BIOLOGY

NEET & AIIMS

REPRODUCTION IN ORGANISMS

Example 1

1. Which of the following statement is associated with life span ?

(a) Characteristic feature of each organism

(b) Certainly associated with metabolic deversity of an organism

(c) Always correlated with complexity of an organism

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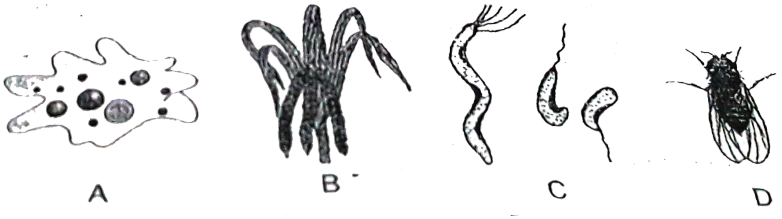
Example 2

1. From the given organisms chosse those which do not show senescence.



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Example 3

1. In which type of reproduction genetically similar offsprings are produced ? Give reason.

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Example 4

1. How binary fission in Amoeba can differentiated form budding in yeast ?

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Example 5

1. Can asexual reproduction occur through the formation of specialised reproductive structures ?

Mention name of two such structures.

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Example 6

1. Is the term clone applicable to the offspring formed by vegetative reproduction ? Site two reasons for this.

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Example 7

1. Site the name of few vegetative propagules with one example each

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Example 8

1. Justify the following terms/statements w.r.t mode of reproduction which is slow and complex .

(a) Biparental

(b) Offsprings show variations

(c) Sex calle involvement

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Example 9

1. (a) Mention the different phases in the life cycle of organism

(b) For which category of plants clear cut distinction between three phases is absent ?

(c) Which phase involves structural and functional deterioration of body ?

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Example 10

1. Which of the following statements are correct for events involved in sexual reproduction ? Justify them.

(a) Fundamental similarity in events

(b) Sexual structures are same

(c) Sequential events

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Example 11

1. Differentiate between two categories of gametes involved in sexual reproduction .

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Example 12

1. What relationship exists between the meiocyte and gamete w.r.t. chromosome number ?

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Example 13

1. Justify the given below terms for Chara.

(a) Specialised sex organs

(b) Monoecius

(c) Heterogametes

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Example 14

1. In which group of plants there is involvement of tube for movement of male gamete ? Justify this.

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Example 15

1. Fill in the blanks

	External fertilisation	Internal fertilisation
Syngamy	Outside body	A
Vulnerability to predator	B	C
Example	Most of algae	D

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Example 16

1. Define budding.

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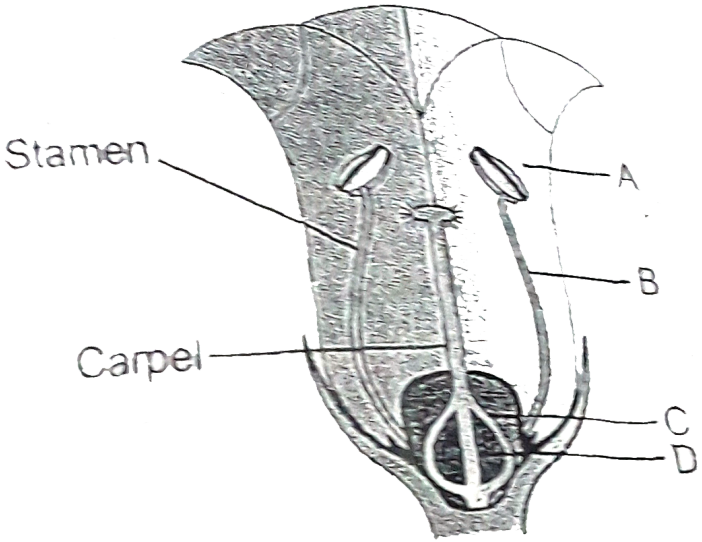
Example 17

1. In the given below diagram what will be the fate of A,B,C, and D after fertillisation ?



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Try Yourself

1. Arrange the following organisms w.r.t increasing life span

Peepal, Wheat, Banyan tree, Rose

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2. Rice plant Elephant Fruit fly, Banana tree

From the above given organisms select the organism having

(i) Minimum life span

(ii) Maximau life span

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3. State true or False :

(i) Multiceiular organisms are immortal.

(ii) Reproduction maintains continuity of species on earth surface

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4. State true or false :

(i) Asexual reproduction results production of clone

(ii) Meiosis is required for the formation of asexual reproductive structures

(iii) Asexual reproduction is absent in higher plants

(iv) Only internal factors regulate reproductive processes.

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5. Complete the sequence involved in binary fission in amoeba.

Nucleus enlarges $\rightarrow (A) \rightarrow \text{Cytokinesis} \rightarrow (B)$

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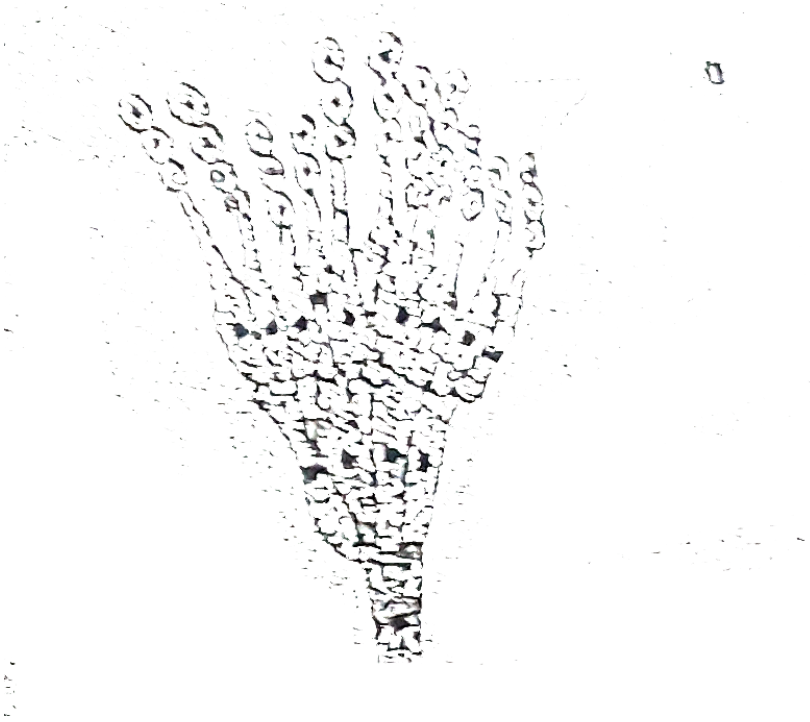
6. State true or false

Cell division itself is a mode of reproduction in single celled organisms

Watch Video Solution

7. Fill in the blanks w.r.t given figure



(i) Structure 'A' represents _____

(ii) Organism bearing reproductive structure is _____

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8. State true or false :

Specialised asexual structures are produced in lower plants.

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9. From the given organisms , how many can show vegetative propagule formation ?

Ginger, Potato, Chlamydomonas, Water hyacinth, Agave

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10. Fill in the blanks

(i) In Potato tuber new plantiet arises from _____

(ii) Bryophyllum shows formation of _____ buds from leaf notches

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11. State true or false :

(i) Sexual reproduction is always biparental

(i) Sexual reproduction or may not be present in reproduction which

produces variations

(iii) Most common method of reproduction in lower plants is asexual one

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12. Complete the sequence involved in the cycle of polycarpic plant.

$(\text{Juvenile phase}) \rightarrow (\text{Flowering}) \rightarrow (A) \rightarrow (\text{Flowering}) \rightarrow (\text{Senescent pha}$

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13. State true or false :

(i) Juvenile phase can be known as vegetative phase in all plants.

(ii) Mango is polycarpic plant.

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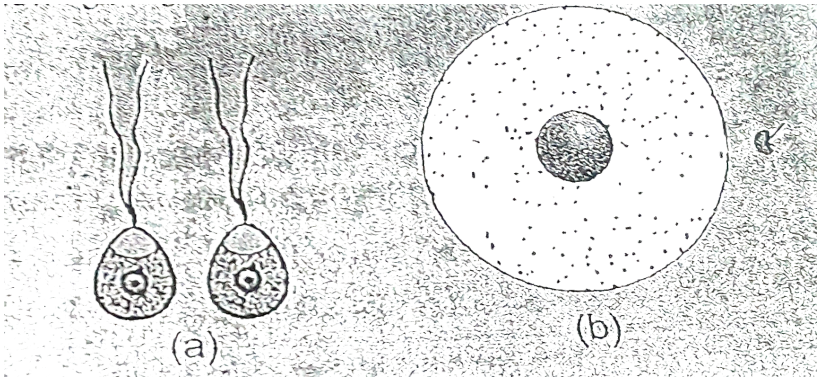
14. What does the following diagram represent ?



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15. State true or false

In most of the sexually reproducing organisms isogametes are formed

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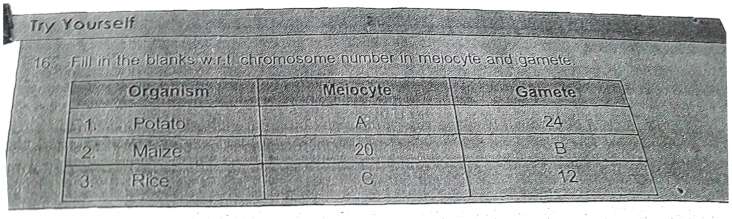
16. Fill in the blanks w.r.t chromosome number in meiocy and gamete



Try Yourself

16. Fill in the blanks w.r.t. chromosome number in meiocyte and gamete.

	Organism	Meiocyte	Gamete
1.	Potato	A	24
2.	Maize	20	B
3.	Rice	C	12

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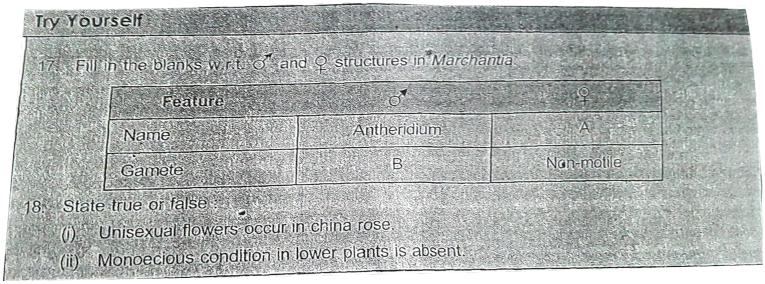
17. Filll in the blanks w.r.t (Male) and (Female) structures in Marchantia.



Try Yourself

17. Fill in the blanks w.r.t. ♂ and ♀ structures in *Marchantia*.

Feature	♂	♀
Name	Antheridium	A
Gamete	B	Non-motile

18. State true or false :

(i) Unisexual flowers occur in china rose

(ii) Monoecious condition in lower plants is absent

Watch Video Solution

18. State true or false :

(i) Unisexual flowers occur in china rose

(ii) Monoecious condition in lower plants is absent.

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19. Choose odd one w.r.t categories of plants where pollen tube is requied for gamete transfer Angiosperm Gymnosperms , Bryphytes algae

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20. State true or false :

(i) In few lower plants both gametes are motile.

(ii) Pollen tube can carry both male or female gamete.

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21. Fill in the blanks

(i) Great synchrony between release of gametes is in _____ fertillsation

(ii) To enhance the chances of syngamy the number of (Male) gametes show _____ and (Female) gametes show _____

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22. State true or false

(i) Zygote is always formed inside the body

(ii) Zygote may represent "over wintering stage" in life cycle of organism

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23. Fill in the blanks

(i) Progenitor of next generation in seed is _____

(ii) Morphogenesis and differentiation is parts of _____

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Exercise

1. Select the odd out w.r.t. life - span

A. Spans of organisms are not correated with their size

B. Crows and parrots show wide difference in their life - spans

C. Life span of rice is 3-4 weeks

D. It is the period between birth and natural death of an organism

Answer: C

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2. Select the plant having the shortest life span

A. Banyan

B. Peepal

C. Banana

D. Rose

Answer: D

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3. Select the incorrect match

A. Asexual reproduction : Somatogenic reproduction

B. Sexual reproduction : Fusion of gametes

C. Vegetative Propagation : Rhizome

D. Clones : Morphologically similar genetically dissimilar

Answer: D

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4. Cell division is itself a mode od reproduction in

A. Protista and all fungi

B. Monera, fungi and higher plants

C. Protista and monera

D. Protista only

Answer: C

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5. Most common special asexual reproductive structure seen in members of algae is

A. Zoospore

B. Cpnidia

C. Sporangiospore

D. Gemmules

Answer: A

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6. Select the correct match w.r.t vegetative propagules in angisperms

A. Rhizome : Water hyacinth

B. Offset : Bryophyllum

C. Bulbil : Oxalis

D. Leaf buds : Ginger

Answer: C

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7. The site of origin of the new plantlets in potato sugarcane and banana are

A. Nodes

B. Internodes

C. Both nodes and internodes

D. Leaf margins

Answer: A

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8. Match the Column I with Column II.

	Column I (Plant)		Column II (Vegetative reproduction by)
(a)	Turmeric	(i)	Stolon
(b)	Crocus	(ii)	Rhizome
(c)	Vallisnerla	(iii)	Aerial shoot
(d)	Opuntia	(iv)	Corm

A. a(i), b(iv), c(iii), d(ii)

B. a(ii), b(iv), c(i), d(iii)

C. a(iv), b(ii), c(iii), d(i)

D. a(ii), b(i), c(iv), d(iii)

Answer: B

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9. The vegetative propagules in aquatic plants like Vallisneria and Eichhornia are

A. Stolon in both

B. Suker and offset respectively

C. Stolon and offset respectively

D. Offset in both

Answer: C

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10. Select correct statements w.r.t vegetative reproduction in Dahlia

A. Adventitious buds present on root sprout to form new plants

B. Nodal buds of aerial stem form new plants

C. Underground stem buds grow into new plants

D. Bulbil present on floral axis grow into daughter plants

Answer: A

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11. In cutting method, ausin hormone is used to

A. Develop shoots

B. Initiate leaves

C. Initiate roots

D. Develop floral buds

Answer: C

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12. In which of the following plants grafting is not possible ?

A. Plum

B. Pear

C. Mango

D. Maize

Answer: D

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13. Select the odd one w.r.t sexual reproduction

A. Diverse organisms show great diversity in sexual mode of reproduction

B. Juvenile phase is called vegetative phase in plants

C. Offsprings are not identical to the parents

D. Fusion of gametes results in formation of zygote

Answer: A

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14. Select the plant species which flower only in their life generally after 50-100 years produce large number of fruits and die.

A. Strobianthus

B. Bamboo

C. Rice

D. Teak

Answer: B

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15. In diploid organisms gamete mother cells produce gametes. They are called

A. Meiocytes

B. Mitocytes

C. Egg

D. Pollen

Answer: A

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16. Find the correct match

A. Monoecious plant : Biseexual flower

B. Dioecious plant : Polygamous plant

C. Haploid parants : Mitogametes

D. Dissimilar gametes : Isogametes

Answer: C

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17. In Chara, male sex organ is called as

A. Globule

B. Nucule

C. Oogonium

D. Carpocephalum

Answer: A

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18. In majority of plants fertilization is

A. External

B. Internal and oogamous

C. Isogamous

D. External and oogamous

Answer: B

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19. The vital link ensures continuity of species between organisms of one generation and the next is

A. Zygote

B. Sperm

C. Pollen grain

D. Egg

Answer: A

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20. External fertilisation

A. Homogametes

B. Internal fertilisation

C. Heterogametes

D. Zygotic mitosis to develop embryo

Answer: D

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Assignment Section A Objective Type Questions

1. Arrange the following w.r.t increasing life span : Rose, Fruit fly Rice

A. Fruit fly, Rice Rose

B. Rose, Rice, Fruit fly

C. Rice, Rose, Fruit fly

D. Fruit fly, Rose, Rice

Answer: A

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2. Which of the following factors is/are responsible for how organism reproduces ?

A. Organism habital

B. Internal physiology

C. Environmental factors

D. More than one option is correct

Answer: D

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3. Process of reproduction which results in production of identical offsprings is

A. Complex, fast

B. Simple, slow

C. Fast, simple

D. Fast elaborate

Answer: C

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4. Asexual reproduction is common in

A. Single celled organisms

B. Organisms having simple organisation

C. Aquatic plants

D. More than one option is correct

Answer: D

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5. For which of the following organisms there is no natural death ?

A. Bacteria reproducing by sporulation

B. Yeast reproducing by budding

C. Unicellular organisms reproducing by spores

D. Unicellular organisms reproducing by binary fission

Answer: D

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6. Cell division itself is a mode of reproduction in

A. Amoeba, Penicillium

B. Chara, Bacteria

C. Chlamydomonas, Penicillium

D. Amoeba, Bacteria

Answer: D

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7. During budding in yeast

A. Cytokinesis is unequal

B. Identity of parent is lost

C. Clones are produced

D. More than one option is correct

Answer: D

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8. Most common asexual structure produced in algae is

A. Thick walled

B. Multicellular

C. Flagellated

D. Produced in chains

Answer: C

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9. In which of the following plants roots bud is involved in vegetative propagation ?

A. Sugarcane

B. Banana

C. Ginger

D. Dahlia

Answer: D

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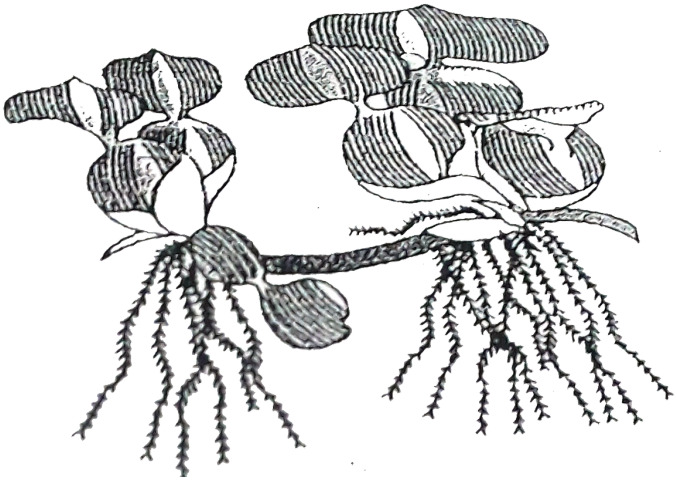
10. Choose incorrect option for given below organism



A. Scourge of the water bodies

B. Reproduction through offset

C. Found in running water

D. Drains oxygen from water

Answer: C

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11. For commercial propagation of banana and ginger which of the following parts are utilised respectively ?

A. Rhizone, Sucker

B. Rhizome, Tuber

C. Tuber, Bulb

D. Sucker, Rhizome

Answer: D

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12. Offsprings produced through which of the following processes/structures represent clone ?

A. Gametic fusion

B. Syngamy

C. Vegetative propagule

D. More than one option is correct

Answer: C

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13. "Vegetative reproduction is also a type of asexual reproduction" Which of the following statements justufy this ?

A. Involvement of one parent

B. Gametes are not involved

C. Does not involve moiosis

D. More than one option is correct

Answer: D

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14. Choose incorrect match

A. Bulbil - Agave

B. Sucker - Pineapple

C. Tuber - Bryophyllum

D. Rummer-Grasses

Answer: C

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15. In all the sexually reproducing organisms, events involved are

A. Same, sequential

B. Same, non-sequential

C. Different, sequential

D. Different, non-sequential

Answer: A

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16. Choose odd one w.r.t. sexuality

A. Coconut

B. Cucurbits

C. Chara

D. Papaya

Answer: D

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17. What would be the number of chromosomes in the meiocyte any gamete of onion respectively ?

A. 24, 12

B. 34, 17

C. 16, 8

D. 14, 17

Answer: C

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18. Majority of sexually reproducing organisms from

A. Isogametes

B. Homogameters

C. Heterogametes

D. More than one option is correct

Answer: C

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19. Chara possess

A. Sex organs above nodes

B. Multicellular and jacketed sex organs

C. (Male) structure - Globule, (Female) - Nucule

D. Both (2) & (3)

Answer: D

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20. Give the ploidy of following structures in angiospermoc plants

Zygote, Endosprm, Ovum

A. n,nn2n

B. 2n,2n,n

C. 2n,3n,n

D. 2n,n,2n

Answer: C

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21. From the given below processes how many are associated with post-fertilisation event ?

A. Syngamy, gamete, transfer

B. Gametogenesis, cell division

C. Cell differentiation, gametic fusion

D. Embryogenesis, PEN formation

Answer: D

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22. In flowering plants, zygote is formed

A. Inside ovule

B. inside archegonium

C. In water

D. More than one option is correct

Answer: A

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23. Which of the following feature is universal in all sexually reproducing rganisms ?

A. Embryo formation

B. Gametic meiosis

C. Zygote formation

D. Pollen grain transfer

Answer: C

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24. Arrange the following plants w.r.t. increasing number of chromosome

Rice, Maize, Apple

A. Maize, Rice, Apple

B. Apple, Rice, Maize

C. Apple, Maize, Rice

D. Rice, Maize, Apple

Answer: A

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25. Strobilanthus kunthiana

A. Shows flowering once in 12 months

B. Transformed hilly tracks of Kerala, Karnataka, Tamil Nadu into stretches

C. Showed flowering during November - December 2006

D. An annual plant

Answer: B

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26. In fungi homothallic term is used represent

A. Dioecious comdition

B. Unisexual condition

C. Bisexual condition

D. More than one option is correct

Answer: C

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27. Thick walled resistant zygote can be produced in the life cycle of

A. Algae, fungi

B. Bryophytes, pteridophytes

C. Gymnosperms, algae

D. Angiosperms, fungi

Answer: A

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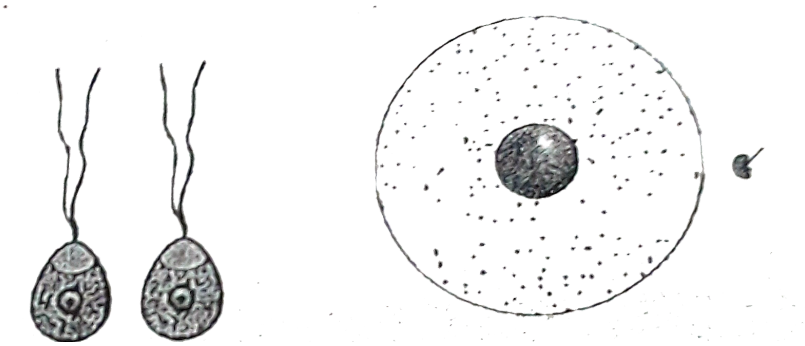
28. Given figures labelled by A & B represent



A. A B
(1) Isogametes of Rhizopus Heterogametes of Fucus

B. A B
(1) Isogametes of Cladophora Heterogametes of Fucus

C. A B
(1) Isogametes of Rhizopus Heterogametes of angiosperms

D. A B
(1) Isogametes of Chara Heterogametes of Synchytrium

Answer: B

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29. Self fertilisation is seen in

A. Unisexual flower of papaya

B. Bisexual flower of pea

C. Unisexual flower of date palm

D. Bisexual flower of coconut

Answer: B

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30. Choose incorrect option w.r.t. transition after fertilisation in angiosperms

A. Zygote $\rightarrow$ Embryo

B. PEN $\rightarrow$ Endosperm

C. Ovary $\rightarrow$ Fruit

D. Integument $\rightarrow$ Pericarp

Answer: D

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31. Which of the following vegetative propagule represents large size fleshy bud ?

A. Bulbil

B. Bulb

C. Sucker

D. Rhizome

Answer: A

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32. Choose correct sequence for different stages in the life cycle of rice.

A. Juvenile phase $\rightarrow$ Recovery phase $\rightarrow$ Flowering phase $\rightarrow$ Senescence

B. Juvenile phase $\rightarrow$ Interflowering phase $\rightarrow$ Reproductive phase

C. Juvenile phase $\rightarrow$ Reproductive phase $\rightarrow$ Senescence

D. Juvenile phase $\rightarrow$ Senescence $\rightarrow$ Interflowering phase

Answer: C

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33. Choose odd one w.r.t flowering and fruiting pattern

A. Rice, Wheat

B. Marigold, Maize

C. Pea, Rice

D. Mango, Apple

Answer: D

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34. Choose odd one w.r.t. medium through which male gametes are transferred ?

A. Algae, Bryophytes

B. Pteridophytes, Algae

C. Simple plant Bryophytes

D. Gymnosperms, Angiosperms

Answer: D

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35. Choose odd one w.r.t vegetative propagule involved in cultivation in following plants

A. Banana

B. Ginger

C. Bryophyllum

D. Potato

Answer: C

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Assignment Section B Objective Type Questions

1. In the process of asexual reproduction

A. Large number of individuals are produced due to involvement of reduction division

B. Individuals are genetically similar to one another but not their parents

C. There is no need to search for a male

D. Gametes may or not be fused

Answer: C

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2. Members of which of the following groups reproduce through special asexual reproductive structures ?

A. Algae, Bryophytes

B. Fungi, Algae

C. Pteridophytes, Angiosperms

D. Fungi, Pteridophytes

Answer: A, B

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3.

Zoospore,	Conidia,	Tuber,
Offset,	Pollen,	Zygote,

From the structure given in above box how many are not associated with asexual reproduction ?

A. Three

B. Two

C. Four

D. One

Answer: B

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4. In vegetative propagule of potato and Bryophyllum new plants arise from respectively

A. Axillary bud, Adventitious bud

B. Adventitious bud, Axillary bud

C. Axillary bud, Axillary bud

D. Leaf bud, Axillary bud

Answer: A

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5. Select the incorrect statement

A. Zygote is thick walled diploid sexual spore

B. Flowers are bisexual in sweet potato

C. Ulothrix shows external fertilisation

D. The nucule in Chara has a cap of five coronary cells

Answer: A

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6. Choose correct option w.r.t. following structures

		Cellular structure	Flagella	Wall
(a)	Zoospore	Unicellular	Present	Thick
(b)	Conidia	Unicellular	Absent	Thin
(c)	Gamete	Unicellular	Can be present	Thick

A. (a) & (b)

B. (b) & (c)

C. (a) & (c)

D. (b) only

Answer: D

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7. Choose correct option for asexual and sexual reproduction in organisms that have a relatively simple organisation.

	Feature	Asexual reproduction	Sexual reproduction
(a)	Condition	Favourable	Unfavourable
(b)	Occurrence	More	Less
(c)	Structures	Spore	Gamete
(d)	Division	Meiosis	Mitosis

A. (a) & (b)

B. (b) & (c) only

C. (a), (b) & (c)

D. (c) & (d)

Answer: C

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8. Which of the following plants produce non-motile male garmets ?

A. Ulothrix Marchantia

B. Strobianthus, Chara

C. Spirogyra, Ulothrix

D. Mangifera, Pinus

Answer: D

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9. Fleshy buds in aquatic plants are known as

A. Bulbils

B. Offset

C. Turions

D. Rhizome

Answer: C

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10. Clear cut distinction between vegetative reproductive and senescent phase is shown by

A. All annuals and perennials

B. All biennial and perennials

C. All annuals and biennials

D. All perennials

Answer: C

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11. In few fungi and most of the algae

A. (Male) gamete-motile, (Female) gamete-motile

B. (Male) gamete- non-motile, (Female) gamete - non-motile

C. (Male) gamete- non-motile, (Female) gamete-motile

D. (Male) gamete-motile, (Female) gamete - non-motile

Answer: A

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12. Select correct option w.r.t chromosomes number in sexual life cycle of apple

A. Megasporocyte - 34, Microspore 17, PEN -51

B. Oosphere - 34, Nucellus - 34, Pollengrain - 17

C. Meiospore - 34, Microspore -17, Embryo-34

D. Meiocyte - 34, Sporocyte - 34, Pollen tetrad -34

Answer: A

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13. Choose correct option w.r.t division during gamete formation and division in zygote for organisms having haplontic life cycle respectively

A. Mitosis, mitosis

B. Meiosis, meiosis

C. Mitosis, meiosis

D. Meiosis, mitosis

Answer: C

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14. Which of the following plants groups shows internal fertillsation only ?

(a) algae , (b) Bryophytes

(c) Pteridophytes , (d) Fungi

A. (b) & (c)

B. (a) & (b)

C. (c) & (d)

D. (a) & (c)

Answer: A

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15. Which of the following featurs cannot be shown by structure which is vital link between be two generation ensuring continuity of species ? (a) Thick walled

(b) Multicelled

(c) One set of chromosomes

(d) Meiocyte

(e) Resting structure

A. (a), (b), & (e)

B. (a),(b) & (d)

C. (b) & (c)

D. (d) & (e)

Answer: C

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16. Organisms showing internal fertilisation shows reduction in number of _____ gamete and increase in number of _____ gamete.

A. (Male) , (Female)

B. Sperm, eggs

C. (Female), (Male)

D. Male, Female

Answer: C

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17. Choose correct option w.r.t. features of different plant groups

A.

	Group	Embryo	Gametes	Asexual spore
(1)	Bryophytes	Present	Homogamete	absent

B.

	Group	Embryo	Gametes	Asexual spore
(2)	Pteridophytes	Present	Homogamete	present

C.

	Group	Embryo	Gametes	Asexual spore
(3)	Ulothrix	absent	Homogamete	present

D.

	Group	Embryo	Gametes	Asexual spore
(4)	Gymnosperms	absent	Homogamete	present

Answer: C

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18. Synchrony between the maturity of sexes and release of large number of gametes is shown by

A. All spermatophytes

B. All bryophytes

C. Most of the algae

D. Most of the land plants

Answer: C

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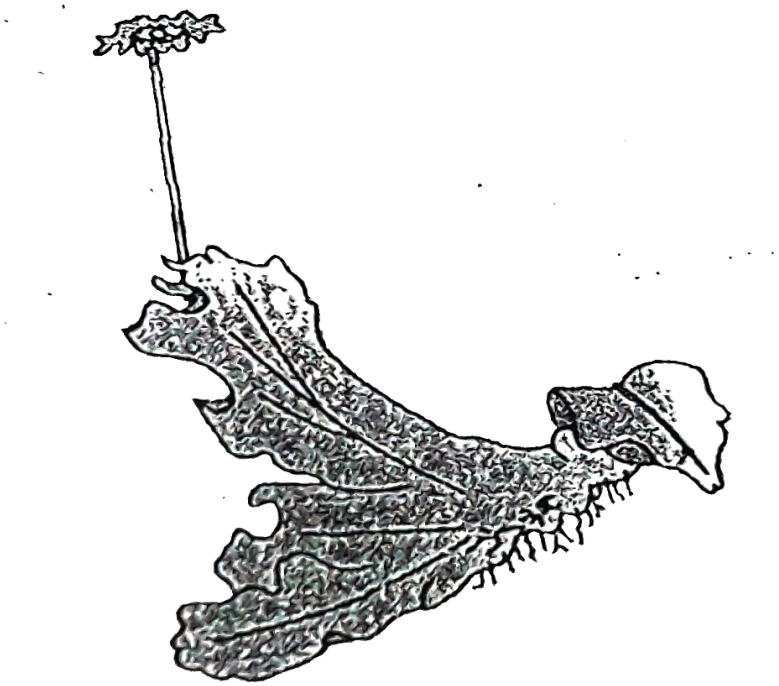
19. Choose correct option w.r.t given bellow thallus



A. Produce male gamete

B. From sexual branches as antheridiophore

C. After fertilisation possess zygote

D. More than one option is correct

Answer: D

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20. Which of the following represent the correct sequence of phases in the life cycle of wheat ?

[where J-Juvenile phase, R- Reproductive phase, I-Interflowering period , G-Gap phase, S-senescence, V-Vegetative phase]

A. $V \rightarrow I \rightarrow R \rightarrow G \rightarrow S$

B. $J \rightarrow R \rightarrow G \rightarrow R \rightarrow S$

C. $J \rightarrow R \rightarrow S$

D. $V \rightarrow R \rightarrow S \rightarrow G$

Answer: C

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21. Study the following statements and choose the correct option.

I. Life spans of organisms are correlated with sizes.

II Death of all individuals is certain

III. The organism's habital, internal physiology etc.

are collectively responsible for how it reproduces.

IV. When offspring is produced by single parent with or called asexual reproduction.

A. I, II are correct

B. III, IV are correct

C. I, III are correct

D. II, IV are correct

Answer: B

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22. A portion of underground stem bearing bud forms a new plant in

A. Adiantum, Colocasia and Vallisneria

B. Narcissus, Gladiolus and Freesia

C. Garlic, Onion and Water hyacinth

D. Turmeric, Ginger and Strawberry

Answer: B

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23. Which of the following statements about vegetative reproduction is incorrect ?

A. Stem cutting is a common horiticultural method of plant propagation

B. In trench layering the basal branch may pegged at several places in soil at regular intervals

C. Stock has large diameter than scion in crown grafting

D. Gootee is an ancient method of propagation in subtropical trees and shrubs

Answer: B

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24. Grafting method can be used

A. In all tracheophytes

B. Only in gymnospermic plants

C. In cambium containing eustelic plants

D. Only in atactostelic plants

Answer: C

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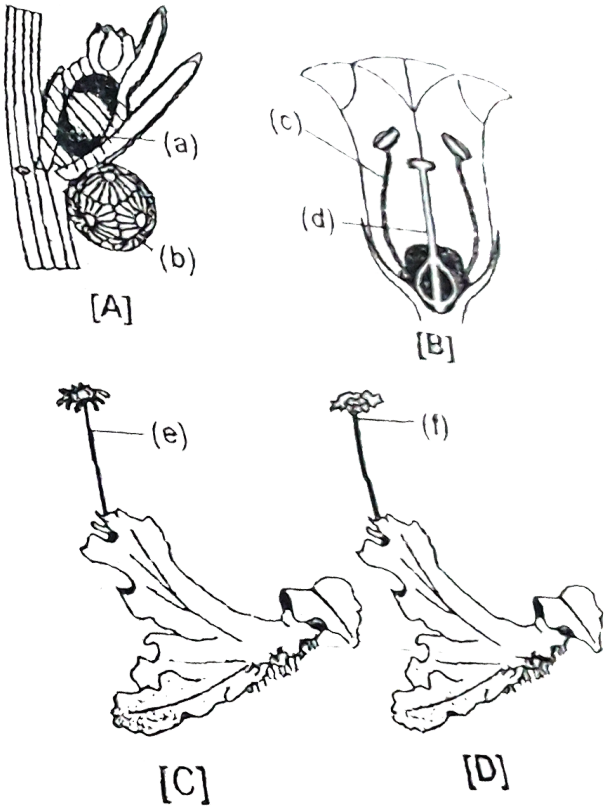
25. Examine the figures A,B,C & D given below and select the right option for female sex organs.



A. a,d, & f

B. b,d & f

C. a,c & e

D. a,d & e

Answer: D

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26. Study the following statements and choose the correct option.

I. Asexual reproduction is common among single celled organisms and organisms with relatively simple organisation

II. Conidia, bud, gemmules are common sexual structures

III. Runner, rhizome, sucker, tuber, offset, bulb are vegetative propagules

IV. The invasive weeds found growing in fresh water bodies is Zostera.

A. I, II are correct

B. III, IV are correct

C. I, III are correct

D. II, IV are correct

Answer: C

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27. Read the following statement carefully "Further development of zygote depends on the type of life cycle the organism has the enviroment it exposed to"

Identify the correctly matched pair w.r.t the above statement.

A. Thick walled zygote - Haplontic life cycle

B. Zygote forms new generation by mitosis represted by few cells - Haplodiplontic life cycle

C. Zygote undergoes meiosis to form haploid generation - Diplontic life cycle

D. Aygote forms multicellular diploid generation - Haplontic life cycle.

Answer: A

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28. The vital link that ensures continuity of species between organism of generation and next are all except

A. Zygospore

B. Oospore

C. Zygote

D. Oosphere

Answer: D

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29. Choose the correct options from the following

I. Annual and beinnial plants show clear cut vegetative, reproductive and senscent phases

II. Bamboo species flower only once in life generally after 50-100 years.

III. Strobilanthus kunthiana is a monocarpic plant which flowers only once - after 6 years.

A. I, III are correct

B. II is correct

C. I, II are correct

D. III is correct

Answer: C

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30. Choose the correct options

I. Gametes are always produced from diploid parent plant body.

II. Meiocytes are sporocytes in all plants.

III. The gymnosperms and pteriodophytes have diploid parent body.

IV. In seed plants, pollen grains are carrier of male gametes.

A. I, II are correct

B. III, IV are correct

C. I, III are correct

D. II, IV are correct

Answer: B

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31. Choose the correct option fron following statements

I. During embryogenesis, zygate undergoes mitotic cell division.

II. In organisms with diplontic life cycle, zygote divides by meiotic cell division.

III. The pericarp (fruit wall) develop from integument of ovule, after fertillzation.

IV. In brinjal, sepals remained attached to fruit even after fertilization.

A. I,II are incorrect but III, IV are correct

B. III, IV are incorrect but II, III are correct

C. I,IV are incorrect but II, III are correct

D. II, III are incorrect but I, IV are correct

Answer: D

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32. The progenitor of the next generation in mature seed is

A. Gamete

B. Spore

C. Oospore

D. Emrbyo

Answer: D

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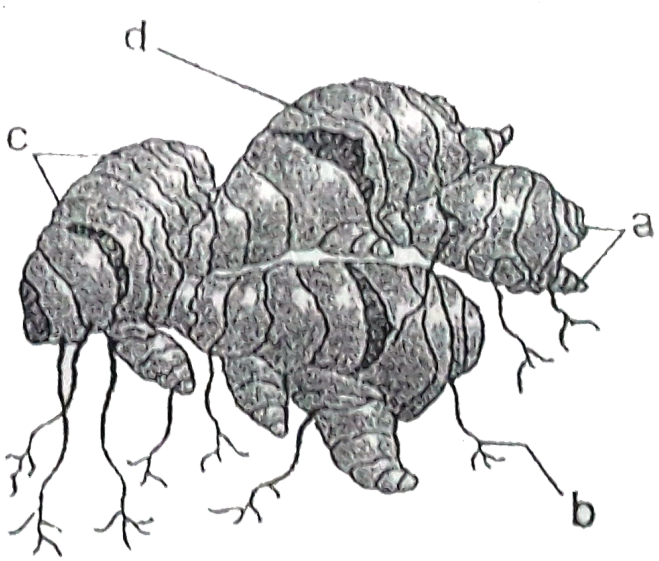
33. Examine the figure given below and select the correct option for labelled parts, a,b,c,d



A. a- buds

b- Adventitious root

c- Leaves

d- Nodes

B. a- Nodes

b- Adventitious root

c- Leaves

d- Buds

C. a- Buds

b-Adventitious

c- Nodes

d- Leaves

D. a-Nodes

b-Adventitious root

c-Buds

d-Leaves

Answer: C

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34. From the given categories of bud choose the one which is present on potato tuber ?

Nodal bud, Adventitious, Axillary bud, Leaf bud, Extra-axillary bud

A. Adventitious , axillary bud

B. Nodal, axillary bud

C. Leaf, extra-axillary bud

D. Nodal, adventitious bud

Answer: B

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35. What is the carrier of (Male) gamete in the Pinus, Marchntia, Mango, Chara, Funaria respectively ?

[Where A-Pollen tube, $B - H_2O$]

A. A,B,B,A,A

B. A,B,A,B,B

C. B,A,A,B,A

D. A,B,A,A,B

Answer: B

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Assignment Section C Previous Years Question

1. Which one of the following statements is not correct ?

A. Offspring produced by the asexual reproductive are called clone

B. Microscopic, motile asexual reproductive structures are called zoospores

C. In potato, banana and ginger, the plantlets arise from the internodes present in the modified stem

D. Water hyacinth growing in the standing water that leads to the death of fishes

Answer: C

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2. Which one of the following generates new genetic combinations leading to variation ?

A. Vegetative reproduction

B. Parthenogenesis

C. Sexual reproduction

D. Nucellar polyembryony

Answer: C

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3. In bryophytes and pteridophytes transport of male gameyes requires

A. Water

B. Wind

C. Imsects

D. Birds

Answer: A

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4. Which of the following pairs is not correctly matched

A.

	Mode of reproduction	Example
(1)	Conidia	Penicillium

B.

	Mode of reproduction	Example
(2)	Offset	Water hyacinth

C.

	Mode of reproduction	Example
(3)	Rhizome	Banana

D.

	Mode of reproduction	Example
(4)	Binary fission	Sargassum

Answer: D

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5. In ginger vegetative propagation occurs through

A. Runners

B. Rhizome

C. Offsets

D. Bulbils

Answer: B

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6. Which one of the following is wrong about Chara ?

A. Upper oogonium and lower round antheridium

B. Globule and bucule present on the same plant

C. Upper antheridium and lower oogonium

D. Globule is male reproductive structure

Answer: C

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7. Isogamous condition with non-flagellated gametes is found in

A. Spirogyra

B. Volvox

C. Fucus

D. Chlamydomonas

Answer: A

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8. Product of sexual reproduction generally generates

A. Prolonged dormancy

B. New genetic combination leading to variation

C. Large biomass

D. Longer viability of seeds

Answer: B

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9. Which one of the following is correctly matched ?

A. Chlamydomonas - Conidia

B. Yeast - Zoospores

C. Onion - Bulb

D. Ginger - Sucker

Answer: C

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10. Select the wrong statement :

A. Anisogametes differ either in structure function or behaviour

B. In Oomycetes femate gemete is smaller and motile, while male gamete is larger and non-motile

C. Chlamydomoas exhibits both isogamy and anisogamy and Fucus show oogamy

D. Isogametes are similar in structure, function and behaviour

Answer: B

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11. Monoecious plant of Chara show occurrence of

A. Stamen and carpel on the same plant

B. Upper antheridium and lower oogonium on the same plant

C. Upper oogonium and lower antheridium on the same plant

D. Antheridiophore and archegoniophore on the same plant

Answer: C

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12. Which one of the following is common to multicellular fungi, filamentous algae and protonema of mosses ?

A. Mode of Nutrition

B. Multiplication by fragmentation

C. Diplontic life cycle

D. Members of kindom plantae

Answer: B

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13. The "Eyes" of the potato tuber are

A. Axillary buds

B. Root buds

C. Flower buds

D. Shoot buds

Answer: A

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14. Which one of the following pairs is wrongly matched while the remaining three are correct ?

A. Bryophyllum - Leaf buds

B. Agave - Bulbils

C. Penicillium - Conidia

D. Water hyacinth - Runner

Answer: D

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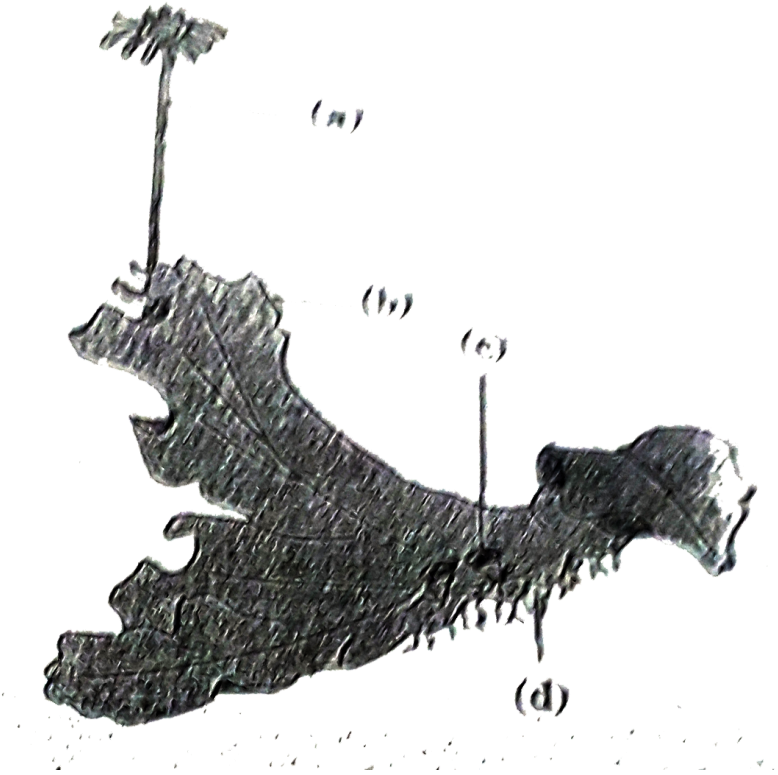
15. Examine the figure given below and select the right option giving all the four (a, b, c, d) correctly identified



A. (1) a-Seta b-Sporophyte c-Protonema d-Rhizoids

B. (2) a-Antheridiophore b-Male thallus c-Globule d-Roots

C. (3) a-Archegoniophore b-Female thallus
c-Gemmacup d-Rhizoids

D. (4) a-Archegoniophore b-Female thallus
c-Bud d-Foot

Answer: C

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16. Which of the following propagates through leaf-tip ?

A. Walking fern

B. Sprout - leaf plants

C. Marchntia

D. Moss

Answer: A

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17. In oogamy, fertilization involves

A. A small non-motile female gamete and a large motile male gamete

B. A large non-motile female gamete and a small motile male gamete

C. A large non-motile female gamete and a small non-motile male gamete

D. A large motile female gamete and a small non-motile male gamete

Answer: B

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18. In which one of the following pair both plants can be vegetatively propagated by leaf buds ?

A. Agave and Kalanchoe

B. Bryophyllum and Kalanchoe

C. Asparagus and Bryophyllum

D. chrysanthemum and Agave

Answer: B

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19. Why is vivipary an undesirable character for annual crop plants ?

A. It reduces the vigour of the plant

B. It adversely affects the fertility of the plant

C. The seeds exhibit long dormancy

D. The seeds cannot be stored under normal conditions for the next season

Answer: D

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20. Vegetative propagation in Mint occurs by

A. Sucker

B. Runner

C. Offset

D. Rhizome

Answer: A

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21. Which one of the following plants is monoecious

A. Papaya

B. Merchantia

C. Pinus

D. Cycas

Answer: C

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22. Which one of the following is a polygamous plant ?

A. Maize

B. Coconut

C. Litchi

D. Papaya

Answer: C

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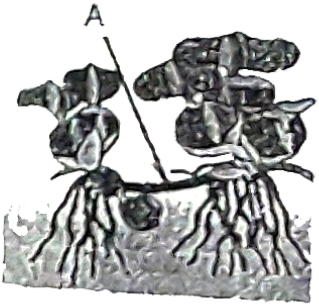
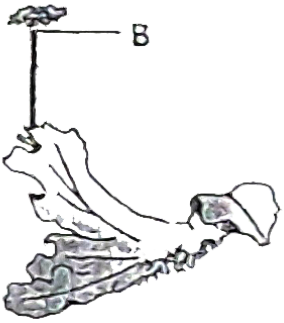
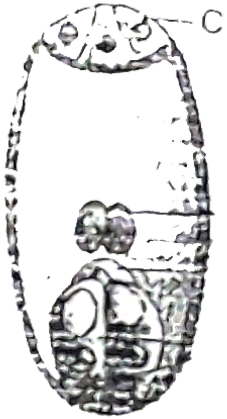
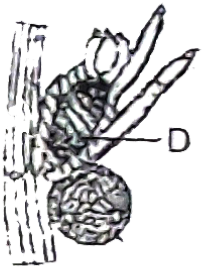
23. Examine the figures (A-D) given below and select the right option out of 1-4 in which all the four structures A,B,C and D are identified correctly

Structures :









A. (1) A Rhizome, B Sporangiophore, C Polar cell, D Globule

B. (2) A Runner, B Archegomiophore, C Synergid, D Antheridium

C. (3) A Offset, B Antheridiophore, C Antipodals, D Oogonium

D. (4) A Sucker, B Seta, C Megaspore mother cell, D Gemma cup

Answer: C

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24. Vegetative propagation in Pistia occurs by

A. Stolen

B. Offset

C. Runner

D. Sucker

Answer: B

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25. Syngamy can occur outside the body of the organism in

A. Fungi

B. Mosses

C. Algae

D. Ferns

Answer: C

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Assignment Section D Assertion Reason Type Question In The Following Questions A Statement Of Assertion A Is Followed A Statement Of Reason R

1. A : At the end of juvenility, the organism develops the capacity to reproduce.

R: It represents the time period between the first and next flowering in plants.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: C

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2. A: Reproduction is a biological process of giving rise to young once . . .

R: Reproduction increases population and maintains the continuity of species.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: B

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3. A: Endogamy is common is majority of animals

R: Fusing gametes are quite different and develop from the different individuals

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: D

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4. A: The higher organisms must evolve a special mechanism for gamete transfer.

R: Male and female gametes are formed in different individuals.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: A

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5. A: Air layering does not produce a composite plant.

R: Stock and scion are fused to from a composite plants during grafting.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: B

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6. A : Most of the species of Chara are monoecious but show cross fertilization

R : The plant body shows protandrous condition .

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: A

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7. A: Multiplication occurs rapidly with equal rate in apomixis as well as in amphimixis.

R: Both types show mitotic as well as meiotic division.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: D

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8. A : Fucus, a brown alga shows oogamy.

R: Female gamete is quite large as compare to male gamete.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: A

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9. A : Runner, tuber, sucker, offset etc. are vegetative propagules.

R: Two parents are involved the formation of these structure.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: C

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10. A : Cereals are monocarpic plants.

R: They have distinct juvenile, reproductive and senescent phases.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: B

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11. A: The number of male gametes produced is several times than the number of female gametes produced

R: This compensates the loss of male gametes during movement.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: A

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12. A: An Volvox, heterogametes are formed in sexual life cycle.

R: Non-motile (Male) gametes are transferred by water.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: C

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13. A: Zygote is the first cell of the new ganeration in all sexually reproducing organisms.

R: Cell division and cell differenttiation are the stages of embryogenesis.

R: Cell division and cell differentiation are the stages of embrygenesis.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: B

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14. A: Water hyacinth is one of the most invasive weed.

R: It increases the dissolved oxygen of water.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: C

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15. A: No individual is immortal except one celled organisms

R: A few number of plants and animals species have existed of earth and do not die because of budding.

A. If both Assertion & Reason are true and the reason is the correct explanation of the assertion, then mark (1)

B. If both Assertion & Reason are true and the reason is not the correct explanation of the assertion, then mark (2)

C. If Assertion is true statements but Reason is false then mark (3)

D. If both Assertion and Reason are false statements, then mark (4)

Answer: C

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