



# BIOLOGY

## BOOKS - JMD BIOLOGY (PUNJABI ENGLISH)

### PRACTICE SAMPLE PAPER (SOLVED)

#### Exercise

1. in young anther, four rows of cell destined to form pollen are collectively called

A. Antheridium

B. Archosporium

C. Tapetum

D. Zoosporangium

**Answer: B**



**Watch Video Solution**

**2. Corpus luteum is found in**

A. ovary

B. oviduct

C. uterus

D. vagina

**Answer: A**



**Watch Video Solution**

**3. this is a method of birth control**

A. ZIFT

B. GIFT

C. IUDs

D. IVF-ET

**Answer: C**



**Watch Video Solution**

4. Red ( dominant) flowered heterozygous  
crossed with white flower:

A. 350 – *red*: 350~*white*

B. 450 – *red*: 250~*white*

C. 380 – *red*: 250~*white*

D. None of the above

**Answer: A**



**Watch Video Solution**

5. A tall plant was grown in nutrient deficient soil and remaining dwarf. when it is crossed with the dwarf plant then:

A. all hybrid plants are dwarf

B. All hybrid plants are tall

C. 50 % tall and 50 % of dwarf

D. 75 % tall and 25 % dwarf

**Answer:**



**Watch Video Solution**

**6.** a pure tall and a pure dwarf plant were crossed to produce offspring. Offspring were selfcrossed with dwarf plant then:

A. 1:1

B. 3:1

C. 2:1

D. 1:2:1

**Answer: B**



**Watch Video Solution**

7. a double helix model of Watson and Crick is known as:

A. C DNA

B. Z DNA

C. D DNA

D. B DNA

**Answer: A**



**Watch Video Solution**

**8.** Viral genome incorporated and integrated with bacterial is referred to as:



A. prophage

B. RNA

C. DNA

D. Both (B) and (C)

**Answer: B**



**Watch Video Solution**

9. DNA fragments are joined in a correct sequence by

A. DNA polymerase I

B. DNA ligase

C. RNA polymerase

D. Helicase

**Answer: A**



**Watch Video Solution**

**10.** which one of the following is correctly matched?

A. Frederick Griffith- Discovered the phenomenon of transformation

B. Linus Pauling- Isolated DNA for the first time

C. Francis Crick- Proposed one gene one polypeptide hypothesis

D. George Beadle- proposed concept of inborn errors

**Answer: B**



**Watch Video Solution**

11. Common intestinal bacterium of human is

- A. Escherichia coil
- B. Salmonella typhi
- C. Entamoeba coil
- D. Clostridium tetani

**Answer: A**



**Watch Video Solution**

12. Which of the following is a set of bacterial diseases?

A. Cholera, typhoid and mumps

B. Malaria, mumps and polyomyelitis

C. Tetanus TB and Measles

D. Diphtheria, leprosy and plague

**Answer: A**



**Watch Video Solution**

**13.** Interferons are synthesised in response to:

A. Fungi

B. Viruses

C. Bacteria

D. Mycoplasma

**Answer: D**



**Watch Video Solution**

**14.** AZT is used to treat which of the following disease?

A. Malaria

B. AIDS

C. TB

D. Kala azar

**Answer: B**



**Watch Video Solution**

15. propionibacterium sharmani is used in production of

- A. Skimmed milk
- B. Swiss cheese
- C. Cyclosporin A
- D. Statin

**Answer:**



**Watch Video Solution**



**16. Fill in the blank**

Microbes have a size of less than ..... mm.



**Watch Video Solution**

**17. Fill in the blank**

Curd is prepared with the help of microbe .....  
acidophilus



**Watch Video Solution**

**18. Fill in the blank**

Indirect gene transfer is carried out with the help of a .....



**Watch Video Solution**

**19. Fill in the blank**

..... is part of  $T_1$  plasmid from which tumour forming genes have been deleted.



**Watch Video Solution**

## 20. Fill in the blank

An official license for use of biological material is .....



[Watch Video Solution](#)

## 21. Fill in the blank

Theft, robbery and unauthorised exploitation of bioresources of country is .....



[Watch Video Solution](#)

## 22. True or False

Commercial preparation of *Bacillus thuringiensis* consists of cry gene and an inert carrier.



[Watch Video Solution](#)

## 23. True or False

Ecophene has a specific gene combination



[Watch Video Solution](#)

## 24. True or False

plants moderate the temperature.



[Watch Video Solution](#)

## 25. True or False

An ideal soil has 50 % micropores and 30 % macropores



[Watch Video Solution](#)

**26. True or False**

each biosphere reserve has a core zone where limited human activities are allowed.



**Watch Video Solution**

**27. True or False**

India is a secondary center of domestication of Potato.



**Watch Video Solution**

**28.** Can an unfertilised apomictic embryo sac give rise to a deplod embryo? If yes then how?



**Watch Video Solution**

**29.** During reproduction, the chromosome number ( $2n$ ) reduces of half ( $n$ ) in the gametes and again the original number ( $2n$ ) is restored in the offspring. What are the processes through which these events take place?



**Watch Video Solution**

**30.** Reproductive health refers only to healthy reproductive functions. Comment.



**Watch Video Solution**

**31.** Comment on the RCH programme of the government to improve the reproductive health of the people.



**Watch Video Solution**



**32.** Enlist the steps of controlled cross pollination. Would emasculation be needed in a cucurbit plant? Give reason for your answer.



**Watch Video Solution**

**33.** What is the function of histones in DNA packing?



**Watch Video Solution**

**34.** Distinguish between heterochromatin and euchromatin. which of the two is transcriptionally active?



**Watch Video Solution**

**35.** " Prevention is better than Cure" Comment.



**Watch Video Solution**

**36.** How do mycorrhizal fungi help the plants harbouring them?



**Watch Video Solution**

**37.** Restriction enzymes should not have more than one site of action in the cloning site of a vector. comment.



**Watch Video Solution**

**38.** with respect to understanding disease discuss the importance of transgenic animal models.



**Watch Video Solution**

**39.** define commensalism and give an example.



**Watch Video Solution**

**40.** Define Parasitism and give one example.



Watch Video Solution

41. What could have triggered mass extinctions of species in the past



Watch Video Solution

42. Two heterozygous parents are crossed. If two loci are linked what would be the distribution of phenotypic feature in  $F_1$  generation for a dihybrid cross?





[Watch Video Solution](#)

**43.** Explain Hershey and Chase experiment to prove that DNA is the hereditary material in certain bacteriophage.



[Watch Video Solution](#)

**44.** In which way has the study of biology helped us to control infectious diseases?



[Watch Video Solution](#)

**45.** In which food would you find lactic acid bacteria? Mention some of their useful applications.



**Watch Video Solution**

**46.** Describe briefly "Origin of replication".



**Watch Video Solution**

**47.** What are transgenic bacteria? Illustrate using any one example.

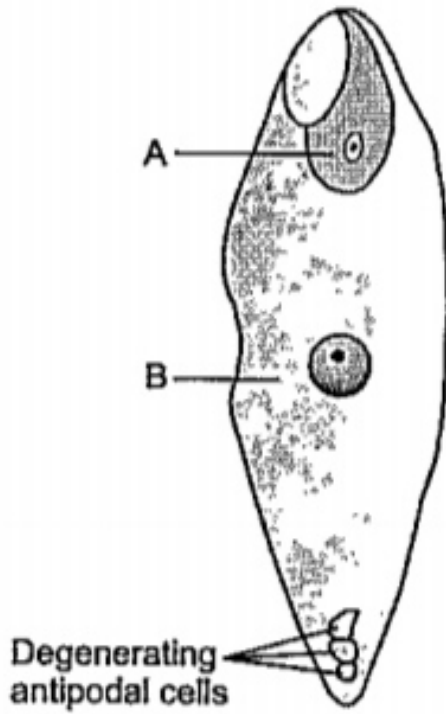


**Watch Video Solution**

**48.** Name the structure the parts 'A' and 'B' shown in the diagram respectively develop



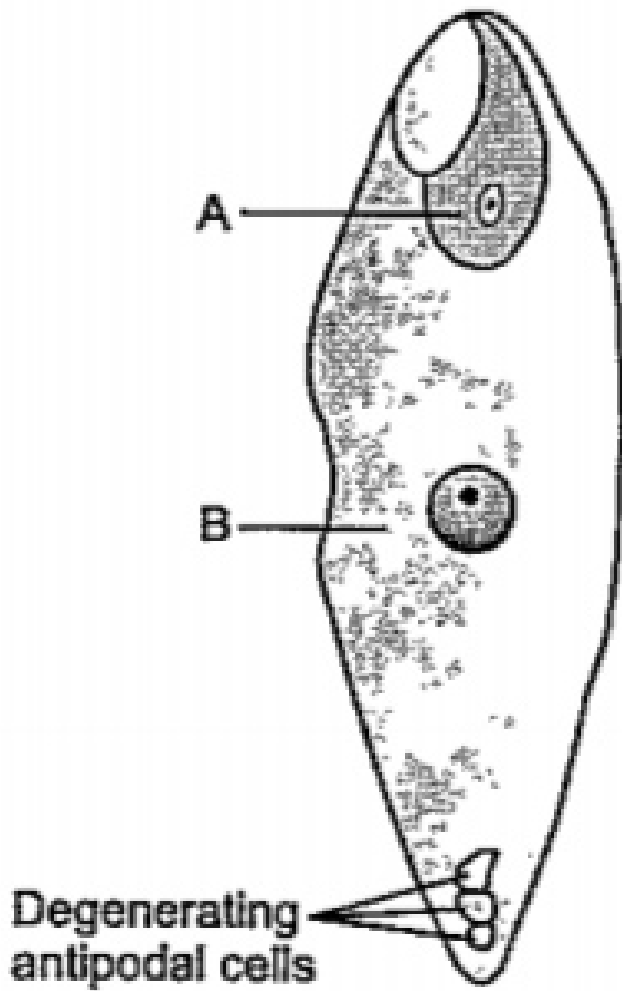
into.



[Watch Video Solution](#)

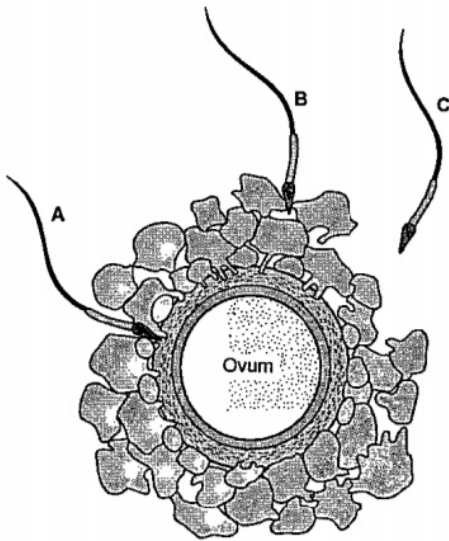
**49.** Explain the process of development which 'B' undergoes in albuminous and exalbuminous seeds. Give one example of each

of these seeds.



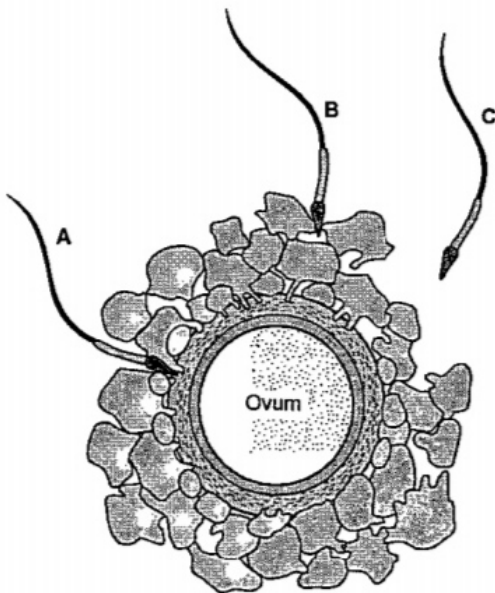
Watch Video Solution

50. Given below is the diagram of a human ovum surrounded by a few sperms. Observe the diagram and answer the following questions. Compare the fate of sperms shown in the diagram.



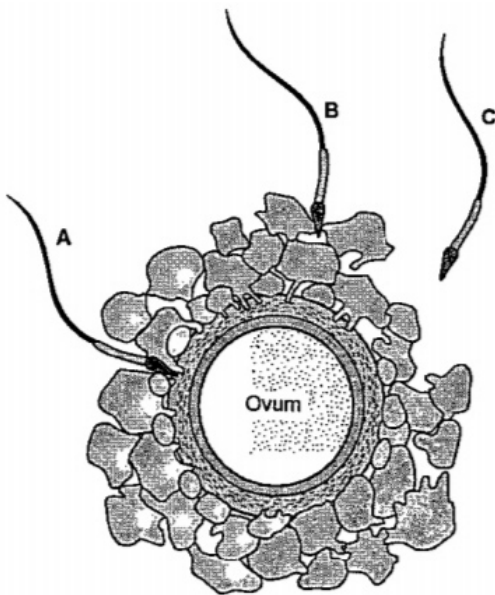
[Watch Video Solution](#)

51. Given below is the diagram of a human ovum surrounded by a few sperms. Observe the diagram and answer the following questions. What is the role of zona pellucida in this process?



[Watch Video Solution](#)

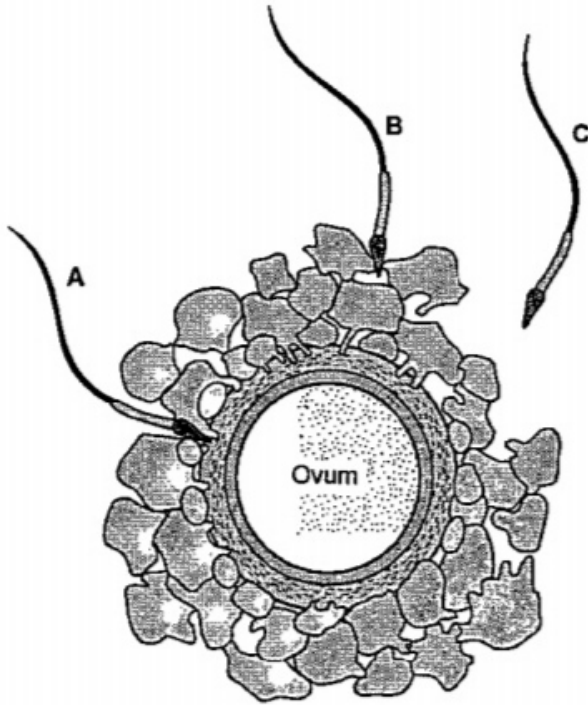
52. Given below is the diagram of a human ovum surrounded by a few sperms. Observe the diagram and answer the following questions. Analyze the changes occurring in the ovum during the process.



Watch Video Solution

**53.** Given below is the diagram of a human ovum surrounded by a few sperms. Observe the diagram and answer the following questions. Mention what helps in the entry of

sperm into the ovum.

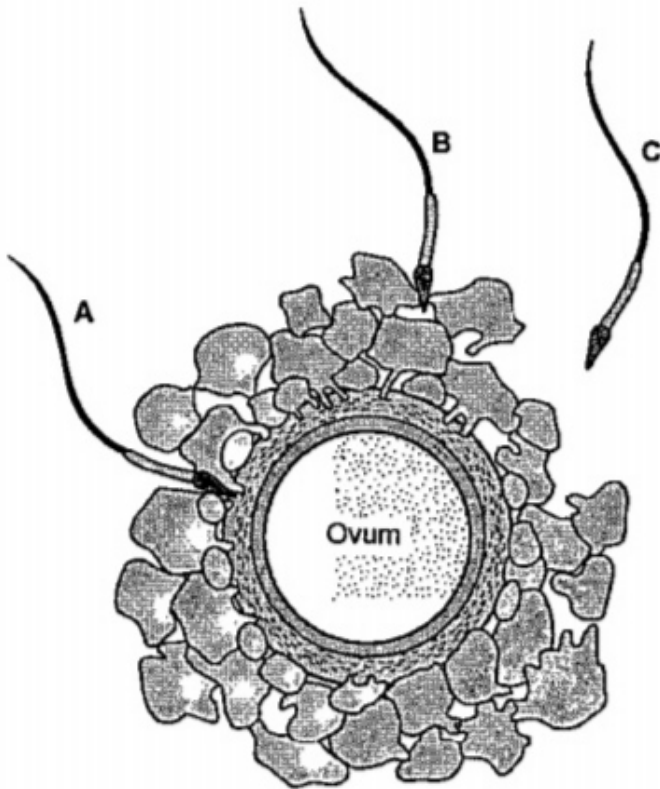


[Watch Video Solution](#)

**54.** Given below is the diagram of a human ovum surrounded by a few sperms. Observe

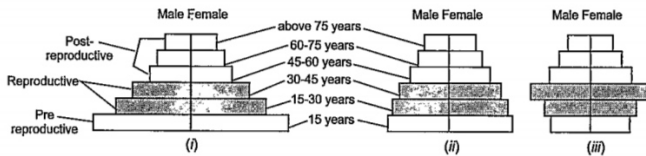


the diagram and answer the following questions. Specify the region of female reproductive system where the event was represented in the diagram takes place.



[Watch Video Solution](#)

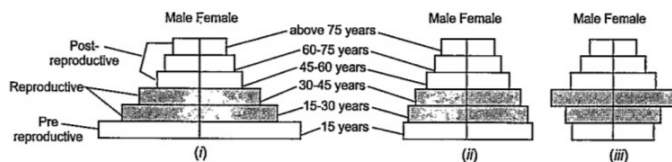
55. Study the three representative figures of age pyramid relating two human population given below and answer the following questions. Mention the names given to the 3 kinds of age profiles (i),(ii) and (iii).



[Watch Video Solution](#)

56. Study the three representative figures of age pyramid relating two human population

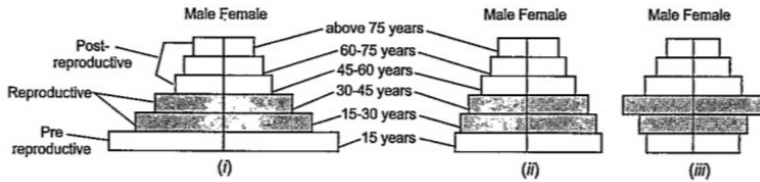
given below and answer the following questions. Which one of them is ideal for population and why?



[Watch Video Solution](#)

**57.** Study the three representative figures of age pyramid relating two human population given below and answer the following questions. How do search age profile studies

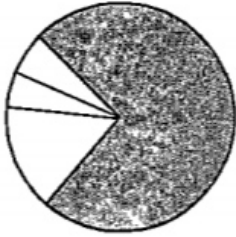
help policy makers get concerned about our population and prepare for future planning?



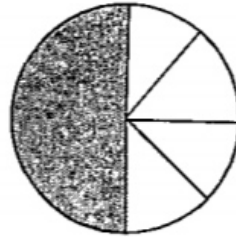
[Watch Video Solution](#)

**58.** In the pie charts (A) and (B) drawn below to show the global animal diversity, which groups of animals would you name and write on the the areas shaded black in (A) and (B). In which kind of habitat would you find this groups of

animals?



(A) INVERTEBRATES



(B) VERTEBRATES



[Watch Video Solution](#)

**59.** wheat root cells have 42 chromosomes. the number of chromosomes in a cell of pollen grain is

A. 14

B. 21

C. 28

D. 42

**Answer: B**



**Watch Video Solution**

**60.** testosterone is secreted by:

A. mast cell

B. sertoli cells

C. Kupffer cells

D. Leydig's cells

**Answer: B**



**Watch Video Solution**

**61.** when natality is balanced by mortality,  
there will be

A. decrease in population growth

B. zero population growth

C. increase in population growth

D. overpopulation

**Answer: B**



**Watch Video Solution**

**62.** cross between unrelated group of organisms is called:

A. hybrid

B. test cross



C. back cross

D. heterosis

**Answer: A**



**Watch Video Solution**

**63.** cytoplasmic inheritance is due to

(1) mitochondria and chloroplast, (2) cilia and flagella, (3) cytoplasmic particles, (4) cells wall and cell coat.

A. 1, 2 and 3 are correct

B. 1 and 2 are correct

C. 2 and 4 are correct

D. 1 and 3 are correct

**Answer: D**



**Watch Video Solution**

**64.** mating of an organism 2833 cc in order to determine whether it is homozygous or

heterozygous for a character under consideration is called:

A. reciprocal cross

B. test cross

C. dihybrid cross

D. back cross

**Answer: B**



**Watch Video Solution**

65. a nucleosome is a portion of the chromonema or chromatene containing:

- A. only histones
- B. both DNA and histones
- C. only DNA
- D. both DNA and RNA

**Answer: B**



**Watch Video Solution**

66. DNA is generally methylated at

A. *A* – residue

B. *G* – residue

C. *T* – residue

D. *C* – residue

**Answer: C**



**Watch Video Solution**

67. degeneration of DNA after heating can be studied by comparing:

A.  $A:T$  ratio

B.  $G:C$  ratio

C. *sugar : Phospê* ratio

D. number of nucleotides

**Answer: A**



**Watch Video Solution**

**68.** DNA in eukaryotes is a double helix and:

- A. complementary and parallel
- B. complementary and antiparallel
- C. without supercoils
- D. always circular

**Answer: B**



**Watch Video Solution**

69. vaccination against smallpox was developed by:

- A. Robert Koch
- B. Louis Pasteur
- C. Edward Jenner
- D. Alexander Fleming

**Answer: C**



**Watch Video Solution**



70. T-lymphocytes originate from :

A. Liver

B. Thymus

C. Bone marrow

D. Both (b) and (c)

**Answer: D**



**Watch Video Solution**

71. immunoglobulin present in Sebum is :

A. IgG

B. IgM

C. IgA

D. IgE

**Answer: C**



**Watch Video Solution**

**72. the other name for autoimmune thyroiditis**

**is :**

- A. Addison's disease
- B. Cushing's disease
- C. Simmond's disease
- D. Hashimoto's disease

**Answer: D**



**Watch Video Solution**

**73. Acetobacter suboxidans produce**

- A. vitamin C

B. vitamin  $B_{12}$

C. vitamin  $B_2$

D. vitamin D

**Answer: A**



**Watch Video Solution**

**74.** Uprooting of weeds is a method of controlling them by ..... means.

A. biological

B. mechanical

C. cultural

D. chemical

**Answer: B**



**Watch Video Solution**

**75. Fill in the blanks**

fruit or fruit flavour is added to milk preparation called .....



**Watch Video Solution**

**76. Fill in the blanks**

cheese prepared directly from milk is .....  
cheese.



**Watch Video Solution**

**77. Fill in the blanks**

stimulation for wound healing is carried out  
by platelet derived ..... factor.



**Watch Video Solution**

**78. Fill in the blanks**

the selectable marker in PBR 322 is .....  
resistance gene.



**Watch Video Solution**

**79. Fill in the blanks**

A ..... is a compound produced by a living  
organism.



**Watch Video Solution**

### 80. Fill in the blanks

..... is a set of standards that may be used to regulate our activities in relation to biological world.



[Watch Video Solution](#)

### 81. True or false

dish washing powder contains an enzyme amylase.



[Watch Video Solution](#)



**82.** True or false

trees grow above the timberline.



**Watch Video Solution**

**83.** True or false

stratification occurs in forest.



**Watch Video Solution**

**84.** True or false

mimicry was first studied by Bates in 1862.



**Watch Video Solution**

**85.** True or false

in cryopreservation the temperature is kept at  
 $-106^{\circ}C$ .



**Watch Video Solution**

**86.** True or false

25 % of drugs in pharmacy are obtained from 120 plant species.



**Watch Video Solution**

**87.** What is self-incompatibility ?



**Watch Video Solution**

**88.** What is the key difference between Primary and Secondary sewage treatment?



**Watch Video Solution**

**89.** the present population growth rate in India is alarming. suggest ways to check it.



**Watch Video Solution**

**90.** STDs be considered as self-invited diseases.

comment.



**Watch Video Solution**

**91.** A person has to perform crosses for the purpose of studying inheritance of a few traits/characters. What would be the criteria for selecting the organisms?



**Watch Video Solution**

**92.** The enzyme DNA polymerase in E.coli is a DNA dependent polymerase and also has the ability to proof read the DNA strand being synthesised.Explain.

Discuss the dual polymerase.



**Watch Video Solution**

**93.** What is DNA polymorphism?

Why is it important to study it?



**Watch Video Solution**

**94.** Explain any three preventive measures to control microbial infection.



**Watch Video Solution**

**95.** Why are cyanobacteria considered useful in paddy fields?



**Watch Video Solution**

**96.** What does 'competent' refer to in component cells in transformation experiments?



**Watch Video Solution**

**97.** Name the first transgenic cow. Which gene was introduced in this cow?



**Watch Video Solution**



**98.** Define Camouflage and give one example.



**Watch Video Solution**

**99.** Define Mutualism with one example.



**Watch Video Solution**

**100.** What accounts for greater ecological diversity of India?



**Watch Video Solution**

**101.** Briefly mention the contribution of T.H. Morgan in genetics.



**Watch Video Solution**

**102.** Differentiate between repetitive DNA and satellite DNA.



**Watch Video Solution**

**103.** How does transmission of each of following diseases take place?

a) Amoebiasis.

b) Malaria

c) Ascariasis

d) Pneumonia.



**Watch Video Solution**

**104.** Microbes can be used to decrease the use of chemical fertilisers and pesticides. Explain

how this can be accomplished.



[Watch Video Solution](#)

**105.** Describe briefly Bioreactors.



[Watch Video Solution](#)

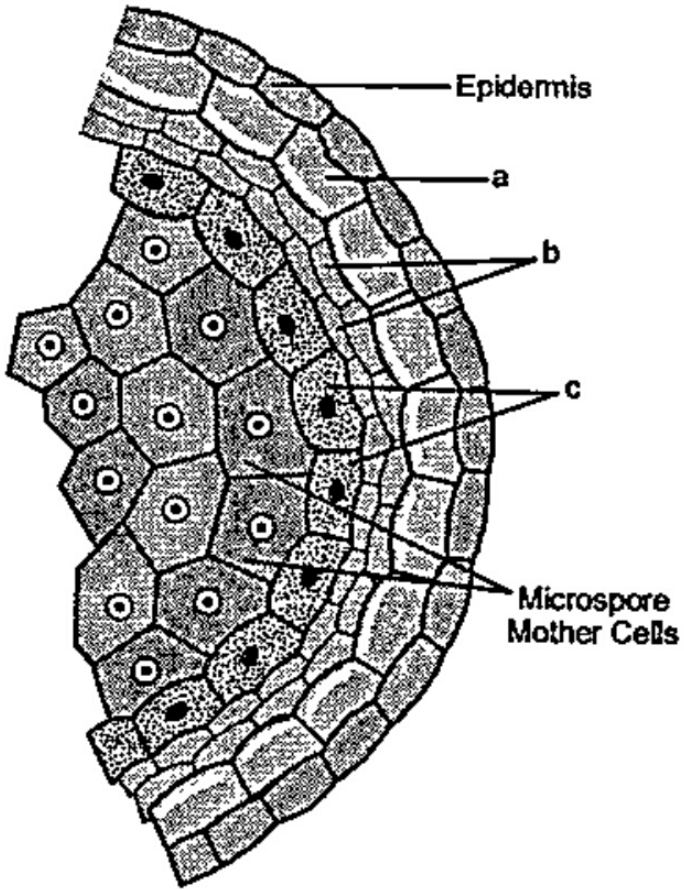
**106.** What are Cry proteins? Name an organism that produces them. How has man exploited the proteins to his benefit?



[Watch Video Solution](#)

**107.** Given below is an enlarged view of one microsporangium of a mature anther.

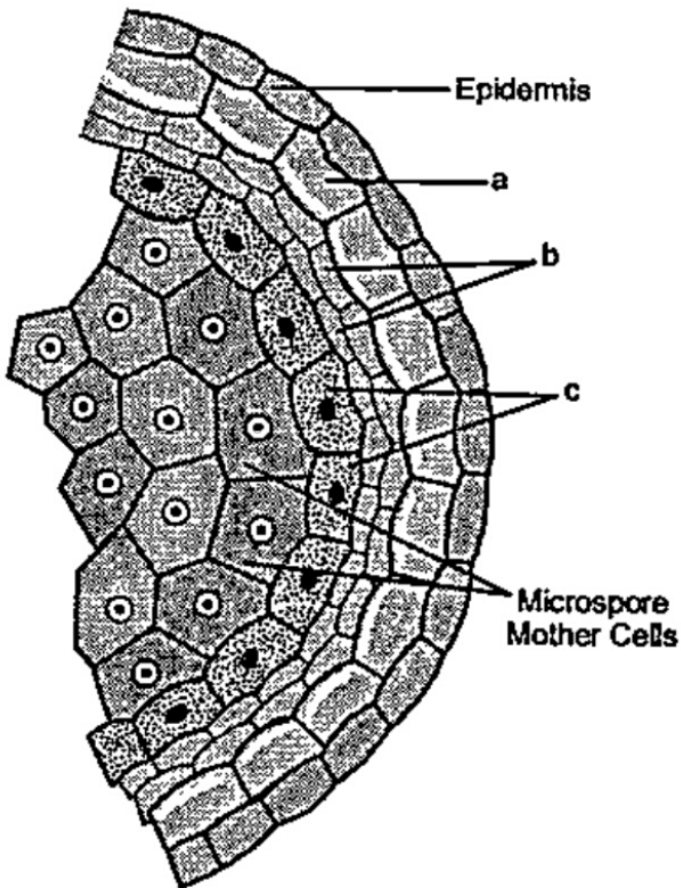
Name *a*, *b* and *c* wall layers.



[Watch Video Solution](#)

**108.** Given below is an enlarged view of one microsporangium of a mature anther.

Mention the characteristics and functions of the cells forming wall layer *c*.

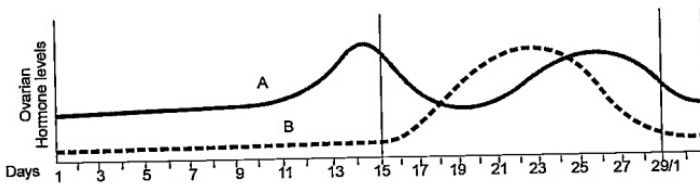




Watch Video Solution

**109.** The graph given below shows the variations in the levels of ovarian hormones during various phases of menstrual cycle:

Identify *A* and *B*.

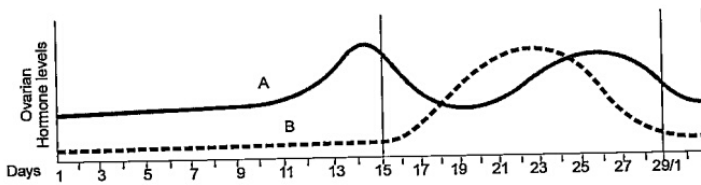


Watch Video Solution



**110.** The graph given below shows the variations in the levels of ovarian hormones during various phases of menstrual cycle:

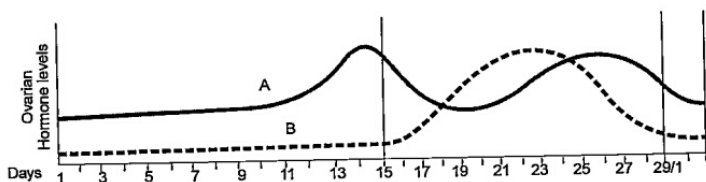
Specify the source of the hormone marked in the diagram.



**Watch Video Solution**

**111.** The graph given below shows the variations in the levels of ovarian hormones during various phases of menstrual cycle:

Reason out why *A* peaks before *B*.

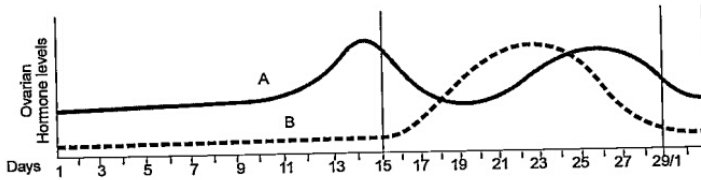


[Watch Video Solution](#)

**112.** The graph given below shows the variations in the levels of ovarian hormones

during various phases of menstrual cycle:

Compare the role of *A* and *B*.

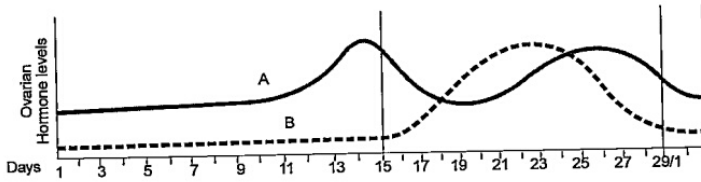


[Watch Video Solution](#)

**113.** The graph given below shows the variations in the levels of ovarian hormones during various phases of menstrual cycle:

Under which condition will the level of *B*

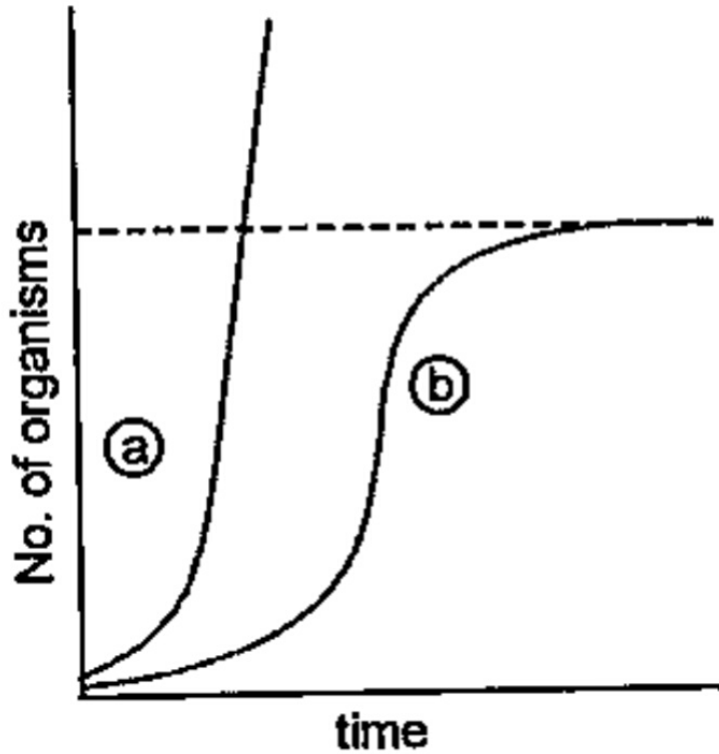
continue to remain high on the 28<sup>th</sup> day?



[Watch Video Solution](#)

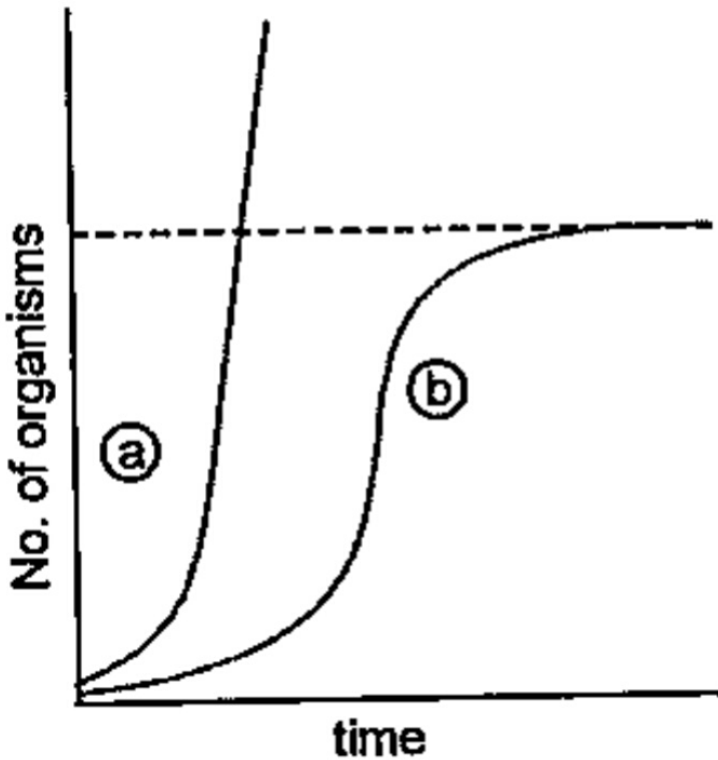
**114.** In the adjacent population growth curve:  
What is the status of food and space in curves

$a$  and  $b$ .



Watch Video Solution

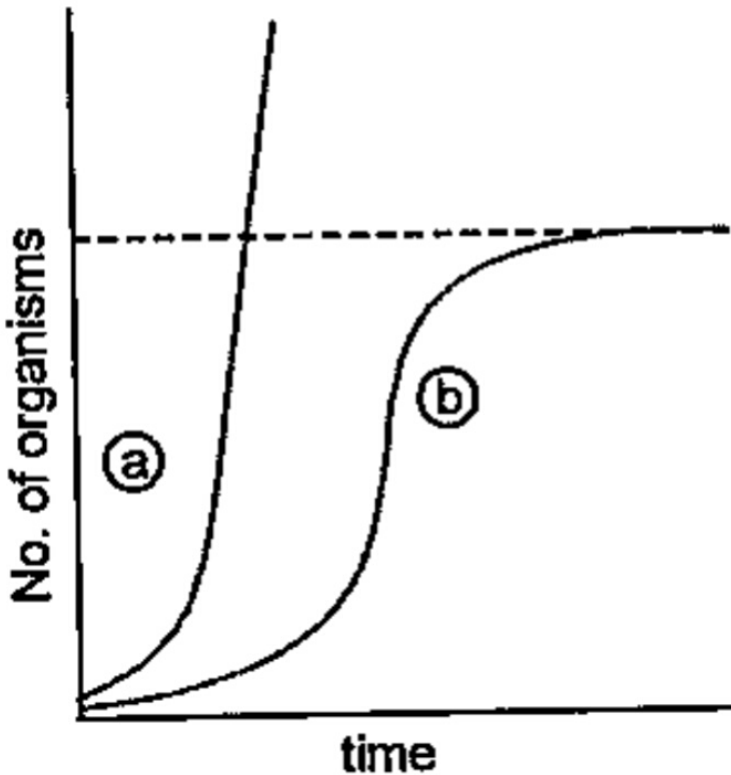
115. In the adjacent population growth curve:  
In the absence of predators which curve *a* or *b*  
would appropriately depict the prey  
population?



Watch Video Solution

116. In the adjacent population growth curve:

Give the significance of dotted line

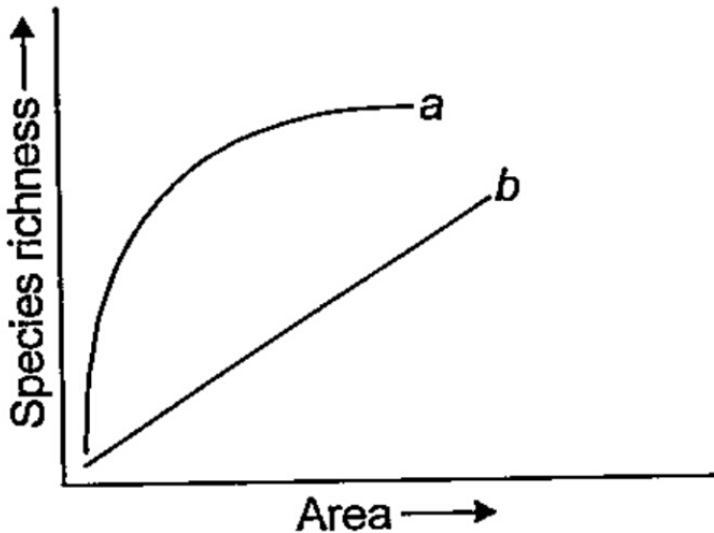


Watch Video Solution

117. The graph shows species area relationship.

If  $b$  denotes the relationship on log scale.

Describe  $a$  and  $b$ .



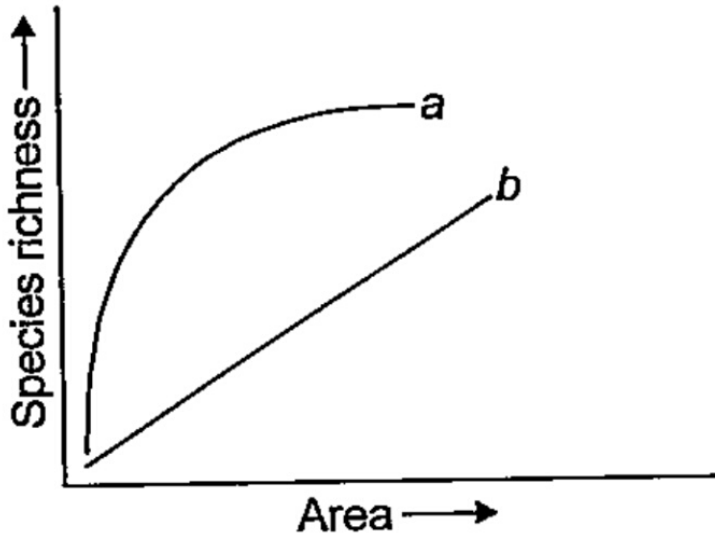
Watch Video Solution



**118.** The graph shows species area relationship.

If  $b$  denotes the relationship on log scale.

How is slope represented? Give the normal range of slope.

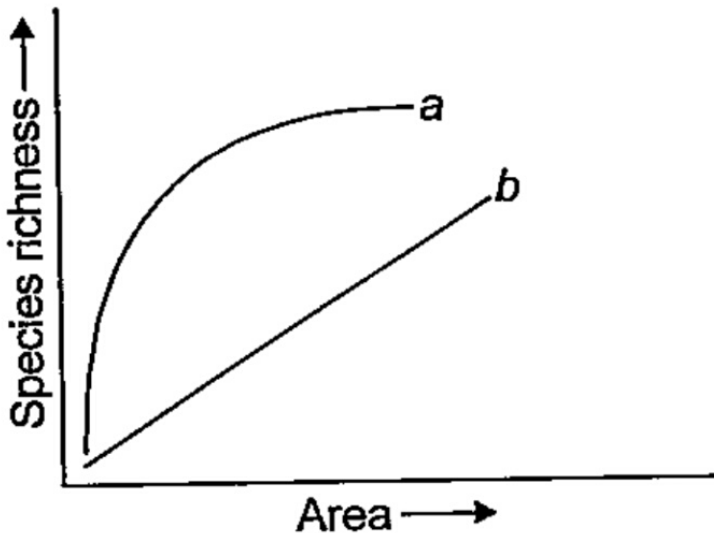


[Watch Video Solution](#)

119. The graph shows species area relationship.

If  $b$  denotes the relationship on log scale.

What kind of slope will be observed for frugivorous birds and mammals in a tropical forest?



Watch Video Solution

**120.** Species diversity of plants (22 %) is much less than that of animals (72 %). Analyse the reason for greater diversity of animals as compared to plants.



**Watch Video Solution**

**121.** A component of female reproductive system in angiosperms is

A. Stamen

B. Anther

C. Microspore

D. Embryo sac

**Answer: D**



**Watch Video Solution**

**122.** How many ova and sperms would be produced from 100 secondary oocytes and 100 secondary spermatocytes during gametogenesis in humans ?

A. 100 ova, 100sperms

B. 100 ova , 200 sperms

C. 50 ova, 100 sperms

D. 200 ova, 200 sperms

**Answer: B**



**Watch Video Solution**

**123.** First human population explosion took place due to :

A. Agriculture

B. Industrialization

C. Technology

D. Change in culture

**Answer: A**



**Watch Video Solution**

**124.** The phenotypic ratio in the  $F_2$  generation of a dihybrid cross is :

A. 9: 3: 3: 1

B. 1: 2: 2: 4: 1: 2: 1: 2: 1

C. 7: 1: 1: 7

D. 1: 2: 3: 4

**Answer: A**



**Watch Video Solution**

**125.** A woman is married for the second time. Her first husband was ABO blood type A, and her child by that marriage was type O. Her new

husband is type B and their child is type AB.

What is the woman's ABO genotype and blood type ?

A.  $I^A I^O$  , Blood type A

B.  $I^A I^B$  , Blood type AB

C.  $I^B I^O$  , Blood type B

D.  $I^O I^O$  , Blood type O

**Answer: A**



**Watch Video Solution**



**126.** Codominance is depicted by

- A. B blood group
- B. AB blood group
- C. O blood group
- D. A blood group

**Answer: B**



**Watch Video Solution**

**127.** DNA multiplication is called :

A. Translation

B. Replication

C. Transduction

D. Transcription

**Answer: B**



**Watch Video Solution**

**128.** DNA length per turn of helix is :

A. 3.8 A

B. 3.4 A

C. 6.8 A

D. 34 A

**Answer: D**



**Watch Video Solution**

**129.** The following ratio is generally constant for a given species :

A.  $A + \frac{G}{C} + T$

B.  $T + \frac{C}{G} + A$

C.  $G + \frac{C}{A} + T$

D.  $A + \frac{C}{T} + G$

**Answer: C**



**Watch Video Solution**

**130.** RNA and DNA are similar in :

A. Having similar sugars

B. Having similar pyrimidine base

C. Being capable to replicate

D. Being polymers of nucleotide

**Answer: D**



**Watch Video Solution**

**131.** Formation of antibodies within our body is called :

A. Active immunity

B. Passive immunity

C. Innate immunity

D. Acquired immunity

**Answer: A**



**Watch Video Solution**

**132.** Which one of the following diseases is due to an allergic reaction ?

A. Goitre

B. skin cancer

C. Hay fever

D. Enteric fever

**Answer: C**



**Watch Video Solution**

**133.** Which of the following displays immune tolerance ?

A. B-cells

B. T- cells

C. Both of these

D. RBC

**Answer: C**



**Watch Video Solution**

**134.** Lysis of foreign cells is mediated through

A. IgM only

B. IgA only

C. IgM and IgG



D. IgD and IgE

**Answer: C**



**Watch Video Solution**

**135.** Acetic acid is produced by

A. *Aspergillus niger*

B. *Lactobacillus bulgaricus*

C. *Candida lipolytic*

D. none of these

**Answer: D**



**Watch Video Solution**

**136.** If BOD of sample water is a very high, the sample is

A. highly polluted

B. less polluted

C. not polluted

D. potable

**Answer: A**



**Watch Video Solution**

**137. Fill in the blanks**

The nutrient material for wine and brandy is a  
..... juice.



**Watch Video Solution**

**138. Fill in the blanks**

An antifungal bacterial antibiotic is .....



[Watch Video Solution](#)

**139.** Fill in the blanks

PCR was discovered by .....(1985)



[Watch Video Solution](#)

**140.** Fill in the blanks

Asexual reproduction \_\_\_\_\_ the genetic information.



[Watch Video Solution](#)

**141. Fill in the blanks**

Recovery of product,its refining and processing is called ..... processing.



**Watch Video Solution**

**142. Fill in the blanks**

The green revolution succeeded in ..... the food supply.



**Watch Video Solution**

**143.** True or false

Primary treatment of sewage is a biological process



**Watch Video Solution**

**144.** True or false

Plover and Crocodile show protocooperation



**Watch Video Solution**

**145.** True or false

Competition is most acute between individuals of the same species



**Watch Video Solution**

**146.** True or false

Rufus Woodpecker lives in the nest of red ants



**Watch Video Solution**

### 147. True or false

Lower diversity leads to uniformity in the species



[Watch Video Solution](#)

### 148. True and False Type Questions

Sarguja, Chanda and Bastar are sacred grooves of Meghalaya.



[Watch Video Solution](#)



**149.** Which is the triploid tissue in a fertilised ovule ? How is the triploid condition achieved ?



**Watch Video Solution**

**150.** What is the significance of ampullary in the female reproductive tract ?



**Watch Video Solution**

**151.** Suggest the reproduction related aspects in which counselling should be provided at the school level.



**Watch Video Solution**

**152.** Mention the primary aim of 'Assisted Reproductive Technology' (ART) programme.



**Watch Video Solution**

**153.** In our society a woman is often blamed for not bearing male child. Do you think it is right ? Justify.



**Watch Video Solution**

**154.** Based on your understanding of genetic code, explain the formation of any abnormal haemoglobin molecule. What are the known consequences of such a change ?



**Watch Video Solution**

**155.** Sometimes cattle or even human beings give birth to their young ones that are having extremely different sets of organs like limbs/position of eye(s), etc. Comment.



**Watch Video Solution**

**156.** Do you consider passive smoking is more dangerous than active smoking ? Why ?



**Watch Video Solution**

**157.** How was penicillin discovered?



**Watch Video Solution**

**158.** What is the significance of adding proteases at the time of isolation of genetic material (DNA) ?



**Watch Video Solution**

**159.** PCR is useful tool for early diagnosis of an infectious disease. Comment.



**Watch Video Solution**

**160.** Define interspecific competition and give one example.



**Watch Video Solution**

**161.** Define population and community.



[Watch Video Solution](#)

**162.** According to David Tilman, greater the diversity, greater is the primary productivity. Can you think of a very low diversity man-made ecosystem that has high productivity ?



[Watch Video Solution](#)

**163.** A child has blood group O. If the father has blood group A and mother has blood

group B, work out the genotypes of parent and the possible genotypes of other offspring.



[Watch Video Solution](#)

**164.** Give two differences between mRNA and tRNA.



[Watch Video Solution](#)

**165.** Explain what is meant by metastasis.



[Watch Video Solution](#)



**166.** How do fertilizers enrich the fertility of the soil ?



**Watch Video Solution**

**167.** Describe briefly Downstream processing.



**Watch Video Solution**

**168.** A person is born with a hereditary disease.

Suggest the possible corrective method for it.

Illustrate by giving a specific example.



**Watch Video Solution**

**169.** Morula is a development stage

A. a. between zygote and blastocyst

B. b. between the blastocyst and gastrula

C. c. after the implantation

D. d. between implantation and parturition

**Answer:**



**Watch Video Solution**

**170.** Spermiation is the process of the release of sperms from

A. a. seminiferous tubules

B. b. vas deferens

C. c. epididymis

D. d. prostate gland

**Answer:**



**Watch Video Solution**

**171.** Which of the following hormones prepares the uterus for implantation ?

A. a. progesterone

B. b. FSH

C. c. Estrogen

D. d. LH

**Answer:**



**Watch Video Solution**

**172.** The process of delivery of the of the foetus, is called



**Watch Video Solution**

**173.** The finger-like projections, called fimbriae, help in the collection of ovum into the fallopian tube following ovulation. This statement is true or false



**Watch Video Solution**

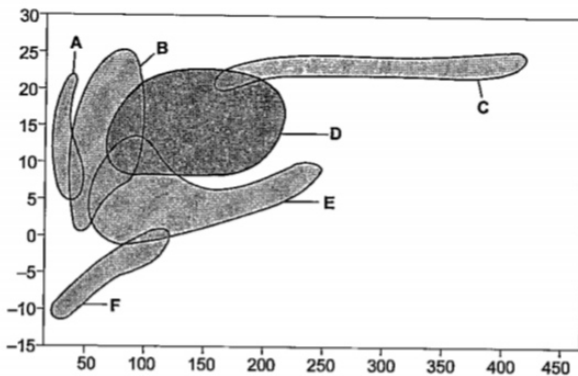
**174.** Endometrium undergoes cyclical changes and help in uterine movements. This statement is true or false



**Watch Video Solution**

175. The graph given below shows the distribution of biomes:

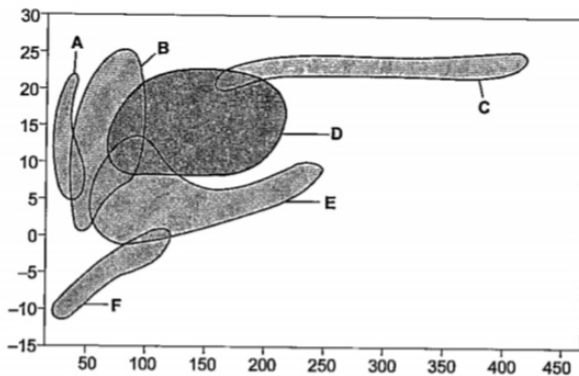
(a) What do the 'X' and 'Y' axis represent?



Watch Video Solution

176. The graph given below shows the distribution of biomes:

(b) Mark 'grassland' and coniferous forest' biomes.

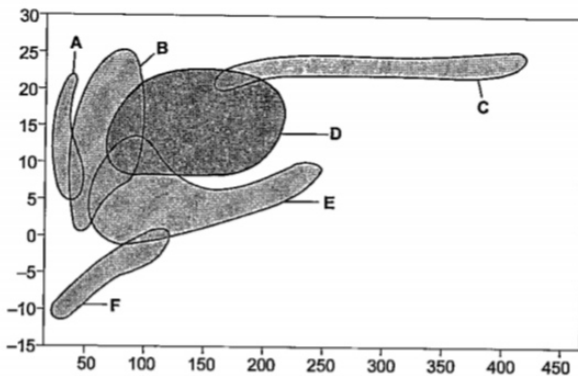


[Watch Video Solution](#)



177. The graph given below shows the distribution of biomes:

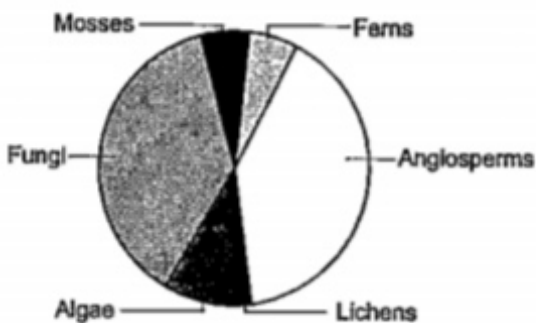
(c) Why is 'F' located at the given position in the graph?



[Watch Video Solution](#)

178. Observe the global biodiversity distribution of major plant taxa in the below diagram and answer the questions that follow:

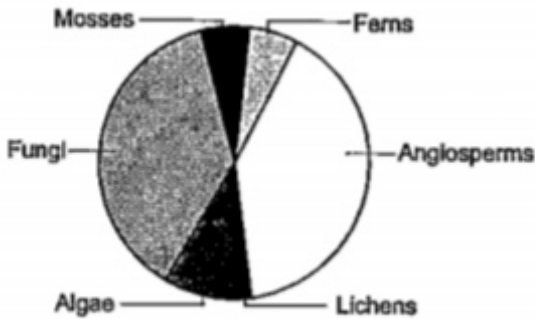
(a) Which group of plants are most endangered?



[Watch Video Solution](#)

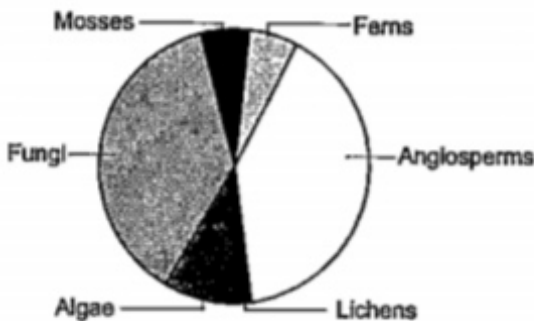
179. Observe the global biodiversity distribution of major plant taxa in the below diagram and answer the questions that follow:

(b) Why are mosses/ferns so few? Give reason.



[Watch Video Solution](#)

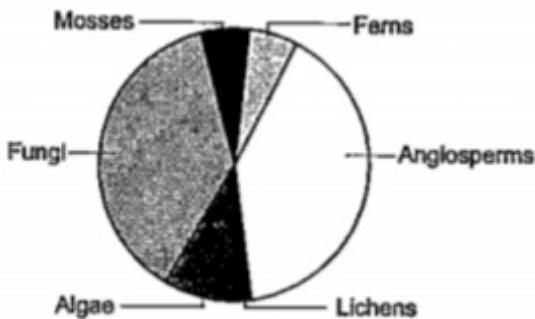
**180.** Observe the global biodiversity distribution of major plant taxa in the below diagram and answer the questions that follow:  
(c) How do fungi that are heterotrophs sustain themselves as a large population?



**Watch Video Solution**

**181.** Observe the global biodiversity distribution of major plant taxa in the below diagram and answer the questions that follow:

(d) Which group of plants is most advanced, and which one is most primitive?



**Watch Video Solution**

**182.** Embryo sac is also named as

A. Microgametophyte

B. Microsporangium

C. Megagametophyte

D. Megasporangium

**Answer: C**



**Watch Video Solution**

**183.** In most mammals, testes are located in scrotal sacs for:

- A. Sex differentiation
- B. Sperm development in cooler condition
- C. Independent functioning of kidneys
- D. More space to visceral organs

**Answer: B**



**Watch Video Solution**

**184.** In a population, unrestricted reproductive capacity is called as:

- A. Biotic potential
- B. Ferility
- C. Carrying capacity
- D. Birth rate

**Answer: A**



**Watch Video Solution**



**185.** The ABO blood grouping in human beings is an example for: (i) Dominance (ii) Incomplete dominance (iii) Co-dominance (iv) Multiple alleles

- A. (i) and (ii) only
- B. (ii), (iii) and (iv)
- C. (i), (iii) and (iv)
- D. (ii) and (iv) only

**Answer: D**



**Watch Video Solution**

**186.** Which of the following genotypes does not produce a sugar polymer on the surface of the RBC?

A.  $I^A I^A$

B.  $I i^B$

C.  $I^A I^B$

D.  $ii$

**Answer: D**





Watch Video Solution

**187.** Inheritance of flower colour is an example of incomplete dominance which is seen in:

A. Antirrhinum

B. Pisum

C. Solanum

D. Hibiscus

**Answer: A**



Watch Video Solution

**188.** Which one of the following makes use of RNA as a template to synthesize DNA?

- A. Reverse transcriptase
- B. DNA dependent RNA polymerase
- C. DNA polymerase
- D. RNA polymerase

**Answer: A**



**Watch Video Solution**

**189.** Who first suggested the conservative model of DNA replication?

A. Cairns

B. Messelson and Stahl

C. Watson and Crick

D. Taylor

**Answer: C**



**Watch Video Solution**

**190.** Genetic material of retrovirus is:

A. DNA

B. RNA

C. Both (A) and (B)

D. None of these

**Answer: B**



**Watch Video Solution**

**191.** E. coli about to replicate was placed in a medium containing radioactive thymidine for five minutes. Then it was made to replicate in a normal medium. Which of the following observations will be correct?

- A. Both the strands of DNA will be radioactive
- B. One strand radioactive
- C. Each strand half radioactive
- D. None is radioactive.

**Answer: B**



**Watch Video Solution**

**192.** The interval between infection and appearance of disease symptoms is called:

- A. Inoculation
- B. Penetration
- C. Infection period
- D. Incubation period



**Answer: D**



**Watch Video Solution**

**193.** Which of the following is a communicable disease?

A. Malaria

B. Diabetes

C. Hypertension

D. Kwashiorkor

**Answer: A**



**Watch Video Solution**

**194.** The blood cells involved in the production of humoral immunity are

- A. Eosinophils
- B. Monocytes
- C. B-lymphocytes
- D. T-lymphocytes

**Answer: C**



**Watch Video Solution**

**195.** What is true about T-lymphocytes in mammals?

A. Produced in thyroid

B. Originate in lymphoid organs

C. Scavenge cellular debris and damaged cells

D. Are of three types- cytotoxic T-cells, helper T-cells and suppresser T-cells.

**Answer: D**



**Watch Video Solution**

**196.** Which enzyme is added in detergent for removing oily stains from laundry?

A. Lipase

B. Pectinase

C. Proteinase

D. Zymase

**Answer: A**



**View Text Solution**

**197.** Compositated manure consists of

A. Cattle dung and crop residue

B. Cattle dung and animal waste

C. Residue of gobar gas plant

D. Rotten vegetables, crop residue and  
animal refuse

**Answer: D**



**Watch Video Solution**

**198.** Fill in the blanks

Many members of the genus \_\_\_\_\_ form  
mycorrhiza.



**Watch Video Solution**

**199.** Fill in the blanks

\_\_\_\_\_ and \_\_\_\_\_ are free living nitrogen fixing bacteria.



**Watch Video Solution**

**200.** Fill in the blanks

The cutting of DNA at \_\_\_\_\_ location by RE.



**Watch Video Solution**

**201.** Fill in the blanks

identification of DNA with desirable gene is

\_\_\_\_\_.



**Watch Video Solution**

**202.** Fill in the blanks

Bt toxin is coded by a gene named \_\_.



**Watch Video Solution**



**203.** Fill in the blanks

RNAi takes place in all\_\_ organisms.



**Watch Video Solution**

**204.** True or False:

Idli is a preparation of Wheat and Bengal gram.



**Watch Video Solution**

**205.** true or false

Fig is always pollinated by Yucca.



**Watch Video Solution**

**206.** True and False Type Questions

India has 25 hotspots.



**Watch Video Solution**

## 207. True and False Type Questions

Coextinction is very common in parasitism and mutualism.



[Watch Video Solution](#)

208. Are pollination and fertilisation necessary in apomixis? Give reasons.



[Watch Video Solution](#)

**209.** How does zona pelucida of ovum help in preventing polyspermy?



**Watch Video Solution**

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



**Watch Video Solution**

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



**Watch Video Solution**

**212.** Discuss the genetic basis of wrinkled phenotype of Pea seed.



**Watch Video Solution**

**213.** In a nucleus, the number of ribonucleoside triphosphate is 10 times the number of deoxyribonucleoside triphosphates but only deoxyribonucleotides are added during the DNA replication. Suggest a mechanism.



**Watch Video Solution**

**214.** Name any three viruses which have RNA as the genetic material.





[Watch Video Solution](#)

**215.** Certain pathogens are tissue /organ specific. Justify the statement with suitable examples.



[Watch Video Solution](#)

**216.** What is the chemical nature of biogas?  
Name an organism which is involved in biogas production.



[Watch Video Solution](#)

**217.** While doing a PCR,'denaturation' step is missed. What will be its effect on the process?



**Watch Video Solution**

**218.** What is GEAC? What are its objectives?



**Watch Video Solution**



**219.** Define phenotypic adaptation. Give one example.



**Watch Video Solution**

**220.** Give characteristics of biotic community.



**Watch Video Solution**

**221.** What does 'Red' indicate in the IUCN Red list(2004)?



[Watch Video Solution](#)

**222.** Which Mendel's law of inheritance is universally acceptable and without any exception? State the law.



[Watch Video Solution](#)

**223.** What is a template strand and coding strand ?



[Watch Video Solution](#)

**224.** What are the various routes by which transmission of human immunodeficiency virus take place?



**Watch Video Solution**

**225.** Microbes play a dual role when used for sewage treatment as they not only help to retrieve usable water but also generate fuel. Write in points how this happens.



**Watch Video Solution**

**226.** Describe briefly Restriction Enzymes and DNA.



**Watch Video Solution**

**227.** Biotechnology has helped farmers to get pest resistant cotton crop. Explain the technique adopted along with its mode of action.



**Watch Video Solution**

**228.** Name the cells that nourish the germ cells in the testes. Where are these cells located in the testes?



**Watch Video Solution**

**229.** Where is acrosome present in humans ?  
write its function.



**Watch Video Solution**

**230.** Why is the middle piece of human sperm considered as power house of cell ?



**Watch Video Solution**

**231.** Write the physiological reason, why a woman generally cannot conceive a child after 50 years of age.



**Watch Video Solution**

**232.** Not all copulations lead to pregnancy.

Give reason.

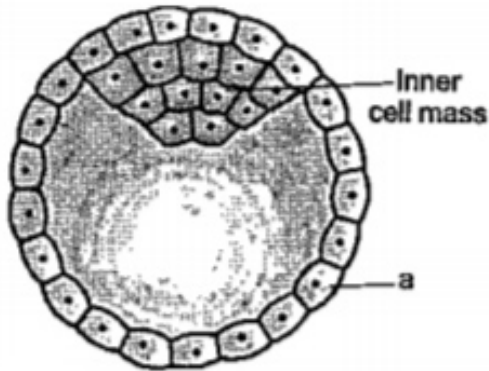


**Watch Video Solution**

**233.** Study the figure and answer the questions.

(c) Mention the fate of inner cell mass after

implantation in the uterus.



[Watch Video Solution](#)

**234.** How does the sperm penetrate through the zona pellucida in human ovum?



[Watch Video Solution](#)



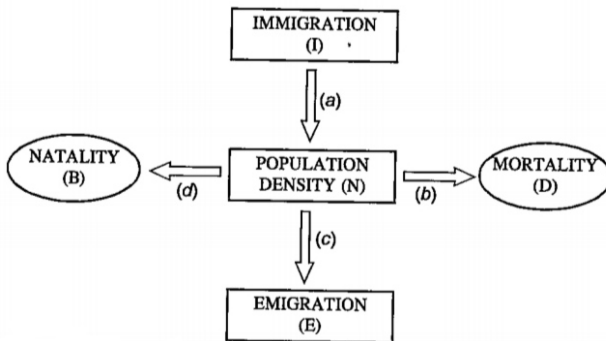
235. What is cleavage?



Watch Video Solution

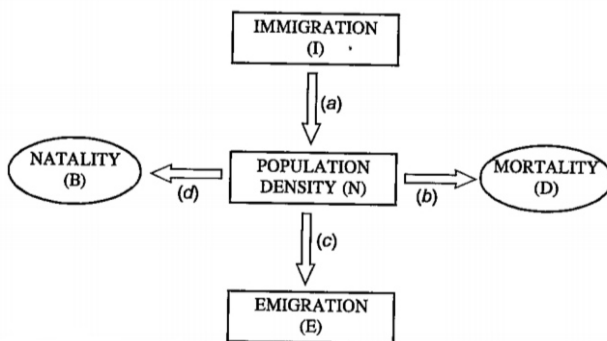
236. If  $N$  is the population density at time  $t$ , then what would be density at time  $(t + 1)$ ?

Give the formula.



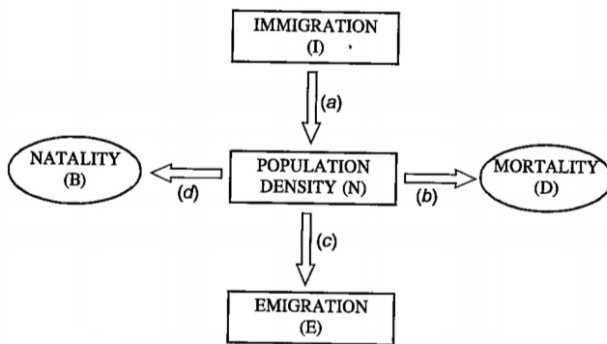
Watch Video Solution

**237.** In a barn there are 30 rats. 5 more rats enter the barn. 6 of the total rats were eaten by cats. If 8 rats are born during the time period under consideration and 7 rats left the barn, find out the resultant population at time  $(t + 1)$ .



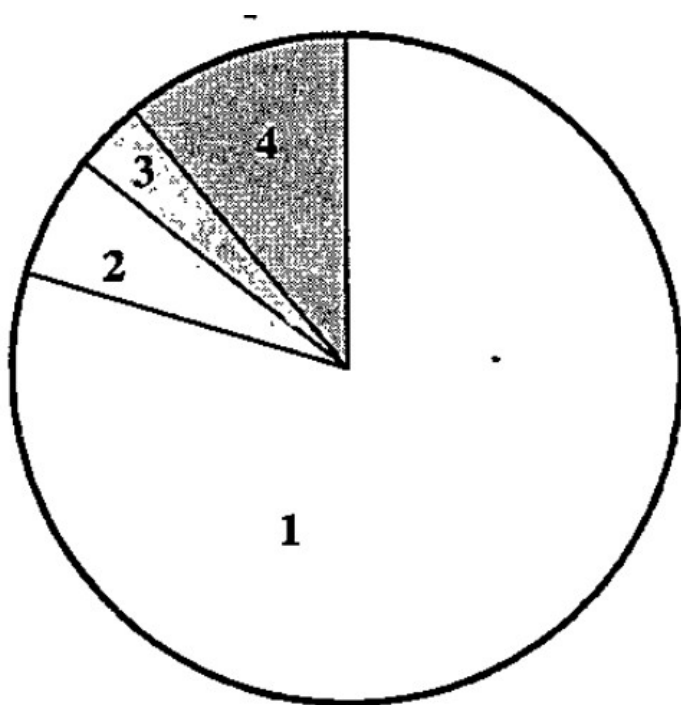
**Watch Video Solution**

**238.** If a new habitat is just being colonised, out of the four factors affecting the population growth which factor contributes most?



**Watch Video Solution**

**239.** (Consider the parts labelled 1, 2, 3 and 4 respectively representing global biodiversity of invertebrates in the following diagram and find out the correct sequence :)



**Watch Video Solution**

**240.** Tapetum occurs in

A. Anther wall

B. Ovary wall

C. male gametophyte

D. female gametophyte

**Answer: A**



**Watch Video Solution**

**241.** in which part of sperm, mitochondria are present?

A. head

B. tail

C. neck

D. middle piece

**Answer: D**



**Watch Video Solution**

242. 11th July is celebrated as

A. worlds AIDS day

B. World environment day

C. World population day

D. world science and technology day

**Answer: C**



**Watch Video Solution**

243. phenotypic ratio in plant Snapdragon in

$F_2$  is:

A. 1 : 1

B. 2 : 1

C. 3 : 1

D. 1 : 2 : 1

**Answer: D**



**Watch Video Solution**



244. testcross is used to

A. check heterozygosity in  $F_1$  generation

B. check heterozygosity in  $F_2$  generation

C. check independent assortment in  $F_2$  generation.

D. segregation segregation in  $F_2$  generation

**Answer: A**



**Watch Video Solution**

245. the ultimate biological unit which controls heredity is called

A. genome

B. chromosome

C. genotype

D. gene

**Answer: D**



**Watch Video Solution**

246. how many base pairs are present in *B – DNA*?

A. 12

B. 11

C. 10

D. 9

**Answer: C**



**Watch Video Solution**

247. isotopes used for proving for semiconservative replication of DNA are

A.  $N^{14}$  and  $P^{31}$

B.  $N^{14}$  and  $N^{15}$

C.  $N^{14}$  and  $C^{14}$

D.  $C^{14}$  and  $P^{31}$

**Answer: B**



**Watch Video Solution**

248. *Z* – *DNA* in eukaryotes is

A. right handed and has about 12 bases  
per turn

B. left handed and has about 12 bases per  
turn

C. right handed and has about 10 bases  
per turn

D. left handed and has about 10 bases per  
turn

**Answer: B**



**Watch Video Solution**

**249.** Nucleotides arrangement in DNA can be seen by:

- A. X-ray crystallography
- B. electron microscope
- C. ultracentrifuge
- D. transcriptase

**Answer: A**



**Watch Video Solution**

**250.** short lived immunity acquired from mother to foetus across placenta or through mother's milk to the infant is:

- A. active immunity
- B. passive immunity
- C. cellular immunity
- D. innate non specific immunity

**Answer: B**



**Watch Video Solution**

**251.** which of the following is a viral disease?

A. Measles

B. Hydrophobia

C. Polio

D. all of these

**Answer: D**





Watch Video Solution

252. a person is injected with globulins against hepatitis. it is:

- A. naturally acquired active immunity
- B. naturally acquired passive immunity
- C. artificial acquired active immunity
- D. artificial acquired passive immunity

**Answer: D**



253. lymphoid tissue is found in

A. thymus

B. tonsils

C. limbs nodes

D. all of these

**Answer: D**



254. pectinase is extracted from

A. *Azadirachta indica*

B. *Poa indica*

C. *Helianthus annuus*

D. *Aspergillus niger*

**Answer: D**



**Watch Video Solution**

255. Glomus species of fungi are associated with

A. nitrogen fixation

B. symbiotically associated with algae

C. symbiotically associated with roots of higher plants

D. associated with biocontrol

**Answer: C**



**Watch Video Solution**

**256.** Fill in the blanks

..... is free living fungi.



**Watch Video Solution**

**257.** Fill in the blanks

Methanobacterium is commonly called  
as \_\_\_\_\_.



**Watch Video Solution**

**258.** Fill in the blanks

..... removes nucleotides from the end of the DNA.



**Watch Video Solution**

**259.** Fill in the blanks

EcoRI cuts in between \_\_\_\_\_.



**Watch Video Solution**

**260.** Fill in the blanks

Insulin consists of \_\_ short polypeptides.



**Watch Video Solution**

**261.** Fill in the blanks

World diabetes day is celebrated on \_\_.



**Watch Video Solution**

**262. True or False**

soft cheese container water content of 50 %  
and above.



**Watch Video Solution**

**263. true or false**

Cuscutta is a free living plant in the nature.



**Watch Video Solution**



**264.** true or false

'K' stands for carrying capacity of the resource.



**Watch Video Solution**

**265.** true or false

individual has birth and death.



**Watch Video Solution**

## 266. True and False Type Questions

Habitat loss is the most important cause of biodiversity extinction.



[Watch Video Solution](#)

## 267. True and False Type Questions

Steller's sea cow became extinct from Mauritius.



[Watch Video Solution](#)

**268.** Why does the zygote begin divide only after the division of primary endosperm cell (PEC) ?



**Watch Video Solution**

**269.** Mention the importance of LH surge during menstrual cycle.



**Watch Video Solution**

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



**Watch Video Solution**

**271.** Mention two advantages of lactational amenorrhea as a contraceptive method.



**Watch Video Solution**

**272.** Even if a character shows multiple allelism, an individual will have only two alleles for that character. Why ?



**Watch Video Solution**

**273.** During DNA replication, why is it that the entire molecule does not open in one go ? Explain replication fork.



**Watch Video Solution**

**274.** Retroviruses do not follow central dogma.

Comment.



**Watch Video Solution**

**275.** Why is mother's milk considered the most appropriate food for a new born infant ?



**Watch Video Solution**

**276.** What are biofertilizers ? Give two examples.



**Watch Video Solution**

**277.** Name a recombinant vaccine that is currently being used in vaccination programme.



**Watch Video Solution**

**278.** For which variety of Indian Rice, the patent was filed by a U.S.A. company ?



**Watch Video Solution**

**279.** Most living organisms cannot survive at temperature above  $45^{\circ}\text{C}$ . How are some microbes able to live in habitats with temperatures exceeding  $100^{\circ}\text{C}$  ?



**Watch Video Solution**



**280.** Define flora and vegetation.



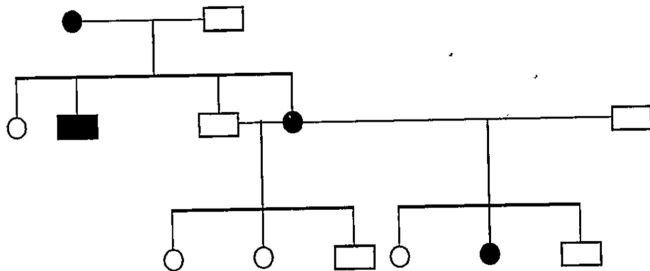
**Watch Video Solution**

**281.** Explain as to how protection of diversity hot spots alone can reduce upto 30% of the current rate of species extinction.



**Watch Video Solution**

**282.** In the following pedigree chart, state if the trait is autosomal dominant, autosomal recessive or sex linked. Give a reason for your



answer.



**Watch Video Solution**

**283.** Explain (in one or two lines) the function of following: Promoter



 [Watch Video Solution](#)

**284.** Explain (in one or two lines) the function of following: tRNA



[Watch Video Solution](#)

**285.** Explain (in one or two lines) the function of following: Exons



[Watch Video Solution](#)

**286.** What is the mechanism by which AIDS virus causes deficiency of immune system of infected person ?



**Watch Video Solution**

**287.** Explain the different steps involved in the secondary treatment Of sewage.



**Watch Video Solution**

**288.** In which technique we use Taq polymerase enzyme and why ?



**Watch Video Solution**

**289.** Write a short note on biopiracy highlighting the exploitation of developing countries by the developed countries.

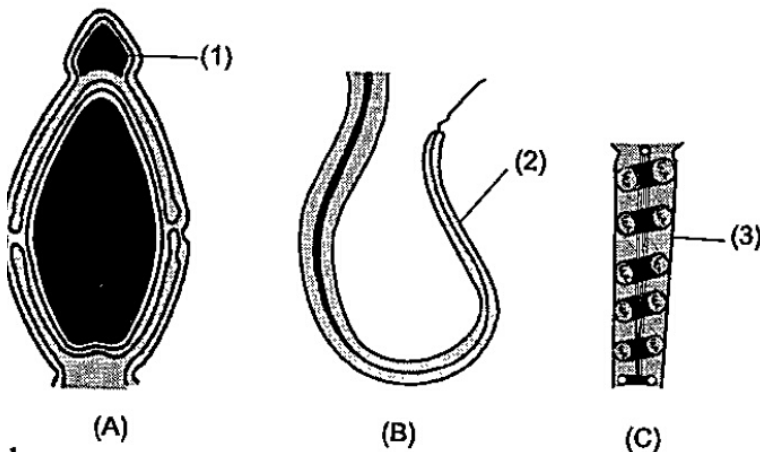


**Watch Video Solution**

290. Name the embryonic stage that gets implanted in the uterine wall of human female.

 [Watch Video Solution](#)

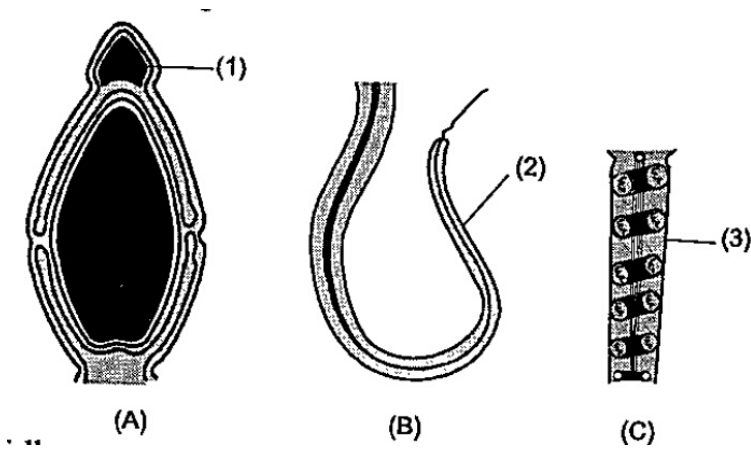
291. Write correct sequence of the diagrams *A*, *B*, *C*.





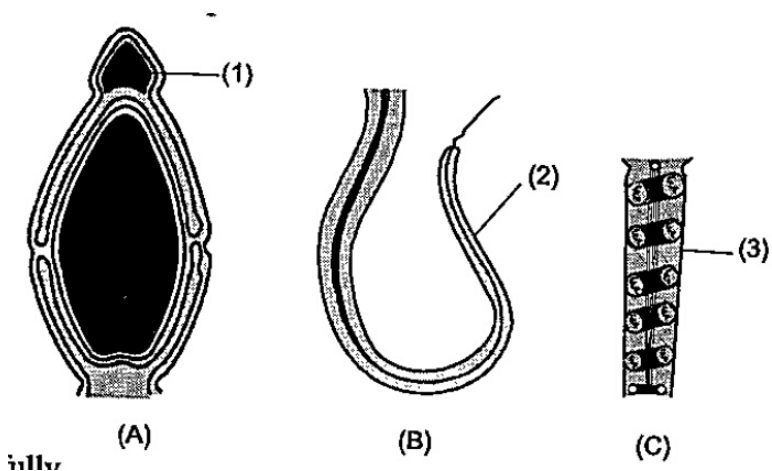
Watch Video Solution

292. Label (1) in A and Write down its function.



Watch Video Solution

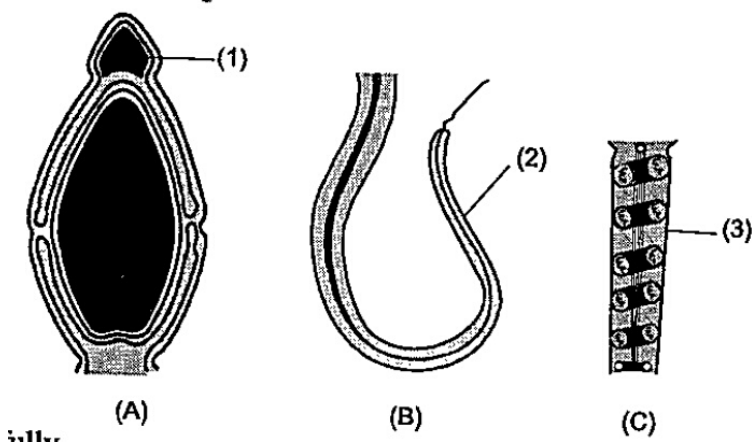
293. Label (2) in *B* and Write down its function.



Watch Video Solution

294. Label (3) in *C* and Write down its function.





[Watch Video Solution](#)

295. What is place of fertilisation in female reproductive tract?



[Watch Video Solution](#)

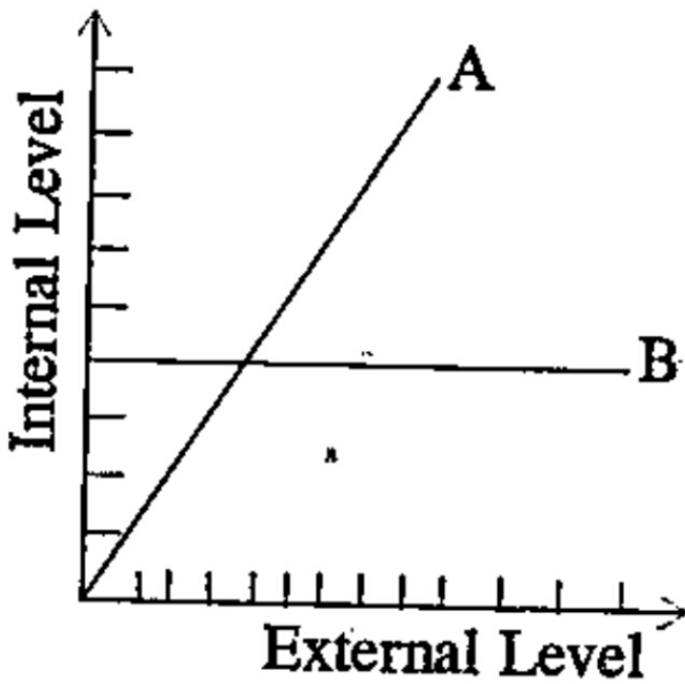
**296.** At which stage implantation takes place?



**Watch Video Solution**

**297.** Observe the diagram carefully.

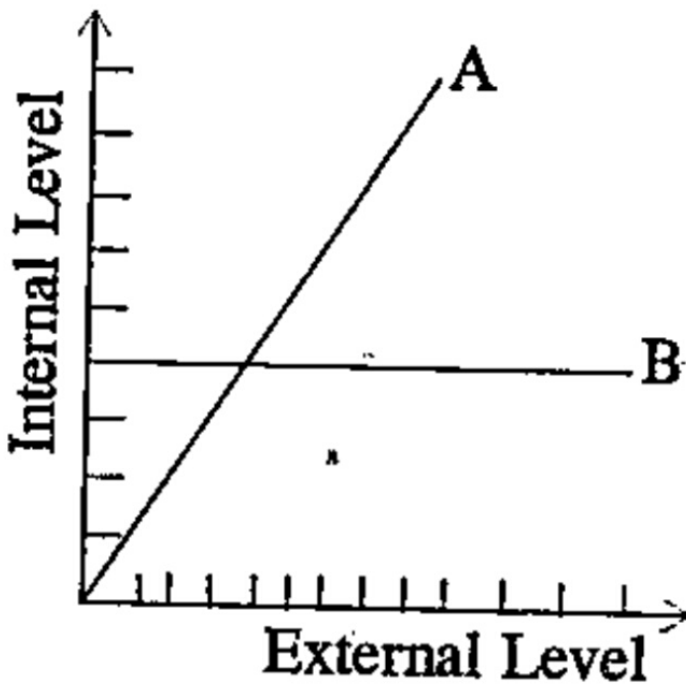
What does it indicate?



[Watch Video Solution](#)

298. Observe the diagram carefully.

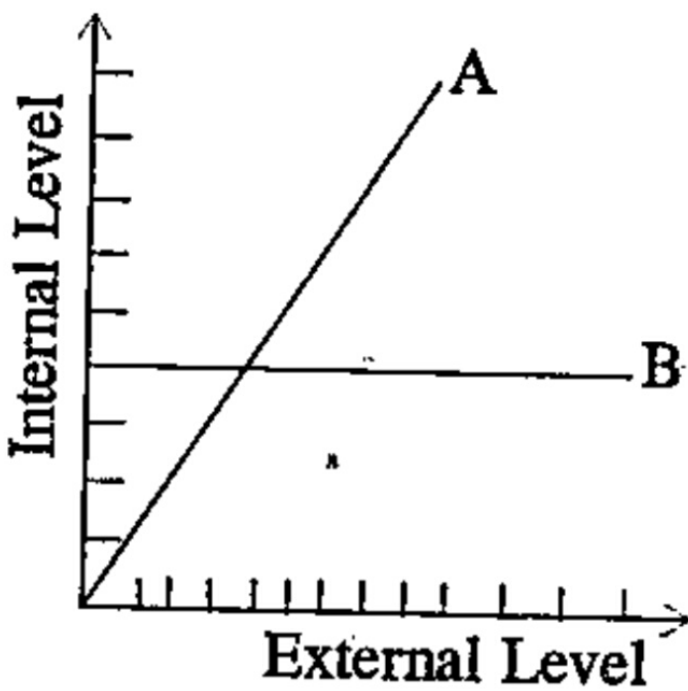
What does the parallel line ( $B$ ) suggests?



[Watch Video Solution](#)

299. Observe the diagram carefully.

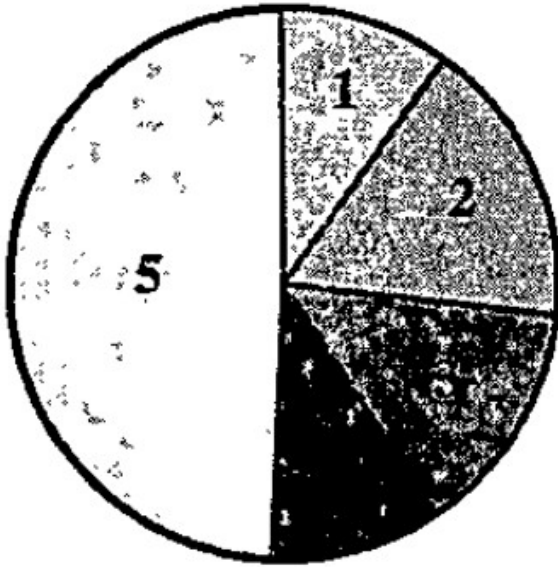
What is the significance of oblique line (A).



[Watch Video Solution](#)

300. (Consider the parts labelled 1, 2, 3 and 4, 5` respectively representing global biodiversity of vertebrates in the following diagram and

find out the correct sequence :)



[Watch Video Solution](#)