



BIOLOGY

BOOKS - A2Z BIOLOGY (HINGLISH)

REPRODUCTIVE IN ORGANISMS

Section A Topicwise Questions Topic 1 Asexual Reproduction

1. Each and every organism can live only for a certain period of time. The period from birth to the natural death of an organism represents its life span.

- A. Asexual reproduction
- B. Sexual reproduction
- C. Development.
- D. Life span

Answer: D



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2.

Whatever be the life span, death of every individual organism is a certainty, i.e., no individual is immortal, except

- A. Human beings
- B. Amoeba and Paramecium
- C. Single-celled organisms
- D. Both B and C.

Answer: C



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3. No individual is immortal then it is wondering that vast number of plant and animal species have existed on earth for several thousands of years. There must be some processes in living organisms that ensure this continuity. This process is called

- A. Growth
- B. Development
- C. Reproduction
- D. Fertilisation.

Answer: C

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4. Match the column I and II, and choose the correct combination from the options given.

Column I	Column II
Drosophila	1-2 weeks
Butterfly	2 weeks
Crow	15 years
Parrot	60 years
Tortoise	140 years
Crocodile	100-150 years

A. b-1,a-2,e-3,c-4,d-5,f-6

B. a-1,b-2,c-3,e-4,f-5,d-6

C. a-1,b-2,e-3,c-4,d-5,f-6

D. b-1,a-4,c-3,e-4,f-5,d-6

Answer: D



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5. A biological process in which an organism gives rise to young ones (offspring) similar to itself is called

A. Reproduction

B. Fertilisation

C. Parthenogenesis

D. Gametogenesis

Answer: A



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6. In the life span of any organism, there is a cycle of

A. Birth, growth and death

B. Birth, fertilisation and death

C. Juvenile, reproduction and senescence

D. Pre-fertilisation, fertilisation and post-fertilisation.

Answer: A



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7. Which one enables the continuity of the species generation?

A. Reproduction

B. Fertilisation

C. Life-cycle

D. Life-span

Answer: A



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8. There is a large diversity in the biological world and each organism has evolved its own mechanism to multiply and produce offspring. The method of reproduction depends upon

A. Habitat of organism

B. Internal physiology of organism

C. Will power

D. Both A and B.

Answer: D



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9. When offspring is produced by a single parent with or without the involvement of gamete formation, the reproduction is called

A. Asexual reproduction

B. Sexual

C. Parthenogenetic

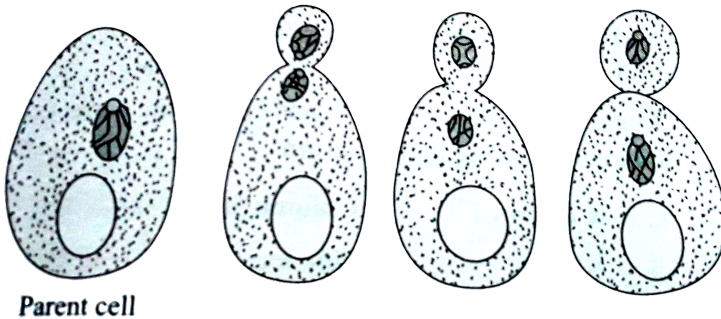
D. Either A or B

Answer: A



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10. The following figure shows the



- A. Binary fission in Amoeba
- B. Budding in Hydra
- C. Equal budding in yeast
- D. Unequal budding in yeast

Answer: D

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11. When two parent of opposite sex participate in the reproductive process involving fusion of male and female gametes, it is called.

- A. Asexual reproduction
- B. Sexual reproduction
- C. Vegetative reproduction
- D. Parasexual reproduction.

Answer: B

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- 12.** Read the following statement and find out the incorrect statement.
- (a). Asexual reproduction is common among single-celled organisms, and in plants and animals with relatively complex organisations.
 - (b) In yeast, the division is unequal and small buds are produced that remain attached initially to the parent cell which eventually gets separated and mature into yeast organism (cells).
 - (c). vegetative reproduction is also a type of asexual reproduction.
 - (d) While in animals and other simple organisms the term vegetative reproduction is used unambiguously, in plants the term asexual

reproduction is frequently used.

(e) Water hyacinth is also called 'Terror of Bengal'

- A. a and
- B. b and c
- C. a and e
- D. b and d

Answer: A



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13. In plants certain structures such as runner, rhizome, sucker, tuber, offset, bulb are all capable of giving rise to new offspring. These structures are called

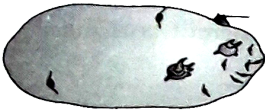
- A. Clones
- B. Grafts
- C. Vegetative propagules

D. Adventitious buds.

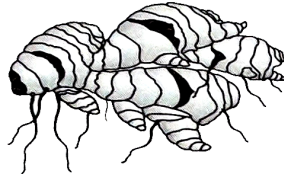
Answer: C

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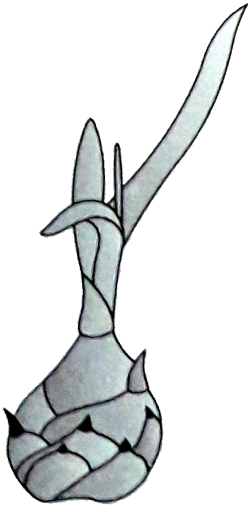
14. Recognise the figure and find out the correct matching



(a)



(b)



(c)



(d)

A. a-rhizome,b-eyes,c-leaf buds, d-bulbils

B. b-rhizome, a-eyes,d-leafbuds, c-bulbils

C. c-rhizome,d-eyes,a-leaf buds, b-bulbils

D. b-rhizome, a -eyes,c-leaf buds, d-bulbils.

Answer: B



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15. In potato, sugarcane, banana ginger and dahlia, the new plantlets invariably arise from.

A. The nodes present in the modified stems

B. The nodes present in the modified stems

C. The internodes present in the modified stems

D. The margin of the leaves.

Answer: A

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16. In Bryophyllum, the buds that arise from the notches of margins of leaves are called

- A. Apical buds
- B. Axillary buds
- C. Adventitious buds
- D. Terminal buds.

Answer: C

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17. Fill in the blanks:

(1) The. . . . A Reproduction is the common mode of reproduction in organisms that have a relatively simple organisation like algae and fungi and they shift to B. . . . Method of reproduction just before the onset

of adverse conditions.

(2) Asexual (Vegetative) as well as sexual modes of reproduction are exhibited by thec

(3) Only sexual mode of reproduction is present in most of thed.
..

A. a-sexual,b-aseexual,c-higher plants,d-animals.

B. a-sexual,b-aseexual,c-animals,d-higher plants.

C. a-aseexual,b-sexual,c-higher plants,d-animals

D. a-aseexual,b-sexual,c-animals,d-higher plants

Answer: C



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18. Match list *I* with list *II* and select the correct option

- | List I | List II |
|--------------|-------------------|
| A. Gemmules | 1. Agave |
| B. Leaf-buds | 2. Penicillium |
| C. Bulbil | 3. Water hyacinth |
| D. Offset | 4. Sponges |
| E. Conidia | 5. Bryophyllum |

A. a-s,b-t,c-p,d-r,e-q

B. a-s,b-r,c-q,d-p,e-t

C. a-r,b-t,c-s,d-q,e-p

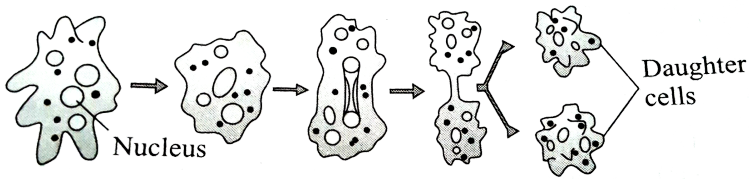
D. a-s,b-p,c-t,d-r,e-q

Answer: A



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19. The following figure shows the



- A. Binary fission in Amoeba
- B. Budding in Hydra
- C. Equal budding in yeast
- D. Unequal budding in yeast

Answer: A



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20. Find out wrongly matched pair.

- A. Tuber-Potato
- B. Leaf buds-Banana

C. Offsets-Water Hyacinth

D. Rhizome-Ginger

Answer: B



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21. Which is not an example of vegetative propagule in angiosperms

A. Zoospores of Chlamydomonas

B. Eyes of potato

C. Rhizome of Ginger

D. Bulbil of Agave.

Answer: A



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1. In several fungi and plants the bisexual condition is denoted by

- A. Homothallic and monoecious
- B. Heterothallic and monoecious
- C. Homothallic and dioecious
- D. Heterothallic and dioecious

Answer: A



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2. If male (staminate) and female (pistillate) flowers are present on the same plant/individual. This condition is called

- A. Monoecious
- B. Dioecious

C. Unsexual

D. Bisexual

Answer: A



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3. Match the columns I and H. and choose the correct combination from the options given.

Column I	Column II
Sponge	Monoecious
Leech	Dioecious
Cockroach	Hermaphrodite
Frog	Unisexual
Date palm	Bisexual

A. a-1,e-2,b-3,d-4,b-5

B. c-1,a-2,d-3,b-4,b-5

C. e-1,c-2,b-3,d-4,b-5

D. All of the above.

Answer: D



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4. If male and female flower are present on separate plants, it is called

A. Monoecious

B. Dioecious

C. Unisexual

D. Bisexual

Answer: B



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5. A haploid parent produces gametes by A.division while diploid parent produces gametes by B Division.

A. a-mitotic, b-meiotic

B. a-meiotic, b-mitotic

C. a-amitotic, b-meiotic

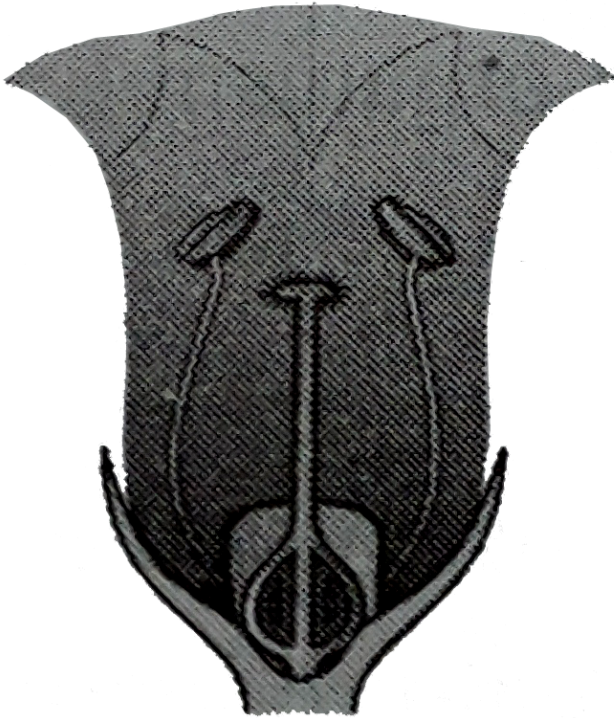
D. a-meiotic, b-amitotic.

Answer: A



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6. The following figure shows



- A. Monoecious flower of potato
- B. Unisexual flower of sweet potato
- C. Dioecious flower of sweet potato
- D. Bisexual flower of sweet potato.

Answer: D



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7. Organisms belonging to pteridophytes, gymnosperms angiosperms and most of the animals including human beings.

- A. Produce gametes by meiosis
- B. Produce gametes by mitosis
- C. Have diploid parental body
- D. Both A and C.

Answer: D



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- | | |
|--------------|------------|
| Organisms | Sexually |
| Chara | Monoecious |
| 8. Cucurbits | Dioecious |
| Cycas | |
| Pinus | |

A. a-1,b-2,c-1,d-2,e-1

B. a-2,b-1,c-2,d-1,e-2

C. a-1,b-2,c-1,d-1,e-2

D. a-2,b-1,e-1,d-1,e-2

Answer: A



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9. Chromosome number in endosperm cell of plant 'x' and the gamete of plant 'y' are equal. Plants 'x' and 'y' respectively are

A. Apple and rice

B. Maize and potato

C. Rice and onion

D. Onion and potato

Answer: D

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10. Sexual reproduction involves formation of the male and female gametes by

- A. Same individual
- B. Different individuals of the opposite sex
- C. Different individuals of the same sex
- D. Either A or B

Answer: D

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11. As compared to the asexual reproduction, the sexual reproduction is

- A. Elaborate, complex and slow process
- B. Elaborate, simple and fast process

C. Diffused, complex and slow process

D. Elaborate, simple and fast process.

Answer: A



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12. Read the following statements and find out the incorrect statement.

A. Plant, animals and fungi differ so greatly in external morephology, internal structure and physiology. When it comes to sexual mode of reproduction they share a similar pattern.

B. In annual and biennial plants, there is a clear cut vegetative, reproductive and senescent phases, but in the perennial species it is very difficult to clearly define these phase.

C. In animals the juvenile phase in followed by morphological and physiological changes prior to active. Reproductive behaviour.

D. The females of the marsupial mammals exhibit cyclical changes in the activities of ovaries and accessory ducts as well as hormones during the reproductive phase.

Answer: D



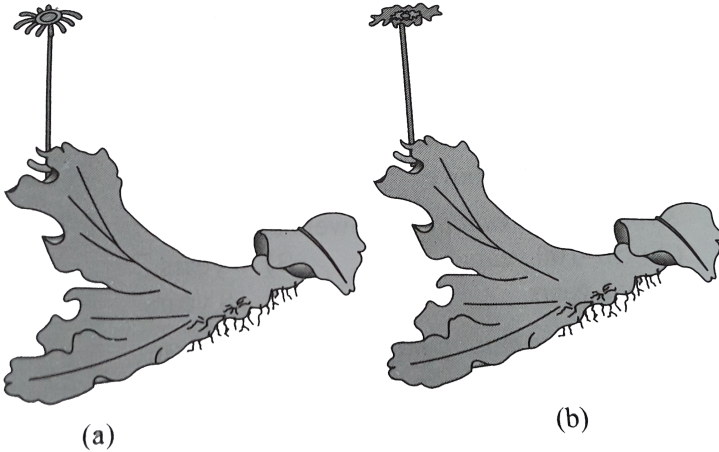
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13. All organisms have a to reach a certain stage of growth and maturity in their life, before they can reproduce sexually. That period of growth is called the

- A. Reproductive phase
- B. Senescent phase
- C. Vegetative phase in animals and juvenile phase in plants.
- D. Vegetative phase in plants and juvenile phase in animals.

Answer: D

14. Recognise the figure and find out the correct matching.



- A. a-female thallus,b-male thallus
- B. a-male thallus,b-female thallus
- C. a-antheridium, b-oogonium
- D. a-oogonium, b-antheridium.

Answer: A

15. In some algae, the two gametes are so similar in appearance that it is not possible to categorise them into male and female gametes. These gametes are called

- A. Isogametes
- B. Heterogametes
- C. Homogametes
- D. Both A and C.

Answer: D



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16. The end of juvenile/vegetative phase marks the beginning of the

- A. Reproductive phase
- B. Senescent phase
- C. Flowering period

D. Maturation phase.

Answer: A



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17. Match the columns I and II, and choose the correct combination from the options given.

Name of Organisms	Chromosome number in gametes
Butterfly	6
Housefly	39
Dog	21
Cat	19
Rat	190

A. a-5,b-1,c-2,e-3,d-4

B. b-1,e-2,d-3,c-4,a-5

C. e-1,a-2,b-3,d-4,c-5

D. e-1,a-2,c-3,b-4,d-5

Answer: A



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18. An angiospermic plant starts producing flower. This is the beginning of

- A. Juvenile phase
- B. Vegetative phase
- C. Reproductive phase
- D. Senescent phase.

Answer: C



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19. Which of the following is a parameter of senescence or old age?

- A. The end of reproductive phase
- B. Slowing of metabolism

C. The end of juvenile phase

D. Both A and B.

Answer: D



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20. Which one of the following plant shows unusual flowering phenomenon?

A. Bamboo and banana

B. Banana and Neelakurinji

C. Bamboo and *Strobilanthes kunthianus*

D. All of the above.

Answer: C



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21. *Strobilanthus kunthiana* flowers once in

A. 50-100years

B. 6 years

C. 12 years

D. 18 years.

Answer: C



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22. *Strobilanthus kunthiana* is found in India in

A. Kerala, Karnataka and Tamil nadu

B. Karnatake, Tamil nadu and Odisha

C. Kerala, Karnataka and Odisha

D. Kerala, Karnataka and Maharashtra.

Answer: A



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23. Many mammals, especially those living in natural, wild conditions exhibit reproductive cycles only during favourable seasons in their reproductive phase and are therefore called.

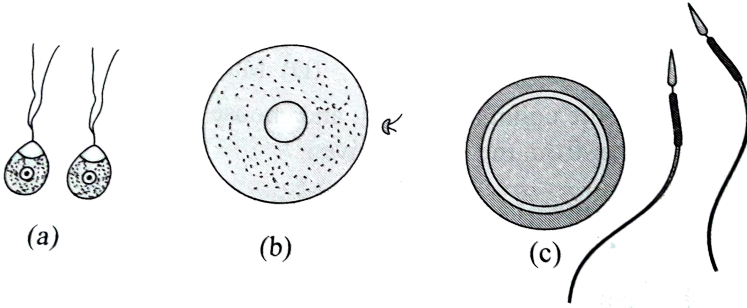
- A. Continuous breeders
- B. Seasonal breeders
- C. Reflex breeders
- D. Spontaneous breeders.

Answer: B



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24. Recognise the figure and find out the correct matching.



A. a-heterogametes of cladophora, b-heterogametes of Homo sapiens, c-isogametes of Fucus

B. a-isogametes of Fucus, b-heterogametes of Cladophora, c-heterogametes of humans

C. a-isogametes of Cladophora, b-heterogametes

D. a-isogametes of Cladophora, b-heterogametes of Fucus, a-heterogametes of human beings.

Answer: D



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25. The birds /hens in captivity (as in poultry farms) can be made to lay eggs throughout the year. In this case. Laying eggs is related to

- A. Reproduction
- B. Commercial exploitation
- C. Human welfare
- D. Both B and C.

Answer: D



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26. Transitions between the juvenile, reproductive and senescent phases in both plants in both plants and animals is maintained by

- A. Enzymes
- B. Hormones
- C. Vitamins

D. All of the above.

Answer: B



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27. Interaction between And certain environmental factors regulate the reproductive processes and the associated behavioural expression of organisms.

A. Enzymes

B. Hormones

C. Vitamins

D. All of the above.

Answer: B



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28. The sequential events in the sexual reproduction may be grouped into

- A. Two stages-gametogenesis and gamete transfer
- B. Three stages-gametogenesis and gamete transfer and fertilisation
- C. Two stages-gametogenesis and embryogenesis
- D. Three stages-pre fertilisation, fertilisation and post fertilisation events.

Answer: D



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29. Which of the following group uses water as medium for gamete transport?

- a. Algae (Thallophytes) b. Bryophytes
- c. Pteridophytes d. Gymnosperms
- e. Angiosperms

A. a,b and c

B. b,c and d

C. c,d and e

D. b and c only.

Answer: A



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Section A Topicwise Questions Topic 3 Fertilisation And Post Fertilisation Events The Zygote And

1. Read the following statements and find out the incorrect statements.
 - a. In majority of organisms, male gamete is motile and female gamete is non-motile (stationary).
 - b. In algae and fungi, both male and female gametes are non-motile.
 - c. In seed plants, pollen grains are the carrier of male gametes and ovule has the egg.
 - d. In dioecious plants, pollination facilitates transfer of pollen grains to the stigma.

e. In monoecious animals, since male and female gametes are formed in different individuals, the organism must evolve special mechanism for gamete transfer.

A. b and e

B. a and d

C. b and c

D. c and e

Answer: A



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2. The most vital and critical event of the sexual reproduction is

A. Gamete formation

B. Gamete transport

C. Gametic fusion

D. Embryogenesis

Answer: C



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3. Parthenogenesis is found in

a. Platyhelminthes b. Rotifers c. some annelids d. Honeybees e. some lizards f. cephalochordates g. Turkey birds

A. a,b,c and f

B. d,e, and g

C. a,b,c and d

D. b,d,e and g

Answer: D



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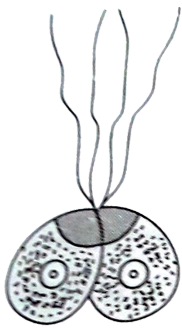
4. In fungi , bryophytes and pteridophytes, the fertilisation is

- A. External
- B. Internal
- C. Both A and B
- D. Can't say

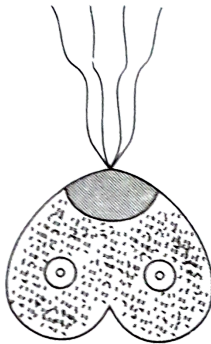
Answer: B

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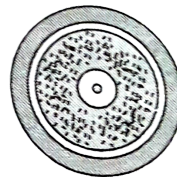
5. The following figure shows



Fusion of gametes



Zygote



New individual

A. Heterogametic contact in humans

B. Homogametic contact in humans

C. Homogametic contact in alga

D. Heterogametic contact in alga.

Answer: C



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6. In reptiles, birds, mammals, gymnosperms and angiosperms the fertilisation is

A. External

B. Internal

C. Both A and B

D. Can't say

Answer: B



7. Read the following statements and find out the incorrect statement.

- A. In organisms, exhibiting internal fertilisation the male gamete is non-motile but in seed plants the male gamete is motile.
- B. Organisms exhibiting external fertilisation show great synchrony between the sexes and release a large number of gametes into the water in order to enhance the chances of syngamy.
- C. In frogs and bony fishes, large number of offsprings are produced as they are extremely vulnerable to predators threatening their survival up to adulthood.
- D. In organism exhibiting internal fertilisation, eventhough the number of sperms produced is very large, there is a significant reduction in the number of eggs produced.

Answer: A



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8. Which is the vital link that ensures continuity of species between organisms of one generation and the next?

A. Sexual reproduction

B. Embryo

C. Zygote

D. Fertilisation.

Answer: C



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9. In organism with haplontic life cycle, zygote divides by

A. Mitosis to form haploid spores

B. Meiosis to form gametes

C. Mitosis to form gametes

D. Meiosis to form haploid spores.

Answer: D



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10. Every sexually reproducing organism, including human beings, begin life as a single cell called.

A. Gamete formation

B. Spore

C. Embryo

D. Zygote.

Answer: D



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11. The process of the development of embryo from the zygote is called

- A. Gametogenesis
- B. Sporogenesis
- C. Embryogenesis
- D. Oogenesis

Answer: C



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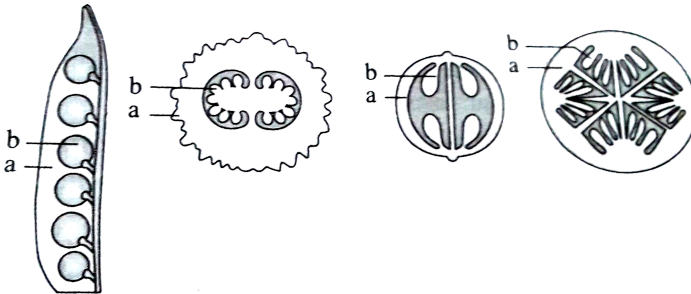
12. During embryogenesis zygote undergoes

- A. Cell division (mitosis)
- B. Cell differentiation
- C. Meiosis /reduction division.
- D. Both A and B.

Answer: D

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13. Recognise the figure and find out the correct matching.



- A. a-testa,b-tegmen
- B. a-seed coat,b-seed
- C. a-fruit,b-seed
- D. a-pericarp,b-seed

Answer: D

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14. Animals in which development of zygote takes place outside the body of female parent and they lay fertilised/unfertilised eggs are called.

- A. Oviparous
- B. Viviparous
- C. Ovoviviparous
- D. Marsupials

Answer: A



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15. Animals in which development of zygote takes place inside the body of female parent, i.e., they give birth to young ones are called

- A. Oviparous
- B. Viviparous
- C. Ovoviviparous

D. Marsupials

Answer: B



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16. Fertilised eggs covered by calcareous shell are found in

- A. Fishes and amphibians
- B. Reptiles, birds and mammals
- C. Amphibians, reptiles and birds
- D. Reptiles and birds

Answer: D



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17. Asexual reproduction does not involve the

A. Formation of gametes

B. Fusion of gametes

C. Both A and B

D. None of the above

Answer: B



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18. Which is incorrect about flowering plant?

A. After fertilisation the ovary develops into fruit and ovules develops into seed

B. The ovary wall after syngamy converted into pericarp which is protective in function.

C. The zygote is formed inside the ovule

D. None of the above

Answer: D



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19. External water is not required for fertilization of

- A. Pteridophytes
- B. Bryophytes
- C. Thallophytes
- D. Spermatophytes.

Answer: D



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Section B Assertion Reasoning Questions

1. Assertion: The sizes of crows and parrots are not very different yet their life spans shows a wide difference.

Reason: Life spans of organisms are not necessarily correlated with their sizes.



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2. Assertion: During asexual reproduction, the offspring that are produced are not only identical to one another but also exact copies of their parent.

Reason: Morphologically and genetically similar individuals are called clones.



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3. Assertion: In Protists and Monerans, the cell division is itself a mode of reproduction.

Reason: In Protists and Monerans, the organism or the parent cell divides into two to give rise to new individuals.



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4. Assertion: Vegetative propagation is a type of asexual reproduction.

Reason: The formation of vegetative propagules does not involve two parents.



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5. Assertion: Water hyacinth spread all over the water body in a short period of time and it is very difficult to get rid of them.

Reason: Water hyacinth propagates vegetatively at a phenomenal rate.



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6. Assertion: *Eichhornia crassipes* was introduced in India because of its beautiful flowers and shape of leaves.

Reason: Water hyacinth propagate vegetatively at a phenomenal rate.



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7. Assertion: In sexualreproduction, offspring are not identical to the parents or amongst themselves.

Reason: Sexual reproduction involves the fusion of male and female gametes.



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8. Assertion: Bamboo species flower only once in their life, generally after 50-100years, produce large number of fruits and die.

Reason: The juvenile/vegetative phase and reproductive phase is of variable duration in different organisms.



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9. Assertion: Cow, sheep and rats are non-primate mammals exhibiting oestrous cycle.

Reason: Deer, dog and tiger are primate mammals exhibiting menstrual cycle.



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10. Assertion: The events of the sexual reproduction though elaborate and complex, follow a regular sequence.

Reason: Sexual reproduction is characterised by the fusion (or fertilisation) of the male and female gametes, the formation of zygote and embryogenesis.



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11. Assertion: All the events of sexual reproduction prior to the fusion of gametes includes in the post -fertilisation events.



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12. Assertion: In several fungi and plants, the term heterothallic and dioecious are used to denote the unisexual condition.



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13. Assertion: Gametes are always haploid cells.

Reason: The parent plant body from which gametes arises, may be either haploid or diploid.



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14. Assertion: Several organisms belonging to monera, fungi, algae and bryophytes produce gametes by mitosis.

Reason: The plant body of the monera, fungi, algae and bryophytes is haploid.

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15. Assertion: In haploid organism, specialised cells called meiocytes (gamete mother cells) undergo reduction division.

Reason: The plant body of the monera, fungi, algae and bryophytes is haploid.

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16. Assertion: During gamete transport through water (in algae, bryophytes and pteridophytes), a large number of male gametes fail to reach the female gametes.

Reason: To compensate this loss of male gametes during transport, the

number of female gametes produced is several thousand times the number of male gametes produced.

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17. Assertion: Syngamy occurs in the external medium, i.e. the outside of the body of the organism is called external fertilisation.

Reason: Syngamy occurs inside the body of organism is called internal fertilisation.

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18. Assertion: During embryogenesis, cell division increase the number of cells in the developing embryo.

Reason: During embryogenesis, cell differentiation helps group of cells to undergo certain modification to form specialised tissues and organs to form an organism.

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19. Assertion: The chances of survival of young ones is greater in viviparous organisms as compared to oviparous organisms

Reason: In vivipary, there is proper embryonic care and protection.



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Section D Chapter End Test

1. Number of chromosomes in the meiocyte of onion, potato, housefly, humans and Ophioglossum are respectively.

A. 32,24,12,46,1260

B. 16,12,6,23,630

C. 16,48,12,46,1260

D. 32,48,12,46,1260.

Answer: C



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2. During his college days, Panchanan Maheshwari was inspired by an American missionary teacher.

- A. Dr. W. Dudgeon
- B. T.R. Malthus
- C. Chalers Lyell
- D. Charles Darwin and Francis Darwin.

Answer: A



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3. P. Maheswari encouraged general education and made a significant contribution to school education by his leadership in bringing out the very first textbooks of Biology for Higher Secondary school published by NCERT in

A. 1964

B. 1966

C. 1974

D. 1986

Answer: A



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4. Animals which possess cleidoic eggs exhibit

A. External fertilization and internal development

B. Internal fertilization and internal development

C. Internal fertilization andn external development

D. External fertilization and external development.

Answer: C



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5. In grafting, stock is

- A. Stem of desired variety
- B. Bud of desired variety
- C. Part of rooted plant
- D. Part to be grafted

Answer: C



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6. Identify the correct statement

- A. Because of marked climatic variations, plants growing near the sea shore do not produce annual rings.
- B. The age of the plant can be determined by its height.

C. Grafting is difficult in monocot plants as they have scattered vascular bundles.

D. Healing of damaged tissue is because of activity of sclerenchyma cells.

Answer: C

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7. Grafting is not possible in monocots because they

A. Lack cambium

B. Are herbaceous

C. Have conjoint open vascular bundles

D. Have parallel venation.

Answer: A

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8. Which type of fertilization is found in most of the fungi?

- A. External
- B. Internal
- C. Both A and B
- D. None of the above

Answer: B



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9. Plants with poor root system are propagated through

- A. Layering
- B. Leaf cuttings
- C. Stem cuttings

D. Grafting

Answer: D



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10. During favourable condition the encysted amoeba divides by multiple fission and produces pseudopodiospores. This phenomenon is known as

A. Budding

B. Sporulation

C. Fragmentation

D. Regeneration.

Answer: B



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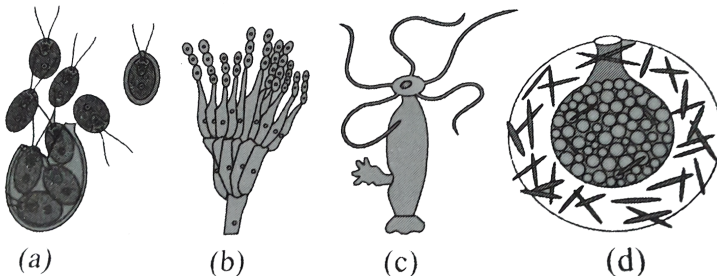
11. Artificial vegetative reproduction through cutting of roots is carried out in

- A. Lemon and Rose
- B. Rose and Hibiscus
- C. Tamarind and Chrysanthemum
- D. Lemon and Tamarind.

Answer: D

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12. Recognise the figure and find out the correct matching.



A. a-conidia, b-budding, c-gemmules, d-zoo-spores

B. b-conidia, c-budding, a-gemmules, d-zoo-spores.

C. b-conidia, c-budding, d-gemmules, a-zoo-spores

D. a-conidia, d-budding, d-gemmules, a-zoo-spores.

Answer: C

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13. The internal buds of fresh water sponges are otherwise called

A. Gemma

B. Gemmule

C. Osculum

D. Blastula.

Answer: B

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14. Grafting is successful in dicots but not in monocots because the dicots have-

- A. Vascular bundles arranged in a ring
- B. Cambium for secondary growth
- C. Vessels with elements arranged end to end
- D. Cork cambium.

Answer: B



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15. A scion is grafted to a stock. The quality of fruits produced will be determined by the genotype of -

- A. Scion
- B. Stock

C. Both A and B

D. None of the above

Answer: A



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16. Stem cuttings are commonly used for the propagation of

A. Mango

B. Cotton

C. Rose

D. Banana

Answer: C



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17. Maximum life span of a dog is

- A. 5
- B. 10
- C. 15
- D. 20

Answer: D



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18. Binary fission is a type of

- A. Vegetation propagation
- B. Asexual reproduction
- C. Sexual reproduction.
- D. Nuclear fragmentation.

Answer: B



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19. Plant propagated by leaves is

A. Kalanchoe

B. Agave

C. Potato

D. Gladiolus.

Answer: A



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20. Potatoes are cultivated by means of

A. Seeds

B. Tuber

C. Buds on tubers

D. Bud.

Answer: C



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21. In vegetative propagation by tubers, which of following remains constant through generations?

A. Morphology

B. Vigour only

C. Vigour and morphology only

D. Morphology, vigour and disease resistance.

Answer: D



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22. Induction of rooting on stems before separating them from parent plant is

- A. Grafting
- B. Layering
- C. Cutting
- D. Root-stem joint.

Answer: B



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23. Mango and Guava are propagated through

- A. Tissue culture
- B. Grafting
- C. Stem cuttings

D. Layering.

Answer: B



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24. Chrysanthemum multiplies vegetatively by

A. Suckers

B. Runners

C. Bulbils

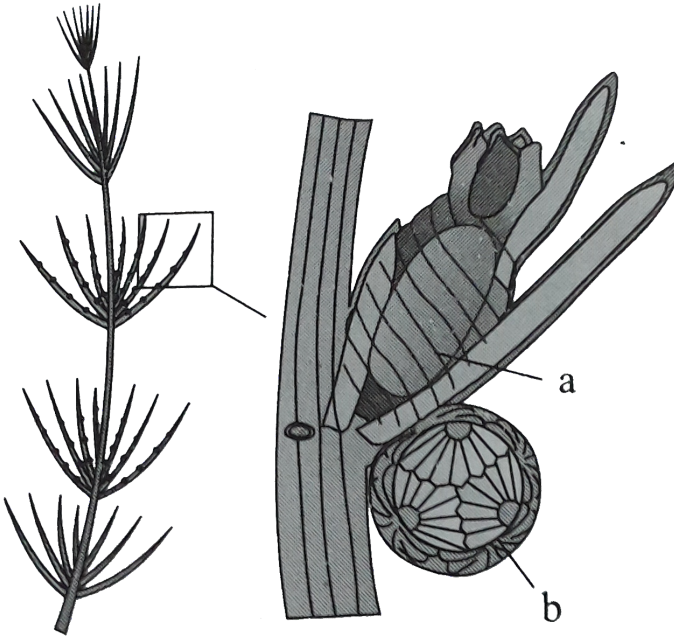
D. Rhizomes.

Answer: A



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25. Recognise the figure and find out the correct matching.



A. a-oogonium (male sex organ),b-antheridium (female sex organ)

B. a-antheridium (female sex organ),b-oogonium (male sex organ)

C. a-oogonium (female sex organ),b-antheridium (male sex organ)

D. a-antheridium (male sex organ),b-oogonium (female sex organ)

Answer: C



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26. Out of the following which two methods yield genetically similar plants:

(i) Stem cuttings (ii) Seed production (iii) Mutation (iv) Tissue culture

A. i and ii

B. ii and iii

C. i and iv

D. ii and iv

Answer: C



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27. Clone is a group of individuals got through

A. Self pollination

B. Cross pollination

C. vegetative propagation

D. Hybridisation.

Answer: C



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28. A piece of potato tuber will form a new plant if it has

A. Branches

B. Stored food

C. Roots

D. Scales/eyes.

Answer: D



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29. Layering is used for vegetative propagation of

A. Rose

B. Jasmine

C. Mango

D. All of the above.

Answer: B



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30. Match the columns I and II, and choose the correct combination from the options given.

Column I

Column II

Coconut

Monoecious

Tapeworm

Earthworm

A. a-1,b-2,a-3,b-4

B. b-1,a-2,b-3,a-4

C. a-1,b-2,a-3,a-4

D. a-1,b-2,b-3,b-4

Answer: C



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31. Monoestrous animals have

A. One ovulation each month

B. One egg

C. One breeding seasons in a year

D. One menses each month.

Answer: C



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32. A quicker regeneration of grass leaves shall occur by

- A. cutting
- B. Grazing
- C. Irrigation
- D. Clipping.

Answer: D



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33. A plant expected to have an age of 1500 years is

- A. Eucalyptus
- B. Sequola
- C. Mangifera indica
- D. Dalbergia sissoo

Answer: B



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34. Which is not a method of vegetative propagation

A. Micropropagation

B. Budding

C. Sowing

D. Layering.

Answer: C



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35. Which one is found only in aquatic plant

A. Runner

B. Stolon

C. Tuber

D. Offset.

Answer: D



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36. Eye of potato is

A. Apical buds

B. Axillary buds

C. Accessory bud

D. Adventitious buds.

Answer: B



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37. Individuals of a clone have.

- A. Same age
- B. Same height
- C. Same genome
- D. Same number of leaves.

Answer: C



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38. Water hyacinth is one of the most invasive weeds found growing wherever there is

- A. Standing water
- B. Running water
- C. Marine water
- D. Unpolluted water

Answer: A



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39. Clone formation occurred in the bacteria in

- A. Conjugation
- B. Transduction
- C. Binary fission
- D. All of the above.

Answer: C



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40. Asexually produced organism inheriting all the characters of the parent is:

A. Offspring

B. Clone

C. Variety

D. Hybrid.

Answer: B



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41. Type of asexual reproduction found in Hydra is

A. Gemmule formation

B. Sporulation.

C. Binary fission

D. Budding.

Answer: D



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42. A population of genetically identical individuals, obtained from asexual reproduction is

- A. Callus
- B. Clone
- C. Deme
- D. Aggregate.

Answer: B



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43. In majority of sexually reproducing organisms, the gametes produced are of two morphologically distinct types called.

- A. Antherozoids
- B. Heterosomes

C. Heterogametes

D. Homogametes

Answer: C



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44. Estrous cycle is indication of

A. Breeding period

B. Estrogen secretion

C. Pregnancy

D. Menopause.

Answer: A



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45. Estrous cycle is a characteristic of

- A. Human females
- B. Mammalian females
- C. Mammalian females other than primates
- D. Mammals.

Answer: C



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46. Menstrual cycle occur in

- A. Female primates
- B. Human females only
- C. Mammalian females other than primates
- D. Rabbit only.

Answer: A



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47. Many mammals which are reproductively active throughout their reproductive phase are called.

- A. Continuous breeders
- B. Seasonal breeders
- C. Reflex breeders
- D. Spontaneous breeders.

Answer: A



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48. Syngamy means

- A. Fusion of gametes
- B. Fusion of cytoplasms
- C. Fusion of two similar spores
- D. Fusion of two dissimilar spores.

Answer: A

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49. Development of an organism from female gamete/egg without involving fertilization is

- A. Adventive embryony
- B. Polyembryony
- C. Parthenocarpy
- D. Parthenogenesis.

Answer: D

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50. The term parthenogenesis was coined by

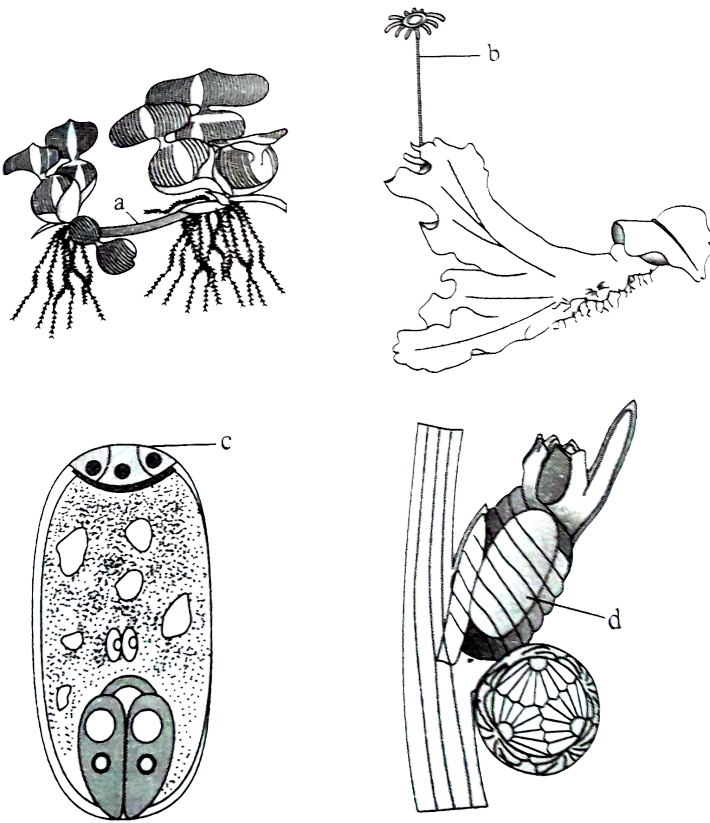
- A. Grobber
- B. Balfour
- C. Boveri
- D. Owen.

Answer: D

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Others

1. Examine the figures (a-d) given below and select the right option in which all the four structure are identified correctly.



- A. a-Rhizome, b-Sporangiophore,c-Polar cell,d-Globule.
- B. a-Runner,b-Archegoniophore,c-Synergid,d-Antheridium.
- C. a-Offset,b-Archegoniophore,c-Antipodals, d-Oogonium
- D. a-Sucker,b-Seta,c-Megaspore mother cell,d-Gemma cup.

Answer: C

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2. Roots are used in vegetative propagation of

- A. Ginger
- B. Chrysanthemum
- C. Sweet potato
- D. Potato

Answer: C



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3. Vegetative propagation in Pistia occurs by

- A. Sucker
- B. Runner
- C. Offsets

D. Stolon

Answer: C



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4. Which is wrongly matched

A. Agave-bulbils

B. Penicillium-conidia

C. Water,Hyacinth-runner

D. Bryophyllum-leaf buds.

Answer: C



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5. Human gametes differ from all other body cells in being

A. Haploid

B. Diploid

C. Motile

D. Without cell wall

Answer: A



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6. Match the following and choose the correct combination

	<i>Name</i>	<i>Chromosome Number in Meocyte (2n)</i>
(a)	Housefly	(1) 20
(b)	Fruitfly	(2) 34
(c)	Apple	(3) 8
(d)	Maize	(4) 12

A. a-1,b-2,c-3,d-4

B. a-2,b-3,c-4,d-1

C. a-4,b-3,c-1,d-2

D. a-4,b-3,c-2,d-1

Answer: D



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7. Process of sexual reproduction which involves meiosis and syngamy is

- A. Apomixis
- B. Amphimixis
- C. Agamospermy
- D. Diplospory

Answer: B



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8. A polyestrous animals is

A. Man

B. Cat

C. Rabbit

D. Horse.

Answer: C



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

A. Mosses

B. Algae

C. Ferns

D. Fungi.

Answer: B



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10. In which set of organisms does external fertilization occur

- A. Echinodermata and moss
- B. Hemichordata and fern
- C. Amphibian and algae
- D. Reptile and gymnosperm

Answer: C



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11. Gametogenesis refers to the process of:

- A. Fusion of two gametes.
- B. Fusion of two gametangia.
- C. Formation of two types of gametes

D. Formation of male gametes only.

Answer: C



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12. Marchantia is considered heterothallic because it is

- A. Heterogametic contact in humans
- B. Bisexual
- C. Monoecious
- D. Dioecious

Answer: D



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13. The motile reproductive structures of algae and fungi, which directly give rise to new individuals are called

- A. Zygosporangia
- B. Zoospores
- C. Cysts
- D. Conidia.

Answer: B



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14. Which of the following pairs is not correctly matched



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15. *Strobilanthes kunthiana* flowered in the Nilgiri in 2006.

when is it expected to flower again

A. 2015

B. 2018

C. 2021

D. 2024

Answer: B



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16. In diplontic life cycle, meiosis occurs during.

A. Zoospore formation

B. Zygotic development

C. Spore germination

D. Gamete formation.

Answer: D



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17. Which of the following characteristics is not shared by birds and mammals

- A. Viviparity
- B. Warm blooded nature
- C. Ossified endoskeleton
- D. Breathing using lungs.

Answer: A



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18. In bryophytes and and pteridophytes, transport of male gametes requires

- A. Birds
- B. Water

C. Wind

D. Insects.

Answer: B



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

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

B. Water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes

C. Offspring produced by the asexual reproduction are called clone.

D. Microscopic, motile asexual reproductive structure.

Answer: A



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20. Select the mismatch

- A. Cycas-Dioecious
- B. Salvinia-Heterosporous
- C. Equisetum-Homosporous
- D. Pinus-Dioecious

Answer: D



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21. Offesets are produced by

- A. Meiotic divisions
- B. Mitotic divisions
- C. Parthenocarpy

D. Parthenogenesis.

Answer: B



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22. Which of the following flowers only once in its life-time

A. Bamboo species

B. Jackfruit

C. Mango

D. Papaya.

Answer: A



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23. Gemmule formation in sponges is useful in

A. asexual reproduction

B. Sexual reproduction

C. parthenogenesis

D. parthenocarp.

Answer: A



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24. A scion is grafted to a stock. The quality of fruits produced will be determined by the genotype of -

A. stock.

B. scion

C. both stock and scion

D. neither stock nor scion.

Answer: B



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25. Which is the correct example of the type of regeneration out of two major types ?

A.

Morphallaxis Regeneration of two transversely cut equal pieces of a planarian

B.

Epimorphosis Replacement of old and dead erythrocytes by the new ones

C. Morphallaxis Healing up of a wound in the skin

D.

Epimorphosis Regeneration of crushed and filtered out pieces of a planarian

Answer: A



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26. Which statement best explains why invertebrates regenerate lost tissue more readily than most vertebrates do?

- A. Invertebrates contain specialized cells that produce the hormones necessary for this process.
- B. Invertebrate cells exhibit a higher degree of uncontrolled cell division than vertebrate cells do.
- C. Invertebrate animals reproduce asexually, but vertebrate animals reproduce sexually.
- D. Invertebrate animals have more undifferentiated cells than vertebrate animals have.

Answer: D



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27. Which reproductive adaptation is characteristic of most terrestrial vertebrates but not of most aquatic vertebrates?

- A. External fertilization
- B. Internal fertilization
- C. Motile gametes
- D. External development.

Answer: B



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28. Which one of the following is correctly matched

- A. Onion-Bulb
- B. Ginger-Sucker
- C. Chlamydomonas-Conidia.
- D. Yeast-Zoospores.

Answer: A



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29. Assertion: Many plants are propagated vegetatively even though they bear seeds.

Reason: Potatoes multiply by tubers, apple by cutting etc.

- A. If both assertion and reason are true and the reason is a correct explanation of the assertion.
- B. If both assertion and reason are true but reason is not a correct explanation of the the assertion.
- C. If the assertion is true but reason is false.
- D. If both the assertion and reason are false.

Answer: C



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30. Assertion. Death is regarded as the most regulatory process on earth.

Reason. It avoids over-crowding caused by continuous reproduction

- A. If both assertion and reason are true and the reason is a correct explanation of the assertion.
- B. If both assertion and reason are true but reason is not a correct explanation of the the assertion.
- C. If the assertion is true but reason is false.
- D. If both the assertion and reason are false.

Answer: A



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31. Assertion : Ginger has a prostrate-growing rhizome

Reason : Shoot growth is not effected by gravity.

- A. If both assertion and reason are true and the reason is a correct explanation of the assertion.
- B. If both assertion and reason are true but reason is not a correct explanation of the the assertion.
- C. If the assertion is true but reason is false.
- D. If both the assertion and reason are false.

Answer: B



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