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BIOLOGY

BOOKS - SRIJAN BIOLOGY (ENGLISH)

REPRODUCTION IN ORGANISMS

Illustrative Questions

1. Define reparative regeneration with examples.

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2. What is the significance of cyst formation in Amoeba?

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3. What is the practical significance of vegetative propagation?

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4. Why is sexual reproduction known as germinal reproduction?

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5. Define hermaphrodite organisms.

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6. What is that phenomenon in which larva develops gonads and starts reproducing

without undergoing metamorphosis? Give some examples.

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7. What is another term used for regeneration?

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8. Name the microorganisms found in bacteria , protozoans and unicellular algae.

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9. What is a spore? Why is multiple fission in Amoeba called sporulation?

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10. What is the difference between pollination and fertilisation?

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11. Which group of plant kingdom is known to reproduce by spores?

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12. What are pseudopodispores in Amoeba?

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13. What is rhizome?

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14. Which rooting hormones are used while planting stem cuttings for vegetative propagation?

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15. Name four ornamental plants which gardner multiplies from stem cutting.

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16. What is the difference between dioecious and hermaphrodite?

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17. Why is reproduction essential for organisms?

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18. Which is a better mode of reproduction - sexual or asexual? Why?

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19. Why are the offspring formed by asexual reproduction referred to as a clone?

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20. Offspring formed by sexual reproduction have better chances of survival. Why? Is this statement always true?

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21. How does the progeny formed from asexual reproduction differ from that formed by sexual reproduction?

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22. Higher organisms have resorted to sexual reproduction in spite of its complexity, why?

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23. Explain why meiosis and gametogenesis are always interlinked.

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24. Following components are haploid, diploid or triploid (A) oosphere (B) microsphere (C) sunergids (D) antipodals (E) oospore (F) nucellus (G) placenta (chalaza) (I) endosperm (J) tapetum

Which of following groups show the correct

sequence of the ascending order of ploidy in ovule/seed ?

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25. Define external fertilisation. Mention its disadvantages.

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26. Offsprings of oviparous animal are at greater risk of survival as compared to those

of viviparous animals because

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27. With which type of reproduction do we associate the reduction division? Analyse the reasons for it.

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28. Is it possible to consider vegetative propagation observed in certain plants like

Bryophyllum, water hyacinth, ginger etc., as a type of asexual reproduction? Give two/three reasons.

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29. 'Fertilisation is not an obligatory event for fruit production in certain plants'. Explain the statement.

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30. Suggest a possible explanation why the seeds in a pea pod are arranged in a row, whereas those in tomato are scattered in the juicy pulp.

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31. What would happen if the disc of starfish is deprived of all its arms and a single arm is cut with a portion of disc?

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32. Why is Amoeba called immortal?

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

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34. Why is vegetative propagation called a method of asexual multiplication?

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35. In Whiptail lizards, only females are born generation after generation. There are no males. How is this possible?

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36. Why does a gardner apply hormone IAA or NAA before planting rose cuttings?

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37. In sexual reproduction, there is fusion of two nuclei bringing a set of chromosomes each from male and female parents together. Then, how is the number of chromosomes in the offspring same as in parents?

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

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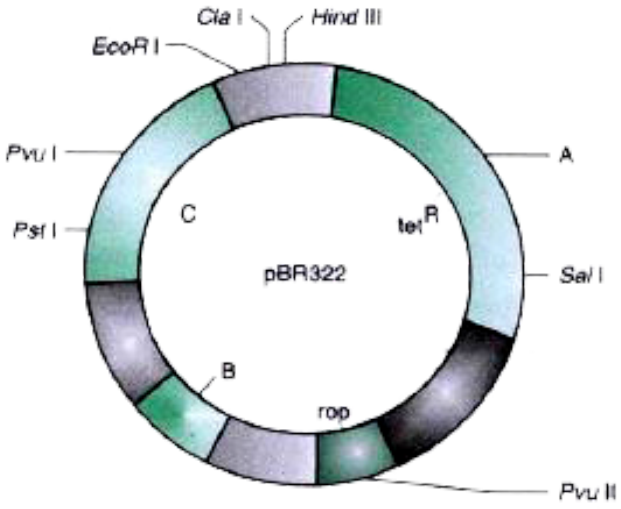
39. Name the regions marked A, B and C.



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40. Vivipary automatically limits the number of offspring in a litter. How?

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Practice Questions A Very Short Answer Type Questions 1 Marks Each

1. What are the fundamental methods of reproduction?

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2. Give two examples of unicellular organisms which reproduce asexually by binary fission.

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3. Name a unicellular fungus which reproduces asexually by budding.

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4. Name two sexually reproducing unicellular organisms.

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5. Name a multicellular invertebrate which reproduces asexually by budding

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6. What is lifespan?

Watch Video Solution

7. What is reproduction?

Watch Video Solution

8. Name the types of natural vegetative reproduction occurring in flowering plants.

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9. Mention a characteristic feature and a function of zoospores in some algae.

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10. Define the term 'syngamy'.

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11. What do you know about clone?

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12. Does asexual reproduction play any role in the evolution of species?

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13. Where does syngamy occur in amphibians and reptiles?

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14. Give the other name used for virginal reproduction

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15. By which mode of reproduction drones in honeybee develop?

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16. Name the flowering plant that blooms once in every 12 years.

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17. How is sexual reproduction significant to evolution?

Watch Video Solution

18. What is gametogenesis?

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19. Name two animals showing cell division as a mode of reproduction.

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20. Name asexual bodies produced by Penicillium.

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21. Name the term used for an animal having both the sexes.

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22. Name the phase all organisms have to pass through before they can reproduce sexually.

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23. Pick which of the following are not the mode of asexual reproduction?

(a) Budding (b) Plasmogamy

(c) Binary fission (d) Embryogenesis

(e) Gametogenesis.

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24. Pick the monoecious plant.

(a) Date palm (b) Cucumber

(c) Mulberry (d) Papaya

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25. Which of the following plants is not monoecious?

(a) Maize (b) Cucumber

(c) Date palm (d) Castor

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26. Explain the term 'monoecious'.

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27. Define the process of embryogenesis.

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28. The male gametophyte in higher plants is represented by

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29. Name two organisms having the process of budding.

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30. Why is the plant of date palm called dioecious?

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31. An organism is leading haplontic life cycle, name the division that takes place in its zygote.

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32. Name the asexual bodies produced by sponges.

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33. Name the vital link between organisms of two generations.

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34. How is parthenogenesis advantageous to some plants?

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Practice Questions B Short Answer Type Questions 2 Marks Each

1. Define fragmentation with suitable examples.

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2. Describe plasmotomy. Give at least two examples of it.

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3. How does asexual reproduction take place in Bryophyllum?

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4. Give the basic difference between binary fission and multiple fission found in Amoeba.

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5. Which mode of reproduction is more beneficial to organisms?

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6. What are the four phases of life?

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7. What is the advantage with sexually produced organisms?

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8. Give reason why individuals having complex body organisation do not show the phenomenon of regeneration.

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9. What is the difference between pollination and fertilisation?

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10. What are zoospores?

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11. Define exogenous and endogenous budding

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12. Cucurbits are termed as monoecious. Why?

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13. In the process of asexual reproduction

Watch Video Solution

14. What are gemmules? Give their significance.

Watch Video Solution

15. Define senescence.

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16. What is the major difference you observe in the offsprings produced by asexual reproduction and in the progeny produced by sexual reproduction ?

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17. Differentiate between parthenogenesis and parthenocarpy.

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Practice Questions C Short Answer Type Ii Questions 3 Marks Each

1. How does the process of regeneration occur in Hydra?

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2. How is the process of fertilisation completed in plants?

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3. Name two organisms in which fragmentation is a mode of asexual reproduction.

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4. Define the term 'stock' and 'scion'

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5. Describe the process of asexual reproduction in yeast with suitable diagram.

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6. Define gametogenesis. How many types of gametes are found in nature?

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7. Differentiate between gametogenesis and parthenogenesis.

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8. What are the main features of asexual reproduction?

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9. How is vegetative propagation beneficial to some plants?

Watch Video Solution

10. How is parthenogenesis advantageous to some plants?

Watch Video Solution

11. Sexual reproduction involves meiosis but the organisms produced by sexual reproduction restore same chromosomal number as its parent. Explain how.

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12. Differentiate between Oviparous and viviparous animals

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13. How do gametogenesis and fertilisation playan important role in maintaining constancy in chromosome number during sexual reproduction?

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14. Describe reproductive floral parts of a plant with their functions.

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15. How is asexual reproduction carried out in the given organisms? Hydra, Spongilla, Penicillium, Rhizopus, Yeast and Potato.

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Practice Questions D Long Answer Type Questions 5 Marks Each

1. Explain various types of asexual reproduction.

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2. Explain the artificial methods of vegetative propagation.

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3. Describe naturally occurring vegetative propagation among plants.

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4. Describe budding with reference to gemmulation.

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5. Describe parthenogenesis and its significance.

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Previous Year S Board Paper Questions A Very Short Answer Type Questions 1 Mark Each

1. Mention one significant difference between hydroponics and aeroponics.

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2. Define parthenocarpy.

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3. Give a scientific term for the development of embryo from the egg without the process of

fertilisation.

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4. Give a significant point of difference between Oestrous and Menstrual cycle.

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5. Name a plant which flowers every twelve years.

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6. Name the terminal stage of ageing in the life cycle of plants.

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7. Answer the following questions briefly and to the point:

What is a clone?

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8. What are seasonal breeders? Give an example.

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9. How is the chromosome number maintained in sexually reproducing organisms?

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Previous Year S Board Paper Questions B Short Answer Type I Questions 2 Mark Each

1. Why is propagation through grafting not successful in monocots?

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2. Explain what would happen if:

A flower is emasculated and auxin is applied to its stigma

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3. Explain grafting.

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4. Mention two advantages of hydroponics.

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5. State two advantages of vegetative propagation.

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6. Three particles each of mass m are placed at the three corners of an equilateral triangle of side a. The work which should be done to increase the sides of the triangle to 2a is

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Previous Year S Board Paper Questions C Short Answer Type Ii Questions 3 Mark Each

1. Explain the following:

Vegetative propagation by cutting.

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2. Explain the following:

Autogamy

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3. Give four points to show the importance of vegetative propagation.

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Previous Year S Board Paper Questions D Long Answer Type Questions 5 Mark Each

1. Name and describe the method of artificial vegetative propagation employed by farmers and gardeners for the following:

A. Lemon

B. Litchi

C. Jasmine

D. China rose

Answer:

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Review Questions

1. Give one significant difference between each of the following:

Asexual and sexual reproduction

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2. Give one significant difference between each of the following:

Monocarpic plants and Polycarpic plants

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3. Give one significant difference between each of the following:

Zoospore and zygote

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4.

Vegetative reproduction by bulbils is found in

A. Maize

B. Agave

C. Aloe

D. Bryophyllum

Answer:

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5. Each of the following questions/statements has four suggested answers. Rewrite the correct answer in each case:

Tuber is a modified

A. Root

B. Shoot

C. Bud

D. Root with stored food

Answer:

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6. Each of the following questions/statements has four suggested answers. Rewrite the correct answer in each case:

Garlic is grown by

A. Runner

B. Rhizome

C. Bulb

D. Bud

Answer:

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7. Leaf as a means of vegetative propagation is found in

A. Mint

B. Aloe

C. Bryophyllum

D. Begonia

Answer:

8. Mention one significant function of the following:

Spore

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9. Mention one significant function of the following:

Pericarp

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10. State the mode of reproduction in

Amoeba

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11. State the mode of reproduction in

Hydra

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12. Expand the following

IBA

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13. Expand the following

NAA

Watch Video Solution

14. What are the main features of asexual reproduction?

Watch Video Solution

15. How does the process of regeneration occur in Hydra?

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16. Explain the artificial methods of vegetative propagation.

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Competition Corner Objective Type Questions A Multiple Choice Questions Mcqs Choose The

Correct Option

1. Vegetative propagation in ginger is carried out by means of

A. Rhizome

B. Tuber

C. Roots

D. bulb

Answer: A

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2. External fertilisation is found in

A. Reptiles

B. Birds

C. Frog

D. Earthworm

Answer: C

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3. Gemmules are formed in

A. all sponges

B. All freshwater sponges

C. Some marine sponges

D. All of these

Answer: D

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4. Which is regarded as 'terror of Bengal'

A. Navicula

B. wolfea

C. Noctiluca

D. Water hyacinth

Answer: D

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5. Leaf as a means of vegetative propagation is found in

A. Mint

B. Aloe

C. Broyophyllum

D. Gegonia

Answer: C

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6. Which of the following structures represents female gametophyte?

A. Ovulation

B. Incubation

C. Gestation

D. Menstruction

Answer: C

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7. The term 'Pistillate' is used for

A. Endosperm

B. Ovule

C. Embryoc sac

D. Embryo sace

Answer: C

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8. The term 'Pistillate' is used for

A. Unisexual male flower

B. Unisexual female flower

C. Bisexual flower

D. None of these

Answer: B

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9. Vegetative propagation in mint occurs by

A. Maize

B. Agave

C. Aloe

D. Bryophyllum

Answer: B

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10. Embryo sac is located in

A. Ovary

B. Embryo

C. Seed

D. Endosperm

Answer: A

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11. Syngamy is also known as

A. Plasmogamy

B. Isogamy

C. Oogamy

D. Fertilisation

Answer: D

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12. Tuber is a modified

A. Root

B. Shoot

C. Bud

D. Stem

Answer: B

 Watch Video Solution

13. Rhizopus is also known as

A. Pin mould

B. Bread mould

C. Slime mould

D. None of these

Answer: C

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14. Which of the following groups have haploid plant body

A. Bryophytes

B. Pteriodophytes

C. Gymnosperms

D. Angiosperms

Answer: A

 Watch Video Solution

15. Garlic is grown by

A. Runner

B. Rhizome

C. Bulb

D. Bud

Answer: C

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16. The lifespan of banyan tree is

A. 50-60 years

B. 100-200 years

C. 200-300 years

D. 100 years

Answer: C

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17. Oblique binary fission is found in

A. Euglena

B. Paramecium

C. Plamaria

D. Ceratium

Answer: D

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18. Starfish regenerates an entire new starfish from a single arm by the process of

A. Fragmentation

B. Fission

C. Budding

D. Spores

Answer: A

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19. Which of the following has the shortest lifespan?

A. Butterfly

B. Fruitfly

C. Dog

D. Horse

Answer: A

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20. Which plant flowers only once in its life time?

A. Brahm Kamal

B. Neela Kuranji

C. Bamboo

D. None of these

Answer: A

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21. In which pair both the plants can be vegetatively propagated by leaf pieces?

A. Bryophyllum and Kalanchoe

B. Chrysanthemum and Agave

C. Agave and Kalanchoe

D. Asparagus and Bryopyllum

Answer: D

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22. During oogenesis, each diploid oocyte produces.

A. Four functional ova

B. wo functional eggs and two polar bodies

C. Four functional polar bodies

D. One functional egg and three polar bodies

Answer: A

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23. The largest bird is

A. Ostrich

B. Penguin

C. Emu

D. Kiwi

Answer: B

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24. Animals giving birth to young ones are

A. Oviparous

B. Viviparous

C. Ovoviviparous

D. both (a) and (c)

Answer: B

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25. Hydra reproduces asexually through

A. Fragmentation

B. Budding

C. Binary fission

D. Sporulation

Answer: C

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26. The part where fertilisation of ovum takes place in rabbit, human and other placental mammals is

A. (a) Ovary

B. (b) Uterus

C. (c) Fallopian tube

D. (d) Vagina

Answer: C

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27. Regeneration of a plant cell to give rise to new plant is called

A. Reporduction

B. Budding

C. Totipotency

D. Pleuripotency

Answer: C

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28. Corm is the modification of

A. Root

B. Leaf

C. Stem

D. Bud

Answer: D

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29. The ratio of distance of two satellites from the centre of earth is 1 : 4. The ratio of their time periods of rotation will be :

A. Responsiveness to touch

B. Interaction with the environment and progressive evolution

C. Reproduction

D. Growth and movement

Answer: C

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30. Which is immortal?

A. Plasma cell

B. Germ cell

C. Brain cell

D. Kidney cell

Answer: B

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31. Programmed cell death is scientifically termed as

A. Autotomy

B. Cell lysis

C. Apoptosis

D. None of these

Answer: C

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32. Genes in the somatic cells of the body undergo mutation with the passages of time. Such mutations cause senescence. It is related with

A. Hormonal theory

B. Programmed senescence theory a

C. Error and damages theories

D. mmunological theories

Answer: C

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33. Regeneration of liver is

A. Metamorphosis

B. Reparative regeneration

C. Epimorphosis

D. Morphogenesis

Answer: B

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34. The maximum growth rate occurs in

A. (a) Stationary phase

B. (b) Senescence phase

C. (c) Lag phase

D. (d) Exponential phase

Answer: D

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35. Match the terms in column I with their description in column II and choose the

correct option.

Column I	Column II
A. Dominance	1. Many genes govern a single character
B. Codominance	2. In a heterozygous organism only one allele expresses itself
C. Pleiotropy	3. In a heterozygous organism both alleles express themselves fully
D. Polygenic inheritance	4. A single gene influences many characters

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	A	B	C	D
(a)	4	1	2	3
(b)	4	3	1	2
(c)	2	1	4	3
(d)	2	3	4	1

A. $\begin{matrix} A & B & C & D & E \\ 1 & 4 & 5 & 3 & 2 \end{matrix}$

B. $\begin{matrix} A & B & C & D & E \\ 2 & 1 & 4 & 3 & 5 \end{matrix}$

C. $\begin{matrix} A & B & C & D & E \\ 2 & 4 & 3 & 5 & 1 \end{matrix}$

D.

A	B	C	D	E
4	1	3	5	2

Answer: B

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36. In which of the following subjects the dead space is highest ?

A. Old man

B. Old woman

C. Yound man

D. Young woman

Answer: A

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37. The 'Eyes' of the potato tuber are

A. Root buds

B. Flower buds

C. Shoot buds

D. Axillary buds

Answer: D

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Competition Corner Objective Type Questions B Assertion And Reason Type Questions Fopr Aiims Aspirants

1. Assertion: Asexual reproduction does not bring any genetic change in progeny.

Reason: Asexual reproduction involves mitotic cell division.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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2. Assertion: Middle piece of the sperm is called its powerhouse'.

Reason: Sperms are motile bodies

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct

explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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3. Assertion: Air layering is applied to woody shrubs and trees.

Reason: These do not possess branches near the ground.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

4. Assertion: Many plants can reproduce asexually as well as sexually in nature.

Reason: Phenomenon of parthenogenesis is also found in plants.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D

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5. Assertion: Amoeba is known as immortal.

Reason: Amoeba has rigid protective layer around it.

A. (a) If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. (b) If both Assertion and Reason are true and the Reason is not the correct

explanation of the Assertion.

C. (c) If Assertion is true but the Reason is false.

D. (d) If both Assertion and Reason are false.

Answer: C

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6. Assertion: In honeybee, males are always haploid. Reason: They are derived from unfertilised eggs.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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7. Assertion: Gemmules are asexual bodies found in sponges.

Reason: They are formed for the persistence of race.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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8. Assertion: In oviparous animals, zygote develops outside the body of female parent.

Reason: Due to proper care and protection, their young ones are hatched out from eggs.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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9. Assertion: Visit of insects on flowers helps in pollination.

Reason: Insect-pollinated flowers produce pollen in large number.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: C

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10. Assertion: Parthenogenesis does not contribute to organic evolution.

Reason: Parthenogenesis is a method to

establish triploid and aneuploid chromosomal combination.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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11. Assertion: Reproduction and death are the two essential processes on the earth.

Reason: These maintain continuity of the race on the earth.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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12. Assertion: Young ones of oviparous animals are at a greater risk.

Reason: There is going to be shortage of food day-by-day.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

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13. Assertion: In an organism, male gametes are always produced in large number as compared to female gametes.

Reason: Male gametes have to cover a reasonable distance to reach the female gametes.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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14. Assertion: Gametes are always haploid.

Reason: A haploid parent body gives rise to gametes by mitosis.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: B

15. Assertion: Senescent phase of life ultimately leads to death.

Reason: There is progressive deterioration of body organs and their functioning.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: A

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16. Assertion: Senescence is the time when age associated defects are manifested.

Reason: Certain genes may be undergoing sequential switching on and off during one's life.

A. If both Assertion and Reason are true and the Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true and the Reason is not the correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

Answer: D

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Multiple Choice Questions

1. There are various types of reproduction. The type of reproduction adopted by an organism depends upon:

A. The habitat and morphology of the organism

B. Morphology of the organism

C. Morphology and physiology of the organism

D. The organism's habitat, physiology and genetic makeup

Answer: D

View Text Solution

2. Identify the incorrect statement:

A. In sexual reproduction, the offsprings produced are morphologically and genetically identical to the parent

B. Zoospores are sexual reproductive structures

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

D. Conidia are asexual structures

Answer: B

View Text Solution

3. When seeds are attached to parent plant, the type of germination in known as:

A. Ovipary

B. Epigeal

C. Vivipary

D. Hypogeal

Answer: C

View Text Solution

4. Study of pollen grains is called:

A. Ethnology

B. Palynology

C. Paleobotany

D. Co-taxonomy

Answer: B

View Text Solution

5. Sexual reproduction in fungi may occur by means of:

A. Sporangiospore, oospore and ascospore

B. Zoospore, oospore and ascospore

C. Sporangiospore, ascospore and basidiospore

D. Cospore, ascospore and basidiospore

Answer: D

View Text Solution

6. External fertilisation occurs in majority in:

A. Algae

B. Fungi

C. Liverworts

D. Mosses

Answer: A

View Text Solution

7. Offspring formed by sexual reproduction exhibit more variation than those formed by asexual reproduction because :

A. Sexual reproduction is a lengthy process

B. Gametes of parents have quantitatively or qualitatively different genetic composition

C. Genetic material comes from parents of two different species

D. Greater amount of DNA is involved in sexual reproduction

Answer: B

View Text Solution

8. Choose the correct statement from amongst the following -

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

B. Dioecious organisms are found only in plants

C. Dioecious organisms are found in both plants and animals

D. Dioecious organisms are found only in vertebrates

Answer: C

View Text Solution

9. In which of the following organism, self Fertilisation is seen?

A. Fish

B. Roundworm

C. Earthworm

D. Liver fluke

Answer: D

View Text Solution

10. Which of the following is hermaphrodite ?

A. Ant

B. Aphid

C. Earthworm

D. Cockroach

Answer: C

View Text Solution

11. A diploid gamete mother cell undergoes

A. mitosis to produce vegetative cells

B. meiosis to produce vegetative cells.

C. mitosis to produce gametes.

D. meiosis to produce gametes.

Answer: D

View Text Solution

12. Select the incorrect option about embryogenesis.

A. During this event, zygote undergoes cell division and cell differentiation.

B. During cell differentiation, the number of cells in the developing embryo increases.

C. During cell division, groups of cells undergo certain modification to form specialised tissues and organs.

D. Both (b) and (c)

Answer: D

View Text Solution

13. The phase of growth in a plant's life before it reproduces sexually is called:

A. juvenile phase

B. vegetative phase.

C. reproductive phase

D. senescent phase.

Answer: B

View Text Solution

14. Water acts as the medium of gamete transfer in

A. seed plants

B. bryophytes

C. algae

D. Both (b) and (c)

Answer: D

View Text Solution

15. Select the incorrect pair.

A. Syngamy - fusion of gametes

B. Parthenogenesis - fusion of gametes outside the female body

C. Vivipary - giving birth to young ones

D. Embryogenesis – development of an embryo from zygote

Answer: B

View Text Solution

16. Select the group of organisms in which both male and female gametes are motile.

A. Bryophytes and pteridophytes

B. Algae and bryophytes

C. Algae and pteridophytes

D. Few algae and fungi

Answer: D

View Text Solution

17. In all sexually reproducing organisms, life starts from a:

A. single-celled zygote

B. haploid zygote

C. haploid gametes

D. All of the above

Answer: A

View Text Solution

18. Select the incorrect statement regarding fertilisation.

A. It restores diploid condition in the zygote.

B. It involves the fusion of same types of gametes.

C. It involves the fusion of two morphologically distinct types.

D. It always occurs inside the body of female.

Answer: D

View Text Solution

19. Select the correct statement regarding sexuality in organisms.

A. Dioecious plants such as cucurbits, and coconuts have both male and female

flowers on the same individual.

B. Monoecious plants such as papaya and date palms have both male and female flowers on the separate plants.

C. Cockroach is a unisexual animal and exhibits sexual dimorphism.

D. All of the above

Answer: C

View Text Solution

20. Gametogenesis and gamete transfer are

A. pre-fertilisation events

B. post-fertilisation events

C. fertilisation events.

D. Both (b) and (c)

Answer: A

View Text Solution

21. Select the correct sequence of events of sexual reproduction.

A. Embryogenesis $\rightarrow$ syngamy $\rightarrow$ gamete transfer $\rightarrow$ formation of gametes

B. Syngamy $\rightarrow$ embryogenesis $\rightarrow$ formation of gametes $\rightarrow$ gamete transfer

C. Formation of gametes $\rightarrow$ gamete transfer $\rightarrow$ syngamy $\rightarrow$ embryogenesis

D. Gamete transfer $\rightarrow$ formation of gametes $\rightarrow$ embryogenesis $\rightarrow$ syngamy

Answer: C

View Text Solution

22. The events in sexual reproduction are:

A. Pre-fertilisation

B. Fertilisation

C. Post-fertilisation

The correct sequence of their occurrence is

A. $A \rightarrow B \rightarrow C$

B. $B \rightarrow A \rightarrow C$

C. $A \rightarrow C \rightarrow B$

D. $B \rightarrow C \rightarrow A$

Answer: A

View Text Solution

23. Select the correct pair.

A. Staminate flower - female gamete

B. Pistillate flower - female gamete

C. Staminate flower - male gamete

D. Both (b) and (c)

Answer: D

View Text Solution

24. Select the plant which exhibits unusual flowering phenomenon.

A. Water hyacinth

B. Bamboo

C. Neelkurinji

D. Both (b) and (c)

Answer: D

View Text Solution

25. Which parts of the flower wither and fall off after fertilisation?

A. Sepals and petals

B. Stamens

C. Stamens, petals, and sepals

D. Ovary

Answer: C

View Text Solution

26. Animals in which external fertilisation occurs,

A. zygote development occurs inside the body of female

B. zygote development occurs outside the body of female.

C. they lay fertilised eggs.

D. Both (b) and (c)

Answer: B

View Text Solution

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

(i) Gametic fusion takes place.

(ii) Transfer of genetic material takes place.

(iii) Reduction division takes place.

(iv) Progeny have some resemblance with parents.

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

A. (i) and (ii)

B. (i) and (iii)

C. (i) and (iv)

D. (i) and (iii)

Answer: C

View Text Solution

28. A few statements with regard to sexual reproduction are given below.

(i) Sexual reproduction does not always

require two individuals.

(ii) Sexual reproduction generally involves gametic fusion.

(iii) Meiosis never occurs during sexual reproduction.

(iv) External fertilisation is a rule during sexual reproduction.

Choose the correct statements from the options below:

A. (i) and (iv)

B. (i) and (ii)

C. (ii) and (iii)

D. (iii) and (iv)

Answer: B

View Text Solution

29. Given below are a few statements related to external fertilisation. Choose the correct statements.

(i) The male and female gametes are formed and released simultaneously.

(ii) Only a few gametes are released into the

medium.

(iii) Water is the medium in a majority of organisms exhibiting external fertilisation

(iv) Offspring formed as a result of external fertilisation have better chance of survival than those formed inside an organism.

A. (iii) and (iv)

B. (i) and (iii)

C. (ii) and (iv)

D. (i) and (iv)

Answer: B

View Text Solution

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

(i) Pistil may produce more than one seeds.

(ii) Each carpel may have more than one ovule.

(iii) Each carpel has only one ovule.

(iv) Pistil have only one carpel.

Choose the statements that are true from the options below.

A. (i) and (ii)

B. (i) and (iii)

C. (ii) and (iv)

D. (iii) and (iv)

Answer: A

View Text Solution

31. Which of the following situations correctly describe the similarity between an angiosperm egg and a human egg?

(i) Eggs of both are formed only once in a lifetime.

(ii) Both the angiosperm egg and human egg are stationary

(iii) Both the angiosperm egg and human egg are mobile.

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

Choose the correct answer from the options given below.

A. (ii) and (iv)

B. (iv) only

C. (iii) and (iv)

D. (i) and (iv)

Answer: B

View Text Solution

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

A. sexual reproduction is a lengthy process.

B. gametes of parents have qualitatively different genetic composition.

C. genetic material comes from parents of two different species.

D. greater amount of DNA is involved in sexual reproduction.

Answer: B

View Text Solution

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

A. Transfer of pollen grains

B. Embryo development

C. Formation of flower

D. Formation of pollen grains

Answer: B

View Text Solution

34. The number of chromosomes in the shoot tip cells of a maize plantis 20. The number of chromosomes in the microspore mother cells of the same plant shall be:

A. 20

B. 10

C. 40

D. 15

Answer: A

View Text Solution

Odd One Out

1. Which of the following is odd one out with reference to reproduction?

A. Eggs of hen

B. Seeds of plants

C. Buds of potato

D. Roots of mango tree

Answer: D

View Text Solution

2. Which of the following is odd one out with reference to vegetative propagation?

A. Tuber

B. Sucker

C. Gametes

D. Rhizome

Answer: C

View Text Solution

Fill In The Blanks

1. The growth phase of an organism before attaining sexual maturity is called .....

A. juvenile phase

B. vegetative phase

C. senescent phase

D. Both (a) and (b)

Answer: D

View Text Solution

2. Water is not required for gamete transfer in .....

A. pteridophytes

B. bryophytes

C. algae

D. None of these

Answer: D

View Text Solution

3. A diploid parent plant body produces ..... A ..... gametes and a haploid parent plant body produces ..... B .... gametes.

A. A-haploid , B-haploid

B. A-diploid , B-haploid

C. A-diploid , B-diploid

D. A-diploid , B-haploid

Answer: A

View Text Solution

4. In plants, development of zygote results in the formation of .....

A. seed

B. fruit

C. embryo

D. endosperm

Answer: C

View Text Solution

5. Strobilanthus kunthiana flowers once in .....years.

A. 10

B. 20

C. 30

D. 12

Answer: D

View Text Solution

Matching

1. Match the organisms given in column I with their approximate life spans given in column II and choose the correct option.

Column I (Organisms)		Column II (Life spans)	
A	Tortoise	(i)	1–2 weeks
B	Crocodile	(ii)	100–150 years
C	Butterfly	(iii)	60 years

A. A-(ii),B-(i),C-(iii)

B. A-(iii),B-(ii),C-(i)

C. A-(iii),B-(i),C-(ii)

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

Answer: D

View Text Solution

2. Match the terms given in column I with their correct definition given in column II and

choose the correct option.

Column I (Terms)		Column II (Definition)	
A	Embryo-genesis	(i)	Development of a new plant from female gamete without fertilisation
B	Syngamy	(ii)	Transfer of pollen grains from anther to the stigma
C	Pollination	(iii)	Development of an embryo from zygote
D	Parthenogenesis	(iv)	Fusion of male and female gametes

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

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

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

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

Answer: D

View Text Solution

3. Match the organisms given in column I with their chromosome number in their gametes given in column II and choose the correct combination from the options given below.

Column I (Organisms)		Column II (Chromosomes number in gametes)	
A	Maize	(i)	630
B	Human being	(ii)	4
C	*Ophioglossum*	(iii)	23
D	Fruit fly	(iv)	10

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

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

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

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

Answer: D

View Text Solution

4. Match the organisms given in column I with the chromosome number in their meiocytes given in column II and choose the correct

combination from the options given below.

Column I (Organisms)		Column II (Chromosome number in meiocytes)	
A.	Housefly	(i)	34
B.	Potato	(ii)	78
C.	Apple	(iii)	48
D.	Dog	(iv)	12

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

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

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

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

Answer: D

View Text Solution

5. Match the structures given in column I with their features given in column II. Select the correct option.

Column I (Structures)		Column II (Features)	
A	Zygote	(i)	Fertilised ovule
B	Gamete	(ii)	Ripened ovary
C	Fruit	(iii)	A haploid structure
D	Seed	(iv)	A diploid structure

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

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

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

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

Answer: B

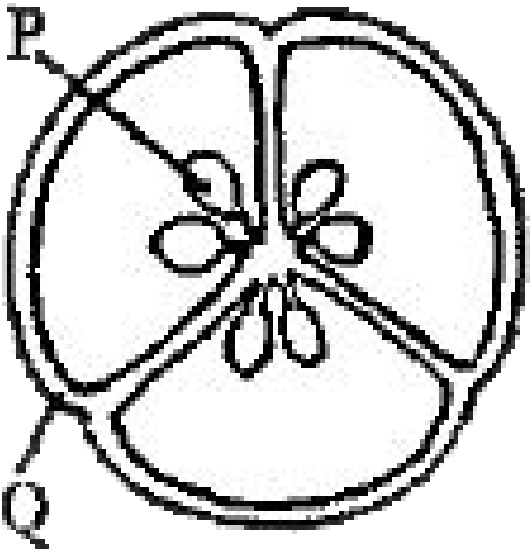
View Text Solution

Figure Based Questions

1. The image given below shows the section of an ovary of a plant with two parts labelled as P and Q

Select the correct option about the structures

that will develop from these parts after fertilisation and their ploidy level.



A. P-Seed, haploid, Q-Pericarp, diploid

B. P-Pericarp, diploid, Q-Seed, diploid

C. P-Seed, diploid, Q-Pericarp, diploid

D. P-Pericarp, haploid, Q-Seed, haploid

Answer: C

View Text Solution

2. Select the option which represents the fertilisation in human beings.

A. 

B. 

C. 

D. None of these

Answer: C

View Text Solution

Assertion And Reason

1. Assertion: Zygote is the only vital link between two generations of an organism.

Reason: Male and female gametes fuse to form a Zygote.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

2. Assertion: A few fungi and algae need water as a medium to transfer gametes.

Reason: They produce motile male and female gametes.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

3. Assertion: Gametes are haploid.

Reason: They are formed only through meiosis from meiocytes.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: C

View Text Solution

4. Assertion: Embryogenesis is the process of formation of gametes.

Reason: During embryogenesis, zygote undergoes cell division (mitosis) and cell differentiation.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: D

View Text Solution

5. Assertion: Meiocytes in butterfly have 380 chromosomes.

Reason: The meiocytes undergo mitosis to produce gametes with 190 chromosomes.

A. Both assertion and reason are true and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of

assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Answer: B

View Text Solution

Source Based Questions

1. Read the passages and answer the questions that follow

Reproduction is a biological process in which an organism produces young (offspring) that are genetically identical to itself. The offspring develop, mature, and generate more offspring. As a result, there is a birth, growth, and death cycle. Reproduction ensures the species' survival from generation to generation.

In all sexually reproducing organisms, life starts from a

A. single-celled zygote

B. haploid zygote

C. haploid gametes

D. All of the above

Answer: A

View Text Solution

2. Read the passages and answer the questions that follow

Reproduction is a biological process in which an organism produces young (offspring) that are genetically identical to itself. The offspring develop, mature, and generate more offspring.

As a result, there is a birth, growth, and death cycle. Reproduction ensures the species' survival from generation to generation.

Ulothrix is a filamentous alga with haploid plant body. Select the stage at which meiosis will occur in this alga during sexual reproduction?

A. At the time of gamete formation

B. In zygote

C. Both (a) and (b)

D. None of these

Answer: B

View Text Solution

3. Read the passages and answer the questions that follow

Reproduction is a biological process in which an organism produces young (offspring) that are genetically identical to itself. The offspring develop, mature, and generate more offspring. As a result, there is a birth, growth, and death cycle. Reproduction ensures the species'

survival from generation to generation.

A plant is called ..... when it bears flowers either with male or female reproductive parts.

A. bisexual

B. monoecious

C. homothallic

D. dioecious

Answer: D

View Text Solution

4. Read the passages and answer the questions that follow

Reproduction is a biological process in which an organism produces young (offspring) that are genetically identical to itself. The offspring develop, mature, and generate more offspring. As a result, there is a birth, growth, and death cycle. Reproduction ensures the species' survival from generation to generation.

Number of chromosomes in human beings:

A. 23

B. 26

C. 24

D. 22

Answer: A

View Text Solution

5. Read the passages and answer the questions that follow

Reproduction is a biological process in which an organism produces young (offspring) that

are genetically identical to itself. The offspring develop, mature, and generate more offspring. As a result, there is a birth, growth, and death cycle. Reproduction ensures the species' survival from generation to generation.

The animals that possess both male and female reproductive organs are called

A. unisexual animals

B. hermaphrodites

C. homothallic

D. None of these

Answer: B

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