

BIOLOGY

BOOKS - GR BATHLA & SONS BIOLOGY (HINGLISH)

REPRODUCTION IN ORGANISMS

Asexual Reproduction

- 1. One of the most fundamental characteristic of life is:
 - A. growth
 - B. movement
 - C. reproduction
 - D. fragmentation

Answer: C



ward wall a calculation

2. Asexual resproduced results in					
A. rapid increase in number					
B. little genetic variability					
C. production of clones					
D. all of these					
Answer: D					
Answer: D Watch Video Solution					
Watch Video Solution					
Watch Video Solution 3. Asexul repoduction takes place by:					

D. all of these
Answer: D Watch Video Solution
4. Binary fission occurs in :
A. Amoeba
B. Euglena
C. Planaria
D. all of these
Answer: D
Watch Video Solution
5. Binary fission is a form of :

A. asexual reproduction
B. sexual reproduction
C. Both (a) and (b)
D. None of these
Answer: A
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6. Transverse binary fission occurs in
A. Hydra
B. Euglena
C. Paramecium
D. Amoeba
Answer: C
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7. Which of the following animals is having longitudinal binary fission
A. Hydra
B. Euglena
C. Planaria
D. Plasmodium
Answer: B Watch Video Solution
8. Muitiple fission occurs in :
A. Hydra
B. Planaria
C. Plasmodium

D. all of these
Answer: C
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9. Which one of the following is concerned with asexual perproduction ?
A. Buds
B. Gonads
C. Zygotes
D. Gametes
Answer: A
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10. Which type of reproduction is most common in Hydra ?

A. Cracking B. Budding C. Parthenogenesis D. Sexual reproduction **Answer: B Watch Video Solution** 11. Hydra reproduces by budding . This is an example of : A. parthenogenesis B. regeneration C. asexual reproduction D. sexual reproduction Answer: C **Watch Video Solution**

12. Gemmulation is a mode of reproduction in :
A. marine sponges
B. fresh water sponges
C. marine cnidarians
D. freshwater cnidarians
Answer: B Watch Video Solution
Sexual Reproduction
1. Sexual reproduction leads to :
A. euploidy

C. aneuploidy					
D. genetic recombination					
Answer: D					
Watch Video Solution					
2. A specis in which the individual possesse both male and female					
resproductive system is termed:					
A. diploid					
B. dioecious					
C. hermaphrodite					
D. parthenogenetic					
Answer: C					
Watch Video Solution					

3. Gonads are derived from :
A. ectoderm
B. mesoderm
C. endoderm
D. None of these
Answer: B
Watch Video Solution
4. Germinal epithelium is :
4. Germinal epithelium is : A. cuboider
A. cuboider
A. cuboider B. sensory

Answer: A Watch Video Solution 5. Fusion of gametes is termed: A. hemixis B. syngany C. cytogamy D. karyogamy **Answer: B** Watch Video Solution 6. Isogametes are: A. sterile

B. functionally similar C. morphologically simiar D. none of the above **Answer: C Watch Video Solution** 7. Isogamy is found in: A. Hydra B. Monocystic C. Planaria D. Plasmodium **Answer: B Watch Video Solution**

A. allogamy
B. autogamy
C. anisogamy
D. paedogenesis
Answer: C
Watch Video Solution
9. In oogamy, fertilization involves :
A. a large nommotile female gameter and a small motile male gamete
B. a larege motile female gamete and a large motile male gamete
C. a small nonmotile female gameter and a large motile male gamete

8. Fusion of two dissimilar gametes is known as :

D. a large nonmotile femle gamete and a small nonmotide male gamete

Answer: A



10. Apogamy is:

A. reproduction of virus

B. development of bacteria

C. failure of fusion of gameters

D. loss of function of reproduction

Answer: C



1. Development of egg without fertilization is called :
A. oogenesis
B. metagenesis
C. gametogenesis
D.
Answer: D
Watch Video Solution
2. The term 'parthenogenesis' was coined by:
2. The term 'parthenogenesis' was coined by: A. SIEBOLD
A. SIEBOLD

Answer: A **Watch Video Solution** 3. Parthenogenesis is a type of: A. budding B. regeneration C. sexual reproduction D. asexual reproduction **Answer: D Watch Video Solution** 4. Natural parthenogensis occurs in: A. honeybee

C. protozonas D. earthworn Answer: A **Watch Video Solution** 5. The type of parthenogenesis in which the male develops from unfertilized egg and the female from fertilized egg is known as: A. apospory B. thelytoky C. arrhenotoky D. gynogenesis **Answer: C Watch Video Solution**

B. all insects

6. Arrhenotoky is related to :
A. parthenogenesis
B. wax formation
C. Both (a) and (b)
D. None of these
Answer: A
Watch Video Solution
Watch Video Solution
7. In honeybees, the drones are produced from :
7. In honeybees, the drones are produced from :
7. In honeybees, the drones are produced from : A. fasting larvae

Answer: C



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- 8. If ab unfertilized ovum of frogs is pricked with a micro-needle, it wll:
 - A. start dividing
 - B. die immediately
 - C. survive, but remain undivided
 - D. develop into a tadpole at faster rate.

Answer: A



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9. Why sometimes, even diploid offspring is produced through parthenogenesis?

A. when offspring is produced without fertilization of dipoled

B. when offspring is produced through fertilization of diploid egg cells

C. when offspring is produced without fertilization of haploid egg cell

D. when offspring is produced through fertilization of halpoid egg cell

Answer: A



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10. The process in which haploid embryo is formed from haploid egg without fertilization is called:

A. apospory

B. apogamy

C. agamospermy

D. vegetative reproduction

Answer: C

11. Match the following and choose the correct combination from the optins given :

	Column I (Organisms)	Column II (Approximate life span)
Α	Butterfly	1 60 years
В	Crow	2 140 years
C	Parrot	3 15 years
D	Crocodile	4 1–2 weeks

A.
$$A = 1$$
, $B = 2$, $C = 3$, $D = 4$

Answer:



12. Consider the following statements with respect to reproduction in the lower living organisms.

A. Organism like yeast and Planaria reproduce asexually by means of budding

B. True regeneration is observed in Hydra.

C. The protonema of masses multiply by fragmentation .

D. In thr unciellular organism like bacteria, algae and Ameoba, reproduction is synonymous with growth, i.e., increase in number of cells.

Of the above statements:

A. A and B alone are correct

B. B and C alone are correct

C. A and D alone are correct

D. C and D alone are correct

Answer:



13. Why asexual reproduction is sometimes disadvantageous? A. It allows animals that do not moves around to produce offspring without finding mates B. It allows an animals to produce many offspring quickly C. It save the time and energy of gamete production. D. It produces genetically unifrom population Answer: D **Watch Video Solution** 14. Isogamous condition whit non-flagellated gametes is found in: A. Volvox B. Fucus

C. Spirogayra

D. Chlmydomans

Answer: C



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15. Select the wrong statement :

gamete is large and non-motile .'

- A. Anisogamets differ either in strcture, function or behaviour.
- B. In oomycetes female gamete is smaller and motile , while male
- C. Chlamydomonas exhibits both isogamy and anisogamy and Fucus

shows oogamy .

D. Isogametes are similar in structure, function and behaviour.

Answer: B



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16. Product of sexual reproducting generally generates:

- A. large biomass
- B. prolonged dormancy
- C. longer viability of seeds
- D. new genetic combination leading to variation

Answer: D



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- 17. read the statements A and B and identify the correct choice from
- those gives below:

Statement A: The egg of frog is moderately teloecithal.

- Statement B : Sonner or later the cleavage pattern becomes irregular.
 - A. Statement A is correct B, is wrong.
 - B. Statement B is correct, A is wrong.
 - C. Both the statements A and B are correct
 - D. Statement A is the reason for statement B.

Answer: D Watch Video Solution

- A. isogamy
- B. syngamy
- C. anisogamy
- D. monogamy

Answer: B



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19. Match the vegetative propagules listed under column I with the plants give under column II. Choose the appriates option from the gives choices.

	Column I		Column II
A.	Rhizome	p.	Agave Bryophyllum Ginger
B.	Offset	q.	Bryophyllum
C.	Sucker	r.	Ginger
D.	Leaf buds	S.	Chrysanthemum
		t.	Eichhornia

A. A-q, B-p, C-t, D-s

B. A-s, B-t, C-q, D-r

C. A-r, B-t, C-s, D-q

D. A-r, B-s, C-p, D-q

Answer: C



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20. In ginger, vegetative propagation occurs throught:

A. Rhizome

B. Offsets

C. Bulbils

Answer: A
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21. A tehnique of micropropagation is :
A. embryo rescue
B. protoplast fusion
C. somatic hybridization
D. somatic embryogenesis
Answer: D
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22. Which of the following organisms breeds only once in lifetime?

D. Runners

A. Birds
B. Bamboo
C. Oysters
D. Runners
Answer: B
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23. Banana is an example of :
A. apomixis
B. polyembryony
C. parthenocarpy
D. parthenogenesis
Answer: C
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24. Stock and scion are used in :
A. cutting
B. grafting
C. layering
D. micropropagatoin
Answer: B
Watch Video Solution
25. There are various types of reroducting , the type of resproduction adopted by an organism depends on
A. morphology of organism
B. the habitat and morphology of organism

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Answer: D



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26. A few plants exhibit unusual flowering phenomenon, which of them flower only once in their life time, generally after 50 - 100 years and produce lagre number of fruits ?

- A. Bamboo
- B. Calistemon linearis
- C. Cymbopogoen reptocus
- D. Strobilanthus kunthiana

Answer: A



27. Seeds without fertilisation are obtained from:		
A. dormacy		
B. apomixis		
C. polyembryony		
D. parthernocarpy		
Answer: B		
Watch Video Solution		
28. Which one of the following plants does not help in vegetative propagation by leaves ?		
A. Oxalis		
B. Begonia		
C. Kalanchoe		
D. Bryophyllum		

Answer: A



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29. The technique of produing large number of genetically similar plants within short time by tissue culture is called :

- A. organogenesis
- B. protoplast culture
- C. micropropagation
- D. somatic hydridisation

Answer: C



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30. Which one of the following is not a natural method of vegetative propagative?

- A. Runner
- B. grafting
- C. Foliar buds
- D. Stem tuber

Answer: B



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31. Considering mode of asxeul reprouduction, match the column I with column II and select the correct option :

Column I	Column II	
A. Yeast	i. Fragmentation	
B. Penicillium	ii. Zoospores iii. Budding	
C. Filamentous algae	iii. Budding	
D. Chlamydomonas	iv. Conidia	

- A. A iv, B-iii, C-ii, D-i.
- B. A-iii, B-ii, C-i.,D-iv

C. A-ii, B-iii, C-i., D-iv

D. A-iii, B-iv, C-i., D-ii.

Answer: D



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32. Which of the following pairs is not correctly matched

A. (a)	Mode of reproduction	$\mathbf{Example}$
	Rhizome	Banana
D	Mode of reproduction	Example
B. (b)	Binary fission	Sargassum
C	${\bf Mode\ of\ reproduction}$	Example
C. (c)	Conidia	${\bf Penicillium}$

D. $\frac{\text{Mode of reproduction}}{(d)}$ Example Water hyacinth

Answer: A



- **33.** Which one of the following statement is not correct?
 - A. In potato, banana and ginger, the plantlets arise from the internodes persent in the modified stem
 - B. Water hyacinth, growing in the standing water, drains oxygen from that leads to the death of fishes.
 - C. Offspring produced by the asexual rerpoduction are called clone
 - D. Microsocopic, motile asexual repeoductive structures are called zoospores.

Answer: A



- **34.** Which one of the following generaates new gentic called zoospores.
 - A. parthenogenesis

- B. sexual reproduction
- C. Vegetative reproduction
- D. Nucellar polyembryony

Answer: B



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Exemplar Problems

- **1.** A few statement describing certain features of reproduction are given below:
- i. Gametic fusion takes place.
- ii. Transfer of genetic material takes places.
- iii. Reduction division takes place.
- iv. Progeny have some resemblance with parents.
- Select the options that are ture for both asexual and sexual reproduction from the options given below:

A. ii and iv B. iand ii C. iand ii D. iiand iii Answer: A **Watch Video Solution** 2. The term 'clone' cannot be applied to offspring formed by sexual reproduction reperoduction because: A. Offspring are found at different times. B. DNA of parents and offspring are completely different. C. Offspring do not possess exact copies of perental DNA. D. DNA of only one parnet is copied and passed on the offspring Answer: C



3. Amoeba and yeast reproduce asexually by fission and budding respectively, because they are:

A. unicellular organisms

B. uninucleate organisms

C. microsocopic organsims

D. heterotrophic organisms

Answer: A



- **4.** A few statements with regard to sexul reproduction are given below:
- i. Sexual reproduced does not always require two indiviuals .
- ii. Sexual reproduction generally involves gametic fusion .
- iii. Meiosis never occurs during sexual reproduction .

iv. External fertilisation is a rule during sexual reproduction. Choose the correct statements from the options gives below: A. ii and iii B. iand iv C. iand iv D. iand ii Answer: D **Watch Video Solution** 5. A multicellular, filamentous alga exhibits a types of sexual life cycle in which the meiotic divison occurs after the formation of zygot. The adults filament of this alga has: A. haploid vegtative cells and haploid gametangia B. haploid vegtative cells and diploid gametangia C. dipoled vegatative cells and dipoid gametagia

D. dipoled vegatative cells and hapoid gametagia

Answer: A



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6. The male gametes of rice plants have 12 chromosomes in their nucleus .

The chromose number in the female gamete, Zygote and the cells of the seedling will be respectively:

- A. 123, 24, 12
- B. 24, 12 ,12
- C. 12, 24, 24
- D. 24, 12, 24

Answer: C



7. Given below are few statements related to external fertilization .

Choose the correct statement .

i. The male and femle gamtes are formed and relased simulatneously

ii. Only a few gameter are released into the medium

iii. water is the medium in a majority of organisms exhibiting external

iv. offspring formed as a result of external fertilization have better chance of survival than formed inside an organism.

A. iii and iv

fertilization.

B. iand iii

C. ii and iv

D. iand iv

Answer: B



8. The statements gives below describle certain features that are observed in the pistil of flowers.

i. Pistil may have many carpels.

ii. Each carpel may have more than one ovule.

iii. Each carpel has only one ovule.

iv. Pistil have only one carpel

Choose the correct answer from the options gives below:

A. iand ii

B. iand iii

C. ii and iv

D. iii and iv

Answer: A



9. Which of the following situations correctly describe the similarity between an angionsperm egg and a lifetime .

i. Egss of both are formed only once in a lifetime.

ii. Both the angiosperm egg and human eggs are stationary .

iii. Both the angiospherm egg and human egg are motile transported.

iv. Syngamy in both results in the formation of zygote.

Choose the correct answer from the options gives below:

A. ii and iv

B. iv only

C. iii and iv

D. iand iv

Answer: B



10. Appearance of vegetative propagules from the nodes of plants such as sugaracane and ginger is mainly beacause modes:

- A. have meristematic cells.
- B. are located near the soil
- C. are shorter than internodes.
- D. have non-photosynthic cells

Answer: A



- **11.** Which of the following statements, support the view that elaborate sexual reproduction process appeared much later in the organic evolution .
- i. Lower groups of organisms have simpler body
- ii. Asexual reproduction is common in lower group.
- iii. Asexual reproduction is common in higher groups of organisms.

iv. The high incidence of sexual reproduction occurs in angiosperms and vertebrates. Choose the correct answer from the options given below: A. iand iii B. iand iii C. i,ii and iv D. ii and iii **Answer: C Watch Video Solution** 12. Offspring formed by sexual reproduction exhite more variation than

12. Offspring formed by sexual reproduction exhite more variation than those formed by asexual reproduction because :

A. sexual reproduction is a length process.

B. gametes material comes from parents of two different genetic compositon .

- C. genetic material comes from parents of two different species.
- D. greater amount of DNA is involved in sexual reproduction

Answer: B



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- 13. Choose the correct statemenet from amongst the following:
 - A. Dioecious (hernaphrodite) organisms are seen only in animals
 - B. Dioecious organisms are seen olny in plants
 - C. Dioecious organisms are seen in both plants and animals
 - D. Dioecious organisms are seen only in vertebrates.

Answer: C



14. There is no natural death in single celled organisms like Amoeba and bacteria because

A. they are microscope.

B. they cannot reproduced sexually .

C. parental body is distributed among the offspring

D. they reproduce by binary fission

Answer: D



15. There are various types of reproduction. The type of reproduction adopted by an organism depends on

A. morphology of the organism

 ${\bf B}.$ the habitat and morphology of the organism

C. morphology and physioloy and gentic makeup.

D. the organism's habibtat, physiology of the organism.

Answer: D



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16. Identify the incorrect statement.

- A. Zoospores are sexual reproduction structures.
- B. In asexual reproduction , the offspring produced are morphologically and genetically identical to the parent .
- C. In asexual reproduction, a single parent produces offspring with or without the formation of gametes.
- D. Conidia are asexual structures in Penicillium

Answer: A



A. Formation of flower.
B. Embryo development
C. Transfer of pollen grains.
D. Formation of pollen grains.
Answer: B
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18. The number of chromosomes in the shoot tip cells of a maize plant is
20. The number of chromosomes in the microspore mother cells of the
same plant shall be
A. 10
B. 15
C. 20

17. Which of the following is a post-fertilisation event in flowering plants?

Answer: C



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- **19.** Read the following five statement about lifespan (A to E) and select the options with all correct statements:
- (A) The peroid from birth to the natural death of an organism represents its life span .
- (B) Life span of organisms are correlated with their sizes.
- (C) The sizes of crows and parrots are not very different yet their life spans shown a wide difference.
- (D) A mango tree has a much shortes life span as compared to a peepal tree. Itbr gt (E) All higher oragnsims are immortal, they have no natural death.

A. A, D and E

B. B, C and E

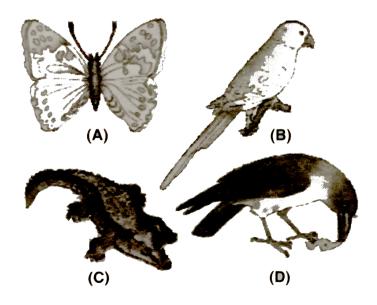
- C. A, C and D
- D. A,B and D

Answer: C



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20. Study the diagrams of the animals gives below. Arrange them in the order of increasing life span and select the correct option .



A. A-C-D-B

- B. A-B-C-D
- C. D-A-CB
- D. A-D-C-B

Answer: D



- 21. Which one of the following statements is worng?
 - A. Reproduction is defined as a biological process in which an organism gives rise to young ones.
 - B. Many single-celled organisms like Amoeba and Paramecium reproduced by binary fission
 - C. The offspring produced by asexual reproduction are not identical to one another.
 - D. Many plants reproduce asexually by vegetative propagules.



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22. Study the digarams gives below and select the correct option:









Parent cell

- A. It is a type of amitotic divison in becteria
- B. It is the budding found in yeast.
- C. The resultant cells be termed clones
- D. Both (b) and (c)

Answer: D



23. Which one of the following statements is incorrect?

A. Aquatic plants 'water hyacinth ' is commonly knows as 'terror of Bengal'.

B. Adventitious buds arise from the notches present at margins of leaves of Bryophyllum

C. Asexual reproduction is the common method of reproduction in organisation .

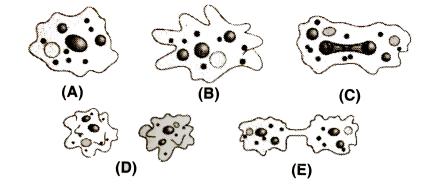
D. Only asexual mode of reproduction is present in most of the plants and Amoeba.

Answer: D



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24. The diagrams gives below represent the process of simple binary fission in Amoeba.



Arrange the diagram in the correct sequnce and select the right option

A.
$$A o B o C o E o D$$

$$\operatorname{B.}B \to A \to C \to E \to D$$

$$\mathsf{C}.\,B o A o C o D o E$$

$$\mathrm{D.}\, B \to C \to A \to E \to D$$

Answer: B



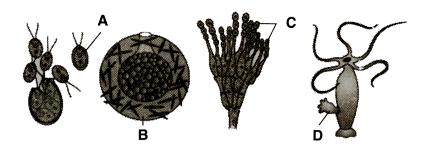
25. Match each vegatative propagule with its example:

- (a) Aerail stem i. Agave
- (b) Bulbil ii. Opuntia
- $(c) \quad \text{Offsets} \qquad \quad iii. \quad \text{Lawn grass}$
- (d) Runner iv. Eichhornia
- (a) (b) (c) (d)
- A. (a) (ii) (i) (iii) (iv)
 - (a) (b) (c) (d)
 - (b) (iii) (ii) (iv) (i)
- (a) (b) (c) (d)
- C. (c) (ii) (i) (iv) (iii)
- D. (a) (b) (c) (d) (i) (ii) (iv) (iii)

Answer: C

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26. Identify A and D in figure gives below showing asexual reproductive structures:



A. A. Zoospores of Chlamydomonas, B. Gemmules in sponges, C. Conidia of Penicilluim, D. Buds in Hydra

- B. A. Zoospores of Chlamydomonas, B.Conidia of Penicilluim, C. Buds in Hydra , D. Gemmules in sponges
- C. A. Gemmules in sponges, B. Zoospres of Chlamydomons, C. Conidia of Penicilluim, D. Buds is Hydra
- D. A.Conidia of Penicilluim, B. Zoospres of Chlamydomons, C. Buds is Hydra, D. Gemmules in sponges

Answer: A



27. Select the correct option:

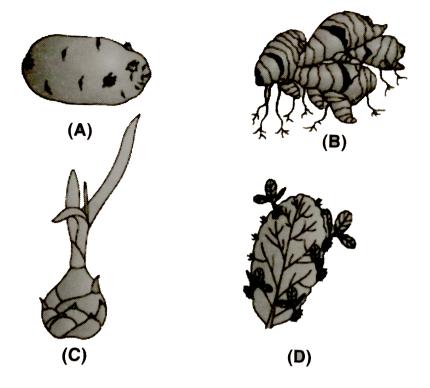
- (A) Potato i. Rhizome Offset (B) Ginger ii. (C) Colocasia iii. Bulb (D) Garlic iv. Tuber Corn v.
 - A. (A) (B) (C) (D) (a) (ii) (i) (v) (iv)
 - (A) (B) (C) (D)
 - (b) (iv) (i) (v) (iii) (A) (B) (C) (D)
 - C. (c) (iv) (ii) (v) (i)
 - D. (A) (B) (C) (D) (d) (i) (ii) (v)

Answer: A



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28. The diagrams gives below represent different vegetative propagules in some angiosperms. Identify them and select the correct option :



- A. A. Eyes of potato, B.Rhizome of ginger , C. Bulbil of Agave, D. Leaf buds of bryophyllum
- B. A. Eyes of potato, C.Bulbil of Agave, B. Rhizome of ginger , D. Leaf buds of bryophyllum
- C. A. Eyes of potato, B. Leaf buds of bryophyllum, C.Rhizome of ginger,
 D. Bulbil of Agave

D. A. Eyes of potato, B.Rhizome of ginger , C. Leaf buds of bryophyllum ,

D.Bulbil of Agave

Answer: D



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29. Consider the following statements .

A. Sexual reproduction involves formation of the male and female gametes.

B. The birds living in nature lay eggs throughout the year,

C. The gametes fuse to from the zygote which develops to from the new organism.

D. Strobilanthus kunthiana (neelakuranji), flower once in 22 years.

Of the above statement .

A. B and D are correct

B. A and C are correct

C. A and B are correct

D. A and D are correct

Answer: B



- **30.** Which of the following statement/s regarding gametogensis is/ are wrong?
- I. Gametogensis refers to the process of formation of the two types of gametes.
- II. Gametogenesis occurrs is gonads.
- III. In a majority of sexually reproducing organisms the gameter produced are of morphologically in simialr types (isogametes).
- IV. Gametogenesis involves the meictioc divison .
- V. The male gamtes is called the antheroid or sperm and the female gamete is called the egg or ovum.
 - A. II and IV only
 - B. III and V only

C. I, II and III only

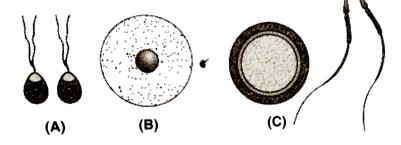
D. III only

Answer: D



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31. Three different types of gametes are given below. Correctly identify them form the options .

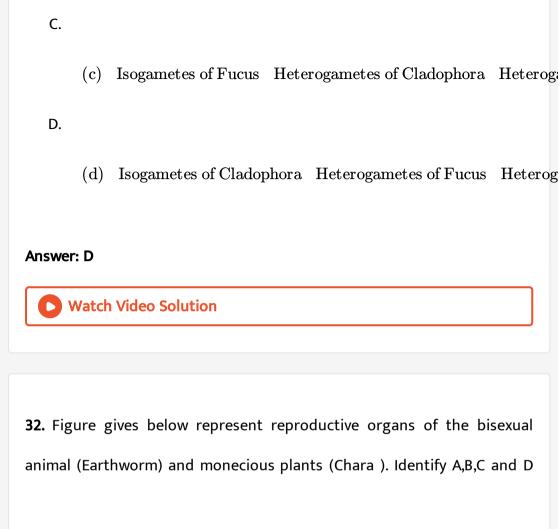


A.

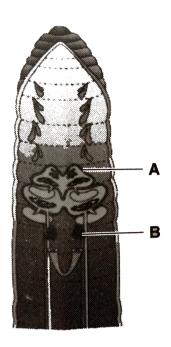
(a) Isogametes of Homo sapiens Heterogamestes of Fucus Heterogamestes

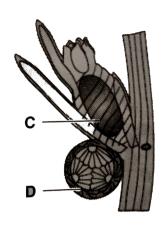
В.

(b) Isogametes of Cladophora Heterogametes of Homo sapiens



by selecting the correct option:





A. A-Testis, B -Oogonium, C-Ovary, D- Antheridium

 $\hbox{B. A-Testis, B-Ovary, C-Antheridium, D-Oogonium}\\$

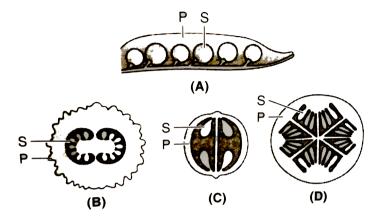
C. A-Testis, B -Ovary, C-Oogonium, D- Antheridium

D. A-Ovary, B-Testis, C-Oogonium, D-Antheridium

Answer: C



33. Four kinds of fruit showing seed (S) and protective pericarp (P) are given below. Identify them by selecting the correct option :



- A. A- Pea pod, B- Tomato, C-Mustard, D- Cucumber
- B. A- Pea pod, B- Tomato, C-Cucumber, D- Mustard
- C. A- Pea pod, B-Mustard , C-Tomato, D- Cucumber
- D. A- Pea pod, B- Mustard, C-Tomato, D- Cucumber

Answer: A

