows:

1. The prevalence of underage marriage.
2. Having children is considered a necessary obligation from the religious and social perspective. A childless couple often has to face many of the social stigmas.
3. The illiteracy and lack of awareness was a major factor in the big size of the families.
4. More children are seen as assets because they could contribute to farm work and in other economic activities.

Question 5

Briefly explain IVF and ET. What are the conditions in which these methods are advised?

Solution

Ans: The IVF (In-Vitro Fertilization) is a technique in which the sperm from the male (or donor) and the ovum from the female (or donor) are taken out. The ovum is then fertilized in the laboratory; usually in the petri dish. The ET (Embryo Transfer) is the next procedure after the IVF. The embryo having up to 8 blastomere stages is transferred to the fallopian tube. The embryo having more than 8 blastomeres is transferred to the uterus. Because the technique involves carrying out fertilization and some development of zygote in the laboratory, therefore, the babies born out of this method are often called the test tube babies. These methods are the parts of Assisted Reproductive Technologies (ART). These methods are employed when the medical treatment and the psychotherapy may have failed in helping the couple in the conception. These methods require a very high degree of perfection and can only be carried out by highly specialized doctors. Also, employing these technologies requires costly equipment. Therefore the facilities for the IVF or ET are available only at the selected centers across the country.

Question 6

What are the advantages of natural methods of contraception over artificial methods?

Solution

Ans: The advantages of the natural methods of contraception over artificial methods are given as follows:

1. They are very cost-effective.
 2. They do not have any side effects.
 3. There is no disturbance in the normal sexual life of the couple.
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Question 7

What are the conditions in which medical termination of pregnancy is advised?

Solution

Ans: The conditions in which medical termination of pregnancy is advised are given as follows:

1. If there is a risk to the pregnant lady or to the fetus.
 2. When the fetus has some of the teratogenic defects.
 3. If it is a case of an unwanted pregnancy that may be due to unsafe coitus.
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Question 8

Comment on the essential features required for an ideal contraceptive.

Solution

Ans: An ideal contraceptive should have the following features:

1. They should be cost-effective.
 2. They should be easier to use.
 3. They should have no side effects.
 4. They should not interfere during normal sexual activity.
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Question 9

All reproductive tract infections RTIs are STDs, but all STDs are not RTIs. Justify with an example.

Solution

Ans: All Reproductive Tract Infections (RTIs) can be transmitted from one person to another one through copulation and therefore all the RTIs are STDs (Sexually Transmitted Diseases). But there are some STDs that may not affect the reproductive system at all such as AIDS and Hepatitis B. Hence, all STDs need not be RTIs.

Long Answer Questions

Question 1

What are the Assisted Reproductive Techniques practiced to help infertile couples? Describe any three techniques.

Solution

Ans: The following are the various Assisted Reproductive Techniques:

1. IVF (In-vitro Fertilization): This is a technique in which the sperm from the male and the ovum from the female is taken out. They are then allowed to undergo fertilization in the laboratory.
2. ET (Embryo Transfer): This is a technique that is the next step after the IVF. There are two ways of doing embryo transfer. The zygotes which have up to 8 blastomeres are transferred to the fallopian tube and this technique is called the ZIFT (Zygote IntraFallopian Transfer). Another technique involves the transferring blastocyst into the uterus and this is called the Intra-Uterine Transfer (IUT).
3. The GIFT (Gamete Intra Fallopian Transfer): This is the technique that involves the transfer of an ovum collected from a donor into the fallopian tube of another female who cannot produce their own.
4. The ICSI (Intra Cytoplasmic Sperm Injection): This technique is a highly specialized one. In this technique, the sperm is directly injected into the ovum in the laboratory.
5. The AI (Artificial Insemination): In this technique, the semen collected either from the husband or a healthy donor is artificially introduced either into the vagina or into the uterus of the female.

Question 2

Discuss the mode of action and advantages/disadvantages of hormonal contraceptives.

Solution

Ans: The mode of the Action of the Hormonal Contraceptives: These contraceptives prevent ovulation and implantation. They also alter the quality of the cervical mucus which suppresses the entry of the sperms into the uterus.

The advantages are as follows:

1. These are the convenient ones & most of them are available as oral pills.
2. These do not disturb the normal sexual activity of the couple.
3. They have fewer side effects.

The disadvantages are as follows:

1. Some of them show long-term side effects which are associated with hormonal contraceptives.
2. These may result in increased cholesterol levels and may result in obesity.
3. In some cases, they can also alter the menstrual cycle.

Question 3

STDs are a threat to reproductive health. Describe any two such diseases and suggest preventive measures.

Solution

Ans: The diseases are mentioned as follows:

Trichomoniasis: This happens due to a protozoon named *Trichomonas vaginalis*. The symptoms of this disease include whitish discharge from the vagina, constant itching in the genitalia, and a foul smell. The males are the carrier of the parasite.

Prevention-:

By maintaining good hygiene especially during menstruation.

AIDS: The Acquired Immunodeficiency Syndrome is a sexually transmitted disease that affects the immune system. At present no cure for this disease has been found.

Prevention-:

1. By avoiding sexual contact with the unknown or the multiple partners.
2. By using disposable syringes and needles.
3. Using a barrier method of contraceptive during the coitus reduces the chances of STDs.

Question 4

Do you justify the statutory ban on amniocentesis in our country? Give reasons.

Solution

Ans: Amniocentesis is a useful technique that can provide clues to any abnormality in the fetus. But sadly this technique is being used for the wrong purpose in our country. India is a country where the male child is most sought after and a female child is often given the second class treatment. Many of us resort to the MTP as soon as we discover that the unborn child is going to be a girl. This is termed female foeticide. The girl child has been killed while she is still in the womb. This is a cruel practice and is the root of many social evils in India. The sex ratio is highly skewed throughout the country and is worse with some states such as Haryana and Punjab. Many boys grow up with such a mindset that they have little respect for women. This malaise is evident in rising cases of crimes such as rapes and dowry deaths. This trend can only be arrested if girls are given better chances of survival as well as career development. Therefore in India, the statutory ban on amniocentesis is fully justifiable. Along with that we also need to change the mindset of the people to ensure the equal treatment of girls.

Question 5

Enumerate and describe any five reasons for introducing sex education to school-going children.

Solution

Ans: Following are the five reasons for introducing sex education to school-going children.

1. Addressing the curiosity of adolescents: The school-going children are of impressionable age. At this age, any wrong information can create very long-lasting impressions on their mind. This can be highly counterproductive for them as far as reproductive health is concerned.
 2. To explore different aspects of reproductive health: We know that reproductive health does not have physical health as the only aspect. Reproductive health also includes social, behavioral and psychological aspects.
 3. Preparing better adults: If children are given sex education at the right age, they will learn to understand the importance of the right behavior, proper age of marriage and childbearing, and the importance of small family size. They will also learn to respect the privacy of other individuals.
 4. Reducing the chances of STDs: The proper awareness about the reproductive system can help in reducing the prevalence of STDs & also motivate people to go to a doctor at the right time.
 5. Family Planning: The proper awareness will help people to understand the importance of a small family. It will help in controlling the population growth in the country.
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