



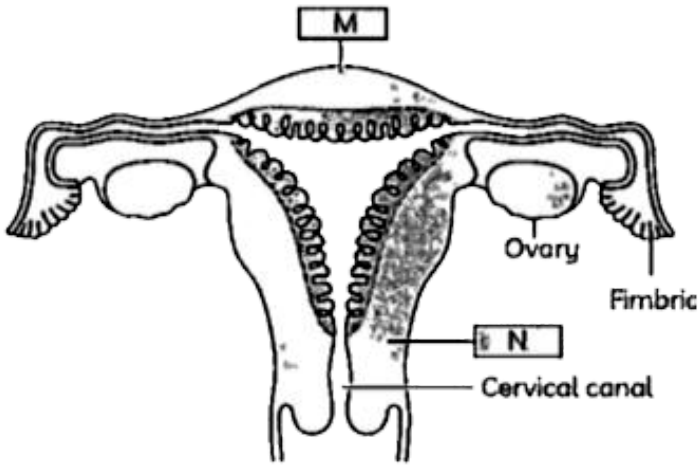
# **BIOLOGY**

## **BOOKS - EDUCART PUBLICATION**

### **SAMPLE PAPER (SELF-ASSESSMENT )-9**

**Multiple Choice Questions**

1. Identify X and Y in the given figure.



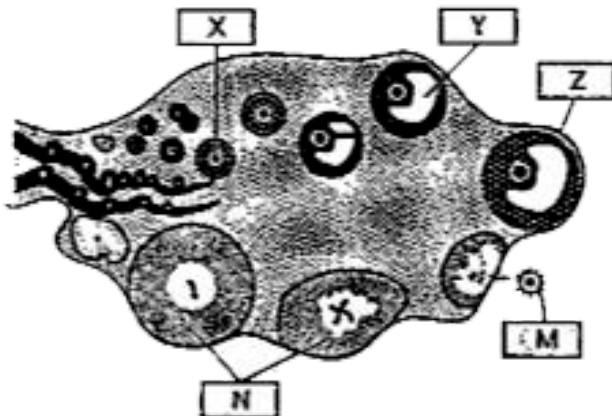
- A. M = Uterine Fundus, N = Cervix
- B. M = Uterine Cavity, N = Fallopian Tube
- C. M = Uterine Cavity, N = Vagina
- D. M = Vagina, N = Fallopian Tube

**Answer:**



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2. Which among these denotes the corpus luteum?



A. X

B. Y

C. N

D. Z

**Answer:**



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**3. Find out the correctly matched option:**

|     | X                      | Y                        |
|-----|------------------------|--------------------------|
| (A) | Phenylketonuria        | Trisomy of 21.           |
| (B) | Turner's syndrome      | Trisomy of 17            |
| (C) | Down's syndrome        | Karyotype of 45 with X0. |
| (D) | Klinefelter's syndrome | Karyotype of 47, XXY.    |

A. A

B. B

C. C

D. D

**Answer:**



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**4.** Grasses, coconut, sugarcane, bamboo, are the examples of.

A. Water pollinated

B. Wind pollinated

C. Insect pollinated

D. Both (a) and (c)

**Answer:**



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5. X = ..... of gynoecium chiefly compatible nature of pollen grains.

A. X = Stigma

B. X = Ovary

C. X = Style

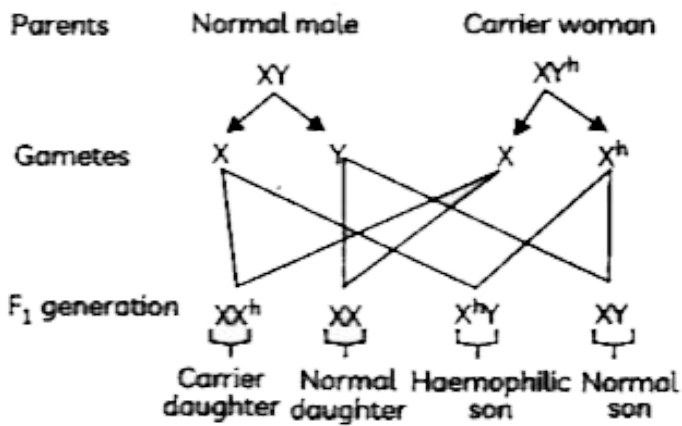
D. Both (b) and (c)

**Answer:**



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**6.** Which of the following statements are true related to the given figure?



(I) When a daughter has one haemophilic gene, she is a carrier.

(II) When the son has one haemophilic gene, he is diseased.

(III) When the son has one haemophilic gene, he is not diseased.

(IV) When a daughter has one haemophilic gene, she is not a carrier.



A. (I)

B. (III), (IV)

C. (II), (III), (IV)

D. (I), (II)

**Answer:**



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7. Which type of sex determination mechanism is followed in *Drosophila melanogaster*?

A. Female XX and Male XO

B. Female ZW and Male ZZ

C. Female XX and Male XY

D. No Mechanism occur in birds

**Answer:**



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**8. Identify the correct statement:**

A. Female of many birds has a pair of dissimilar ZW chromosomes, while the males possess a pair of similar ZZ chromosomes.

B. Female of many birds has a pair of similar ZZ chromosomes, while the males possess a pair of dissimilar ZW chromosomes.

C. Female of many birds has a pair of dissimilar ZO chromosomes, while the

males possess a pair of similar ZZ chromosomes.

D. Female of human beings has a pair of dissimilar XY chromosomes, while the males possess a pair of similar XX chromosomes.

**Answer:**



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9. Which of the following is an autosomal disease?

A. Klinefelter' syndrome

B. Thalassemia

C. Haemophilia

D. Turner's syndia

**Answer:**



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**10.** The implantation process involves the following steps :

(I) The morula continues to divide and transforms into blastocyst as it moves further into the uterus.

(II) The uterine cells divide rapidly and the blastocyst gets covered by them.

(III) Morula is formed.

(IV) As the zygote moves through the isthmus of the oviduct towards the uterus, it undergoes mitotic division and forms 2, 4, 8, 16 daughter cells called blastomeres.

Choose the correct sequence:

A. (I), (II), (IV), (III)

B. (III), (IV), (II), (I)

C. (I), (II), (III), (IV)

D. (IV), (III), (I), (II)

**Answer:**



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**11.** Which among these did not contribute to the double-helical model of DNA:

A. Schleiden

B. Watson

C. Wilkins

D. All of them

**Answer:**



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**12.** Which of the following are the reasons for variations:



A. Mutations

B. Reshuffling of gene or chromosomes

C. Recombination of genes or crossing over

D. All of them

**Answer:**



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**13.** The process of primary transcript processing in transcription doesn't involve:

A. Splicing

B. Capping

C. Deadenylation

D. Tailing

**Answer:**



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**14.** DNA contains ..... while protein contains .....

A. Phosphorous, Sulphur

B. Phosphorous, Sulphur

C. Sulphur, Selenium

D. Sulphur, Phosphorous

**Answer:**



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**15. Assertion (A):** Human genome project was called a mega project.

**Reason (R):** Human genome has approximately

$3 \times 10^9$  bp, and if the cost of sequencing required is US \$ 3 per bp, the total estimated cost of the project would be approximately 9 billion US dollars.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

**Answer:**



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**16.** Assertion (A): During elongation of a polypeptide chain, the amino acid-tRNA complexes, sequentially bind to the A-site of the ribosome.

Reason (R): This binding prepared the complex for termination of translation.

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not the correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

**Answer:**



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**17. Assertion (A):** In 1951, reproductive health programmes under the name of 'family planning' were started.

**Reason (R):** The programmes solely focussed on getting a statutory ban on amniocentesis for sex determination in order to stop female foeticides.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but R is false

D. A is false but R is true

**Answer:**



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**18.** Assertion (A): STD's are becoming more rampant in the younger age

Reason (R): groups. Due to lack of sex



education in our schools and colleges, the task of educating the youth about the sex related issues have been an uphill task.

A. Both A and R are true and R is the correct explanation of A

B. Both A and R are true but R is not the correct explanation of A

C. A is true but R is false

D. A is false but R is true

**Answer:**





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**19.** Which among these are steps taken by the government to check population growth rate:

(I) Motivating smaller families through advertisements in the media as well as through posters or bills, etc. to promote the use of various birth control methods (contraceptive methods).

(II) Giving incentives to couples with smaller families.

(III) The marriageable age of the female has

been increased to 18 years and that of males to 21 years.

(IV) Provision of jobs for families having just one child.

A. (I), (II), (III), (IV)

B. (I), (II), (III)

C. (II), (III), (IV)

D. (II), (IV)

**Answer:**



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**20.** Meiotic division during oogenesis is termed as an unequal division because:

- A. Genetic constitution of the cells formed.
- B. Polar bodies formed in the meiotic divisions of oocytes are quite small as compared to the other cell ovum.
- C. Variable amount of energy required for forming different polar bodies.
- D. Both (a) and (c)

**Answer:**



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**21.** Which among there is not a component of a nucleotide?

A. Nitrogenous base

B. Amine group

C. Pentose sugar

D. Phosphate group

**Answer:**



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**22.** Primase is the enzyme responsible for initiation of DNA synthesis. Which of the following is the appropriate reason for it?

A. DNA polymerase III is incapable of initiating DNA synthesis.

B. Primase is the only true replicase in the process of DNA replication.

C. Primase can replicated and unwind the DNA helix easily.

D. Data insufficient.

**Answer:**



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**23.** tRNA, SsrRNA, snRNAs are transcribed by:

A. RNA Polymerase III

B. RNA Polymerase II

C. RNA Polymerase I

D. DNA Polymerase III

**Answer:**



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**24.** Whose model of DNA was provided a viable confirmation by Messelson and Stahl:

A. Watson, Crick and Franklin

B. Linus Pauling



C. Johann Friedrich Miescher

D. None of these

**Answer:**



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25. X = ..... refers to the first menstruation while Y = ..... refers to the last.

A. X = Menarche, Y = Menopause

B. X = Menopause, Y = Menarche

C. X = Menise , Y = Menarche

D. X = Menopause , Y = Menus

**Answer:**



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**26.** Pleiotropy is the effect of X = gene(s) on Y = ..... phenotypic expression(s).

A. X = Single, Y = Multiple

B. X = Multiple, Y = Single

C. X = Four, Y = One

D. X = One, Y = Four

**Answer:**



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27. Which among these are coded by only one codon ?

A. tyrosine

B. tryptophan

C. alanine

D. valine

**Answer:**



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**28.** Which among these are roles played by ribosomes:

A. Sites of protein synthesis

B. Sites for the attachment of charged tRNA for polypeptide synthesis.

C. Provides the surface for the binding of mRNA

D. All of these

**Answer:**



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29. Capping II involves the addition of ..... .  
to the 5'-end of hnRNA.

- A. Ribonuclease guanosine triphosphate
- B. DNA guanosine triphosphate
- C. Methyl guanosine triphosphate
- D. Acetyl guanosine triphosphate

**Answer:**



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30. The only spot in a seed where the integuments are absent around ovule is:

A. Chalaza

B. Hilum

C. Micropyle

D. Funicle

**Answer:**



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**31.** Which among these characteristics is not required for a substance to behave as a genetic material:

A. Which among these characteristics is not required for a substance to behave as a genetic material:

B. It should be chemically and structurally stable.

C. It must provide the scope for variations by mutations that are required for



evolution.

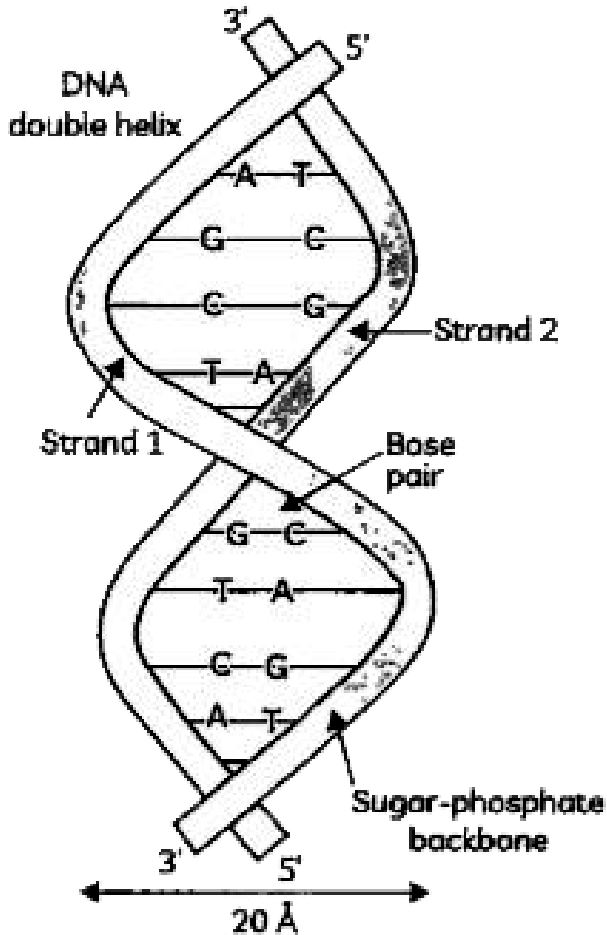
D. it should be able to express itself in the form of 'Darwinian Characters'.

**Answer:**



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**32.** The given structure was proposed with the help of X-ray diffraction data produced by:



A. Erwin Chargaff

B. Maurice Wilkins and Rosalind Franklin.

C. Mischer and Harvey

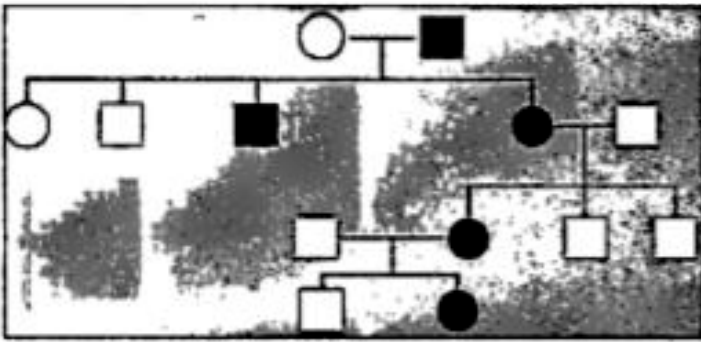
D. Frederick Griffith

**Answer:**



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**33.** A case displaying a pedigree across a family:



The trait included in the chart is:

- A. Sex-linked
- B. Autosomal
- C. Sex-linked recessive
- D. Cannot say

**Answer:**

**34.** The cause of chromosomal disorders is absence or excess of abnormal arrangement of one or more chromosomes.

Analysis of karyotypes is used to study the chromosomal disorders. Karyotype is defined as the profile of an individual's chromosomes that are arranged according to their shape, size and number.

Case - Sarika encountered a teenager with short stature and a small round head,

furrowed tongue and partially open mouth  
The palm of the person is broad with  
characteristic palm crease. She has a doubt  
that the individual might be suffering from a  
Chromosomal disorder.

On the basis of your reading, answer the  
following questions:

Name the syndrome from which the given  
individual might be suffering. Describe it along  
with its symptoms.

A. Klinefelter's

B. Down's

C. Tumer's

D. Asperger's

**Answer:**



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**35.** In sickle cell anaemia glutamic acid is replaced by valine. Which one of the following are triplets codes for valine?

A. G G G

B. A A G

C. G A A

D. G U G

**Answer:**



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**36.** Removal of anthers from the flower bud before the anther dehisces in case of unisexual plants is called:



A. Penetration

B. Emasculation

C. Natural hybridisation

D. Artificial hybridisation

**Answer:**



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**37.** Under which of these conditions there is no need for emasculation?

A. Female parent produces unisexual flowers

B. Female parent produces bisexual flowers

C. Male parent produces unisexual flowers

D. Both (a) and (c)

**Answer:**



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38. Pollen tube enters the ovule through

..... .

- A. Cotyledons
- B. Ovarian locules
- C. Hilum
- D. Micropyle

**Answer:**



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**39.** Emasculated flowers are bagged in order to:

A. Prevent contamination of its stigma with any pollen

B. Prevent contamination of its anther with unwanted pollen

C. Prevent contamination of its stigma with unwanted pollen

D. Present contamination of its Stigma wiith unwanted pollen

**Answer:**



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**40. Artificial hybridisation involves:**

- A. Emasculation
- B. Bagging
- C. Pollen dusting
- D. All of them

**Answer:**



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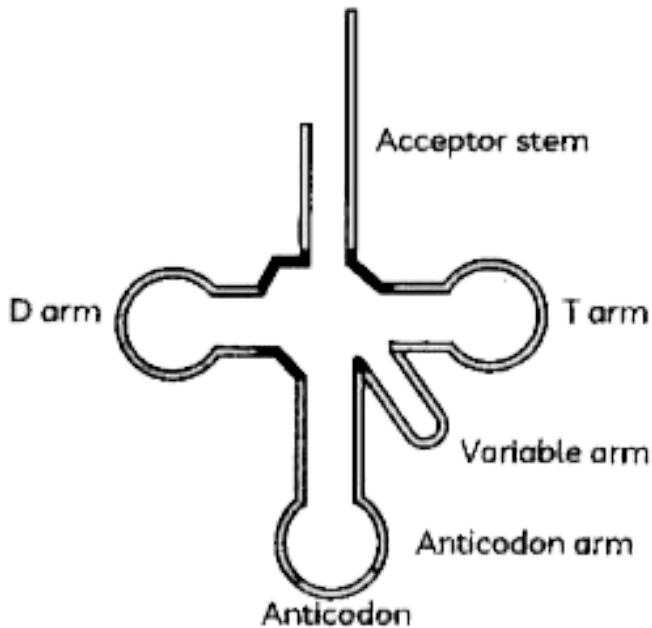
41. Bagging is mostly done using-

- A. Butter paper
- B. Black plastic sheet
- C. Porous paper
- D. All of these

**Answer:**



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42.

The given structure was called by another name before the postulation of the genetic code. It was known as:

A. rRNA (ribosomal RNA)

B. Sedimentary RNA

C. mRNA (messenger RNA)

D. sRNA (soluble RNA)

**Answer:**

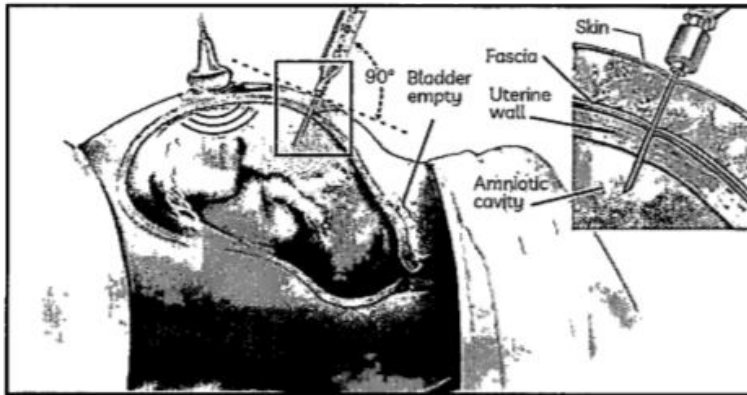


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**43.** The given procedure is illegal used in many parts of the world to determine the gender of



the baby. Name it.



A. Amniocentesis

B. Sonogram

C. Genetic mapping

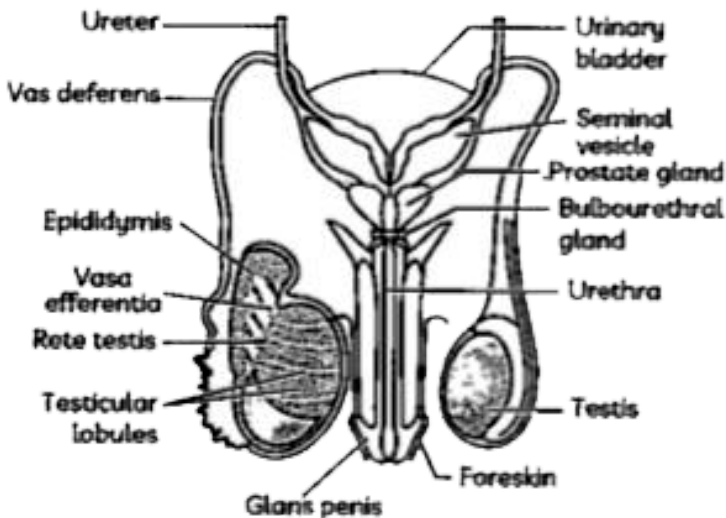
D. Tubectomy.

**Answer:**



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44. Name the procedure that can be adopted in an individual having the following set of reproductive organs in order to perform permanent sterilisation?



A. X = Tubectomy

B. X =Vasectomy

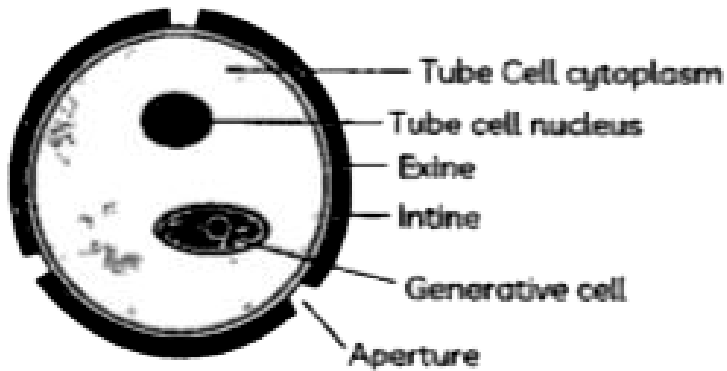
C. X = Lobotomy

D. None of these

**Answer:**



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45.

Observe the given figure. Intine is made up of.

A. Chitin

B. Sporopollenin and Cellulose

C. Phosphogyceraldehydes

D. Cellulose and Pectin.

**Answer:**



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