

# **Brain International School**

Vikas Puri, New Delhi

## **ASSIGNMENT NO. 2**

**SUBJECT: BIOLOGY** 

# **CLASS-XII**

**MAY,2025** 

#### **CHAPTER 3: REPRODUCTIVE HEALTH**

#### Mcqs

- 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.
- Which of the following cannot be detected in a developing foetus by amniocentesis ?
   (a) Jaundice
  - (b) Down's syndrome
  - (c) Cystic fibrosis
  - (d) Colourblindness
- 3. Sterilisation techniques are generally fool proof methods of contraception with 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:
  - (1) i and iii (2) ii and iii (3) ii and iv (4) i, ii, iii and iv
- 4. Confirmatory test for STDs is
  (a) ELISA (b) PCR (c) DNA hybridization

(d) all of these.

5. Emergency contraceptives are effective if used within:
(1) 72 hrs of coitus
(2) 72 hrs of ovulation
(3) 72 hrs of menstruation
(4) 72 hrs of implantation

### **CASE STUDY QUESTION:**

1. Assisted reproductive technology (ART) is used to treat infertility. It includes fertility treatments that handle both a woman's egg and a man's sperm. It works by removing eggs from a woman's body. The eggs are then mixed with sperm to make embryos. The embryos are then put back in the woman's body. In vitro fertilization (IVF) is the most common and effective type of ART.

The most common complication of ART is a multiple pregnancy. It can be prevented or minimized by limiting the number of embryos that are put into the woman's body.



- i) Which method can be used for women that cannot produce ovum but can provide suitable environment ?
   (a) IUD
   (b) GIFT
   (c) IUI
   (d) ICSI
- ii) The technique called Gamete Intra Fallopian Transfer (GIFT) is recommended for those females
  - (a) who cannot produce an ovum
  - (b) who cannot retain the foetus inside uterus
  - (c) who cannot provide suitable environment for fertilisation
  - (d) all of these
- iii) Which of these can be used to cure infertility in couples where male partner has very low sperm count?(a) IUD(b) GIFT(c) IUI(d) None of these
- iv) How do 'implants' act as an effective method of contraception in human females?
- v) Mention its one advantage over contraceptive pills.
- 7. Study the diagram of human reproductive system given below. Answer the questions based on the diagram.





(i)What does the diagram depict?

(ii) At what stage zygote can be introduced in the fallopian tube in Zygote Intra Fallopian Transfer (ZIFT)?

Answer: (i)\_

#### **CHAPTER 4: PRINCIPLLES OF INHERITANCE AND VARIATION**

#### Mcqs

ZZ/ZW type of sex determination is seen in
 (a) platypus
 (b) snails
 (c) cockroach

(d) peacock

- 2. In the F2 generation of a Mendeliandihybrid cross the number of phenotypes and genotypes are
  - (a) phenotypes -4; genotypes -16
  - (b) phenotypes -9; genotypes -4
  - (c) phenotypes -4; genotypes -8
  - (d) phenotypes -4; genotypes -9.
- 3. Haplodiploidy is found in
  - (a) grasshoppers and cockroaches
  - (b) birds and reptiles
  - (c) butterflies and moths
  - (d) honeybees, ants and waspe.
- 4. In a dihybrid cross, if you get 9:3:3:1 ratio it denotes that:
  - (a) The alleles of two genes are interacting with each other.
  - (b) It is a multigenic inheritance.
  - (c) It is a case of multiple allelism.
  - (d) The alleles of two genes are segregating independently.

#### **ASSERTION AND REASON QUESTIONS**

- 5. In each of the following questions a statement of Assertion (A) is given followed by a corresponding statement of Reason (R) just below it. Of the statements, mark the correct answer as:
  - (1) If both Assertion and Resaon are true and reason is the correct explanation of the assertion
  - (2) If both Assertion and Reason are true but reason is not the correct explanation of the assertion
  - (3) If assertion is true but Reason is false
  - (4) If both Assertion and Reason are false.

**Assertion:**Phenylketonuria is a recessive hereditary disease caused by body's failure to oxidise an amino acid phenylanine to tyrosine, because of a defective enzyme.

**Reason:** It results the presence of phenylalanine acid in urine.

- (1) (2) (3) (4)
- 6. Match the items in Column I with those in Column II.

Column I

Column II 1. Polygenic inheritance.

A. ABO blood group in humans.

- B. Flower colour in snapdragon.
- C. Human skin colour.
- D. Phenylketonuria.

- 2. Mendelian genetic disorder.
- 3. Sex-linked Mendelian disorder
- 4. Incomplete dominance
- 5. Multiple allelism.

7.A cross between a normal couple resulted in a son who was haemophilic and a normal daughter. In course of time, when the daughter was married to a normal man, to their surprise, the grandson was also haemophilic.

(i) Represent this cross in the form of a pedigree chart. Give the genotypes of the daughter and her husband.

(ii) Write the conclusion you draw from the inheritance pattern of this disease