



# BIOLOGY

## BOOKS - MBD

### REPRODUCTION IN ORGANISMS

#### Example

1. What is reproduction?



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2. Write the utility of reproduction?



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3. List two factors which determine the type of reproduction.



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4. Define life span.



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5. What is the ultimate phase of life?



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6. How do lower organisms reproduce?



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7. What is clone?



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**8.** Name the common method of reproduction in single celled organisms.



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**9.** Name the asexual reproductive structure in Chlamydomonas.



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**10.** Name various asexual reproductive structure.



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**11.** Name the various methods of vegetative propagation in plants.



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**12.** Name two acellular protists which reproduce sexually.



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**13.** Why is reproduction necessary for organisms?



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**14.** What are oviparous animals?



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**15.** Define syngamy.



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**16.** What is fruit?



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**17.** Give an example of unisexual flowers.



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**18.** Why is reproduction essential for organisms?



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**19.** Which is better method of reproduction? Why? Will your opinion be affected by environment factors present?



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20. Why is offspring formed by asexual reproduction referred to as clone ?



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21. offspring formed due to sexual reproduction have better chances of survival.

Why? Is this statement always true?



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**22.** How does progeny formed from asexual reproduction differ from those formed by sexual reproduction ?



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**23.** Differentiate asexual and sexual reproduction.



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**24.** Why is vegetative reproduction also considered as a type of a sexual reproduction ?



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**25.** What is vegetative propagation? Give two suitable examples.



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**26.** Define: Juvenile phase.



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**27.** Define: Reproductive phase.



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**28.** Define: Senescent phase.



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**29.** Higher organisms have resorted to sexual reproduction in spite of its complexity. Why?



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**30.** Explain why meiosis and gametogenesis are always interlinked?



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**31.** Identify each part in a flowering plant and write whether it is haploid :

Ovary\_\_\_\_\_



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**32.** Identify each part in a flowering plant and write whether it is haploid : Anther

\_\_\_\_\_



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**33.** Identify each part in a flowering plant and write whether it is haploid : Egg\_\_\_\_\_



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**34.** Identify each part in a flowering plant and write whether it is haploid :  
Pollen\_\_\_\_\_



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**35.** Identify each part in a flowering plant and write whether it is haploid : Male gamete \_\_\_\_\_



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**36.** Identify each part in a flowering plant and write whether it is haploid : Anther \_\_\_\_\_



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**37.** Identify each part in a flowering plant and write whether it is haploid :

Zygote \_\_\_\_\_



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**38.** Define external fertilisation. Mention its disadvantages.



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**39.** Differentiate between a zoospore and a zygote.



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**40.** Differentiate between gametogenesis and embryogenesis.



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**41.** Describe the post-fertilisation changes in a flower.



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**42.** What is a bisexual flower? Collect five bisexual flowers from your neighbourhood and with the help of your teacher find out their common and scientific names.



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**43.** Examine a few followers of any cucurbit plant and try to identify the staminate and pistillate flowers. Do you know any other plant that bears unisexual flowers?



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**44.** Why are offspring of oviparous animals at a greater risk as compared to offspring of viviparous animals?



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**45.** Mention two inherent characteristics of Amoeba and yeast that enable them to reproduce asexually.



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**46.** Why is offspring formed by asexual reproduction referred to as clone ?



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**47.** Although potato tuber is an underground part, it is considered as stem. Give two reasons.



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**48.** Between an annual and a perennial plant, which one has a shorter juvenile phase? Give one reason.



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**49.** Rearrange the following events of sexual reproduction in the sequence in which they occur in a flowering plant: embryogenesis, fertilization, gametogenesis, pollination.



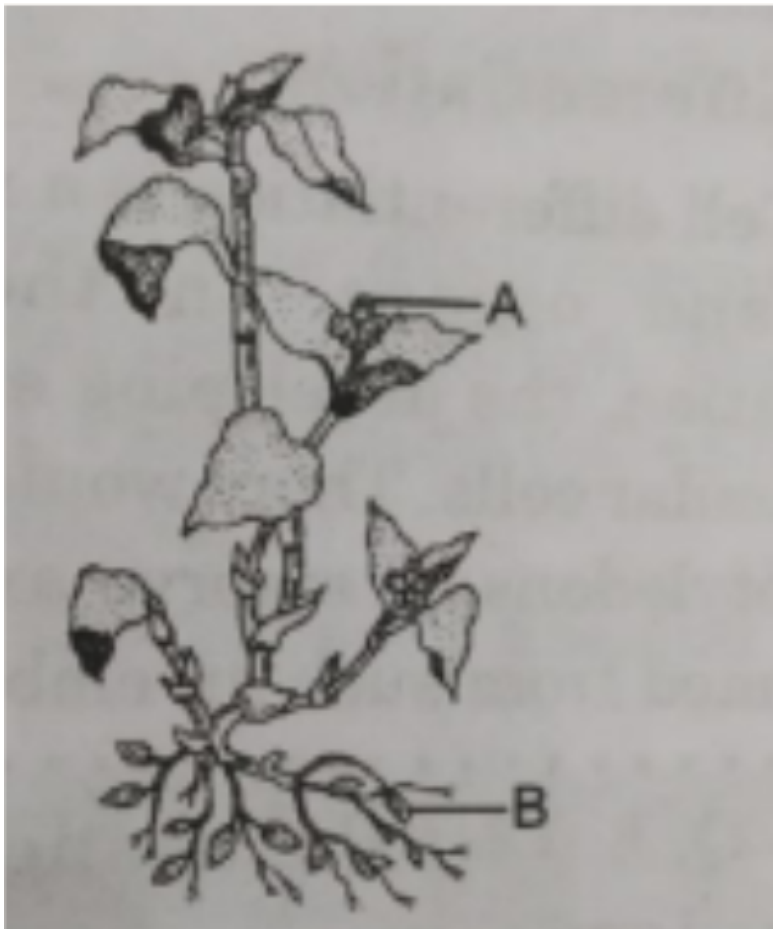
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**50.** The probability of fruit set in a self-pollinated bisexual flower of a plant is far greater than a dioecious plant. Explain.



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51. In the given figure, the plant bears two different types of flowers marked 'A' and 'B'. Identify the types of flowers and state the type of pollination that will occur in them.







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52. The outermost and innermost wall layers of microsporangium in an anther are respectively:

- A. a. endothecium and tapetum
- B. b. epidermis and endodermis
- C. c. epidermis and middle layer
- D. d. epidermis and tapetum

**Answer:**



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**53.** Why do gametes produced in large numbers in organisms exhibit external fertilization?



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**54.** Which of the followings are monoecious and dioecious organisms?

Earthworm.....





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55. Which of the followings are monoecious and dioecious organisms?

Chara.....



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56. Which of the followings are monoecious and dioecious organisms?

Marchantia.....



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**57.** Which of the followings are monoecious and dioecious organisms?

Cockroach.....



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**58.** Name the hormones involved in regulation of spermatogenesis?



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**59.** What do the following parts of a flower develop after fertilisation?

Ovary.



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**60.** What do the following parts of a flower develop after fertilisation?

Ovules.



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**61.** In haploid organisms that undergo sexual reproduction, name the stage in the life cycle when meiosis occurs. Give reasons for your answer.



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**62.** The number of taxa exhibiting asexual reproduction is drastically reduced in the higher plants (angiosperms) and higher animals (vertebrates) as compared with lower

groups of plants and animals. Analyse the possible reasons for this situations.



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**63.** Honeybees produced their youngones only by sexual reproduction. Inspite of this in a colony of bees we find both haploid and diploid individuals. Name the haploid and diploid individuals in the colony and analyse the reasons behind their formation.



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**64.** In which type of reproduction, do we associate the reduction division? Analyse the reasons for it.



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**65.** Is it possible to consider vegetative propagation observed in certain plants like Bryophyllum, Water hyacinth, Ginger etc. as a type of asexual reproduction? Give two/three reasons.





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**66.** Fertilization is not an obligatory event for fruit production in certain plants. Explain the statement.



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**67.** In a developing embryo, analyse the consequences if cell divisions are not followed by cell differentiation.



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**68.** List the changes observed in an angiosperm flower subsequent to pollination and fertilization.



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**69.** Suggest a possible explanation, why the seeds in a peapod are arranged in a row, whereas those in tomato are scattered in the juicy pulp.



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70. Difference between spontaneous and induced mutations?



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71. Why is vegetative reproduction also considered as a type of a sexual reproduction ?



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**72.** Enumerate the differences between asexual and sexual reproduction. Describe the types of asexual reproduction exhibited by unicellular organisms.



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**73.** Do all the gametes formed from a parent organism have the same genetic composition (identical copies of the parental genome)? Analyse the situation with the situation with

the background of gametogenesis and provide or give suitable explanation.



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**74.** Although sexual reproduction is a long drawn, energy intensive complex form of reproduction, many groups of organisms in Kingdom Animalia and Plantae prefer this mode of reproduction. Give atleast three reasons for this.



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**75.** Distinguish between Menstrual and Oestrous Cycle.



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**76.** Differentiate between:

Ovipary and vivipary. give an example of each type.



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77. Rose plants produce large, attractive bisexual flowers but they seldom produce fruits. On the other hand Lady's finger produces plenty of fruits. Analyse the reasons for failure of fruit formation in rose.

A. I and iii

B. ii and iii

C. ii and iv

D. I and iii

**Answer:**





**78.** A few statements describing certain features of reproduction are given below:

(i) Gametic fusion take place

(ii) Transfer of genetic material takes place

(iii) Reduction division takes place

(iv) Progeny have some resemblance with parents

Select options true for both asexual and sexual reproduction from the options given below:-



A. (a) (i) and (ii)

B. (b) (ii) and (iv)

C. (c) (ii) and (iii)

D. (d) (i) and (iv)

**Answer:**



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**79.** The term clone cannot be applied to offspring formed by sexual reproduction 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 parental DNA

D. DNA of only one parent is copied and passed on the offspring

**Answer:**



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**80.** Amoeba and Yeast reproduce asexually by fission and budding respectively, because they are:

- A. Microscopic organisms
- B. Heterotrophic organisms
- C. Unicellular organisms
- D. Uninucleate organisms

**Answer:**



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**81.** Double fertilization leading to initiation of endosperm in angiosperms, requires

- A. (a) Fusion of 4 or more polar nuclei and second male gamete only
- B. (b) Fusion of 2 polar nuclei and second male gamete only
- C. (c) Fusion of 1 polar nuclei and second male gamete only

D.(d) All the above types of fusions in  
different types of angiosperms

**Answer:**



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**82.** A multicellular, filamentous alga exhibits a type of sexual life cycle in which the meiotic division occurs after the formation of zygote. The adult filaments of this alga has.

A. (A) Haploid vegetative cells and diploid gametangia

B. (B) Diploid vegetative and diploid gametangia

C. (C) Diploid vegetative cells and haploid gametangia

D. (D) Haploid vegetative cells and haploid gametangia.

**Answer:**



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**83.** The male gametes of rice plant have 12 chromosomes in their nucleus. The chromosomes number in the female gamete, zygote and the cells of the seedling will be respectively.

A. iii and iv

B. I and iii

C. ii and iv

D. I and iv

**Answer:**



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**84.** Given below are a few statements related to external fertilization. Choose the correct statements.

The male and female gametes are formed and released simultaneously

Only a few gametes are released into the medium.

Water is the medium in a majority of



organisms exhibiting external fertilization.

Offspring formed as a result of external fertilization have better chance of survived than those formed inside an organism.

A. I and ii

B. I and iii

C. ii and iv

D. ii and iv

**Answer:**



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**85.** The statements given below describe certain features that are observed in the pistil of flowers.

Pistil may have many carpels

Each carpel may have more than one ovule.

Each carpel has only one ovule.

Pistil have only one carpel.

Choose the statements that are true from options

A. ii and iv

B. iv only

C. iii and iv

D. I and iv

**Answer:**



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**86.** Which of the following situations correctly describe the similarity between an angiosperms egg and a human egg?

Eggs of both are formed only once in a

lifetime

Both the angiosperm egg and human egg are stationary

both the angiosperm egg and human egg are motile transported

Synagamy in both results in the formation of zygote

Choose the correct answer from the options

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

D. Nodes have non-photosynthetic cells

**Answer:**



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**87.** Appearance of vegetative propagules from the nodes of plants such as sugarcane and ginger is mainly because:

A. I and ii

B. I and iii

C. ii and iv

D. ii and iii

**Answer:**



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**88.** Which of the following statements, support the view that elaborate sexual reproductive process appeared much later in the organic evolution.

Lower groups of organisms have simpler body

design

Asexual reproduction is common in lower groups

Asexual reproduction is common in higher groups of organisms

The high incidence of sexual reproduction in angiosperms and vertebrates.

Choose the correct answer from the options given below:

A. (a) (i) and (iii)

B. (b) (i) and (iv)

C. (c) (ii) and (iv)

D. (d) (ii) and (iii)

**Answer:**



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**89.** Offspring formed by sexual reproduction exhibit more variation than those formed by asexual reproduction because

A. Dioecious (hermaphrodite) organisms are seen only in animals.



B. Dioecious organisms are seen only in plants.

C. Dioecious organisms are seen in both plants and animals

D. Dioecious organisms are seen only in vertebrates.

**Answer:**



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**90.** Choose the correct statement from amongst the following:

A. (A) Dioecious (hermaphrodite)

organisms are seen only in animals

B. (B) Dioecious organisms are seen only in plants.

C. (C) Dioecious organisms are seen in both animals and plants.

D. (D) Dioecious organisms are seen only in  
vertebrates

**Answer:**



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**91.** There is no natural death in single celled organisms like Amoeba and bacteria because:

A. (a) They cannot reproduce sexually

B. (b) They reproduce by binary fission

C. (c) Parental body is distributed among  
the offspring

D. (d) They are microscopic

**Answer:**



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**92.** Identify the incorrect statement:

A. In asexual reproduction, the offspring  
produced are morphologically and

genetically identical to the parent.

B. Zoospores are sexual reproductive structures.

C. In asexual reproduction a single parent produces offspring with or without the formation of gametes.

D. Conidia are asexual structures  
Penicillium.

**Answer:**



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93. Polyembryony commonly occurs in

A. a. banana

B. b.tomato

C. c. potato

D. d. citrus

**Answer:**



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**94.** How do lower organisms reproduce?



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**95.** What term is used for the progeny of asexually reproducing organisms?



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**96.** Are clone genetically and morphologically similar to parent?



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97. Write the chromosome number of body cells of honey bee workers and drones have.



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98. Why is apple referred to as false fruit?



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**99.** Mention the site where syngamy occurs in amphibians and reptiles respectively.



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**100.** Mention characteristics and function of zoospores in some algae.



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**101.** Name an alga that reproduces asexually through zoospores. Why are those reproductive units called so?



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**102.** Name the phenomenon and one bird where the female gamete directly develops into a new organisms.



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**103.** Name the vegetative propagules of Agave and bryophyllum.



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**104.** Name the vegetative Propagule in Bryophyllum.



**Watch Video Solution**

**105.** Banana is a true fruit and also a parthenocarpic fruit. Justify.



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**106.** Define life span.



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**107.** Mention the unique flowering phenomenon exhibited by strobilanthus

kunthiana.



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**108.** Name the oldest tree.



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**109.** How do the following organisms reproduce by asexual means

Hydra



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**110.** where does the sexual reproduction of malarial parasite take place in its life cycle?



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**111.** How do the following organisms reproduce by asexual means  
Planaria?



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**112.** What is fission? What is the basic difference between fission in amoeba and paramecium?



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**113.** When are pseudopodiospores formed?



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**114.** Explain the process of budding in yeast.





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**115.** How does asexual reproduction take place in fungi?



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**116.** Explain various steps of budding in yeast.



[Watch Video Solution](#)



**117.** Distinguish between Zoospores and Aplanospores.



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**118.** Write the differences between zoospore and a zygospor



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**119.** Describe fission in organisms as mode of reproduction.



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**120.** How does an encysted Amoeba reproduce on return of favourable conditions?



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**121.** Differentiate binary fission and multiple fission.



**Watch Video Solution**

**122.** Write a note on budding.



**Watch Video Solution**

**123.** Differentiate fission and budding.



**Watch Video Solution**

**124.** Explain fission and fragmentation



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**125.** What are gemmules and conidia? Name one organism each in which these are formed.



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**126.** Which part of bryophyllum can be used for vegetative propagation?



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**127.** Fill in the blanks

In Bryophyllum vegetative propagation text place through \_\_\_\_\_.



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**128.** Write a short note on natural vegetative propagation from reproductive organ.



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**129.** List the features of sexual reproduction.



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**130.** Write a note on sexuality in organisms.



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**131.** Why does the zygote in angiosperms start developing into embryo only after some endosperm is formed?



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**132.** Why do algae and fungi shift to sexual mode of reproduction just before the onset of adverse conditions?



**Watch Video Solution**

**133.** Why do algae and fungi shift to sexual mode of reproduction just before the onset of adverse conditions?



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**134.** Importance of Syngamy and Meiosis in life cycle of an organism.



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**135.** Angiosperms bearing unisexual flowers are said to be either monoecious or dioecious.

Explain with the help of one example each.



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**136.** What are Meicytes ?



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**137.** Differentiate between Parthenocarpy and Parthenogenesis. Give one example of each.



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**138.** There are various types of reproduction.

The type of reproduction adopted by an organism depends on:

A. (a) The habitat and morphology of the organism

B. (b) Morphology of the organism

C. (c) Morphology and physiology of the organism

D. (d) The organism's habitat, physiology and genetic make up

**Answer:**



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**139.** Double fertilisation involves

A. (a) Syngamy + Triple fusion

B. (b) Double fertilisation

C. (c) Development of antipodal cells

D. (d) None of above

**Answer:**



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**140.** The phenomenon wherein the ovary develop into a fruit without fertilisation is called

A. Apomixis

B. Asexual reproduction

C. Sexual reproduction

D. Parthenocarpy

**Answer:**



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**141.** Nonessential floral organs in a flower are

A. a, sepals and petals

B. b. anther and ovary

C. c. stigma and filament

D. d. petals only

**Answer:**



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**142.** Write merits of Vegetative propagation.



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**143.** Name an organism where cell division in itself is a mode of reproduction



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**144.** Why do internodal segments of sugarcane fail to propagate vegetatively even when they are in contact with damp soil?



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**145.** State the difference between meiocyte and gamete with respect to chromosome number.



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**146.** Why is whiptail lizard referred to as parthenogenetic?



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**147.** Mention two inherent characteristics of Amoeba and yeast that enable them to reproduce asexually.



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**148.** Why is offspring formed by asexual reproduction referred to as clone ?



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**149.** Coconut palm is monoecious while date palm is dioecious. Why are they called so?



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**150.** How do drones develop in honey bees?



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## Exercise

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

- A. Transfer of pollen grains
- B. Embryo development
- C. Formation of flower
- D. Formation of pollen grains

**Answer:**



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2. 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. 20

B. 10

C. 40

D. 15

**Answer:**



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**3. Define life span and death.**



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**4. Write the approximate life span of:**

Crow



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**5. Write the approximate life span of:**

Parrot.



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**6. Define meiocytes and gametes.**



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7. Name the essential event in sexual reproduction.



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8. What is the relation between ovary, fruit and pericarp?



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9. Name the common pollinating agents.



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**10.** Examine a few followers of any cucurbit plant and try to identify the staminate and pistillate flowers. Do you know any other plant that bears unisexual flowers?



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**11.** How progeny formed from sexual reproduction have better chances of survival,

why?



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**12.** Why is reproduction essential for organisms?



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**13.** Define fission. What are types of fission?



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**14.** Describe any three artificial methods of reproduction.



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**15.** The innermost layer of anther is tapetum whose function is

A. a. dehiscence

B. b. mechanical

C. c. nutrition

D. d. protection

**Answer:**



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**16. Define: Juvenile phase.**



**Watch Video Solution**

**17. Define: Reproductive phase.**



**Watch Video Solution**

**18. Define: Sensecent phase.**



**Watch Video Solution**