



## BIOLOGY

### VMC MODULES ENGLISH

## Reproduction in Organisms

### Fundamental

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

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 Paramoecium
- C. Single-celled organisms
- D. Both (2) and (3)

**Answer: D**



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

Column I	Column II
1. Drosophila	a. 1-2 week
2. Butterly	b. 2 weeks
3. Crow	c. 15 years
4. Parrot	d. 60 years
5. Tortoise	e. 140 years
6. Crocodile	f. 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-2, 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, vegetative 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. a.Reproduction

B. b.Fertilisation

C. c.Life-cycle

D. 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. Its will
- D. Both (1) and (2)

**Answer: D**



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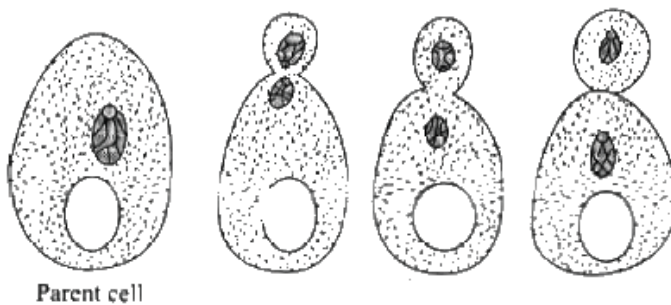
9. When offspring is produced by a single parent with or without the involvement of gamete formation, the reproduction is called

- A. Asexual
- B. Sexual
- C. Orthenogenetic
- D. Either (1) or (2)

**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 d

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-leaf buds, 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. The site of origin of the new plantlets in potato sugarcane and banana are

- A. The nodes present in the modified stems
- B. The nodes present in the modified roots
- 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 arises 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 the . . . . .c . . . . .

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

- A. a-sexual, b-aseexual, c-higher plants, d-animals
- B. a-sexual, b-aseexual, c-animals, d-higher plants
- C. a-sexual, 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. <i>Agave</i>
B Leaf-buds	2. <i>Penicillium</i>
C Bulbil	3. Water hyacinth
D Offset	4. Sponges
E Conidia	5. <i>Bryophyllum</i>

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

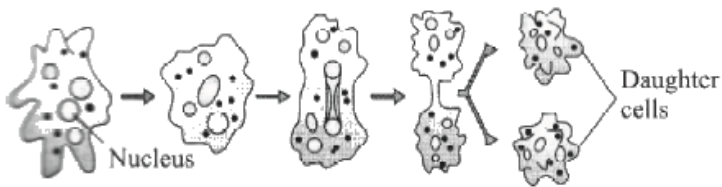
D. a-s, b-p, c-t, d-r, e-q

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 the wrongly matched pair

- A. Tuber-Potato
- B. Leaf buds-Banana
- C. Offsets-Water Hyacinth
- D. Rhizome-Ginger

**Answer: B**



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**21.** Select the correct match w.r.t vegetative propagules in angiosperms

- A. Zoospores of Chlamydomonas
- B. Eyes of Potato
- C. Rhizome of Ginger
- D. Bulbil of Agave

**Answer: A**



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

- A. Monoecious
- B. Dioecious
- C. Unisexual
- D. Bisexual

**Answer: A**



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

	Column I		Column II
<i>i.</i>	Sponge	<i>a.</i>	Monoecious
<i>ii.</i>	Leech	<i>b.</i>	Dioecious
<i>iii.</i>	Cockroach	<i>c.</i>	Hermaphrodite
<i>iv.</i>	Frog	<i>d.</i>	Unisexual
<i>v.</i>	Date plam	<i>e.</i>	Bisexual

A. a-I, e-ii, b-iii, d-iv, b-v

B. c-I, a-ii, d-iii, b-iv, b-v

C. e-I, c-ii, b-iii, d-iv, b-v

D. All of the above

**Answer: D**



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**25.** When male and female flowers are found in separate plants, it is termed as

A. Monoecious

B. Dioecious

C. Unisexual

D. Bisexual

**Answer: B**



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**26.** 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

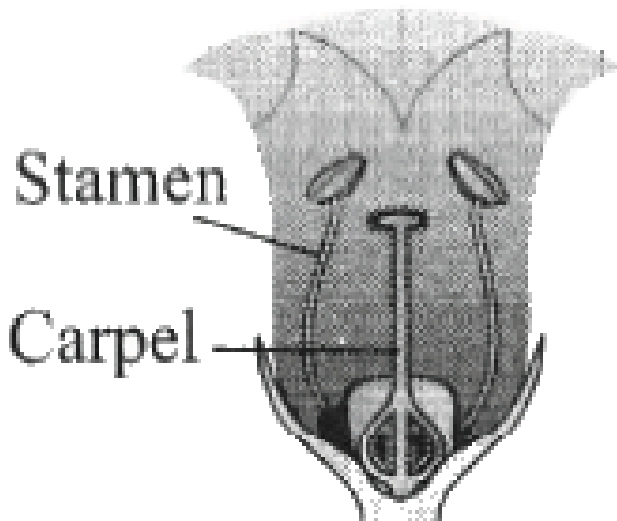
D. a-meiotic, b-amitotic

Answer: A



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27. The following figure shows



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



D. Unisexual flower of sweet potato

**Answer: B**



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**28.** 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 (1) and (3)

**Answer: D**



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Organisms	Sexually
Chara	Monoecious
29. Cucurbits	Dioecious
Cycas	
Pinus	

A. a-I, b-II, c-I, d-II, e-I

B. a-II, b-I, c-II, d-I, e-II

C. a-I, b-II, c-I, d-I, e-II

D. a-II, b-I, c-I, d-I, e-II

**Answer: A**



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**30.** 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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**31.** 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 (1) or (2)

**Answer: D**



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**32.** 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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**33.** Read the following statements and find out the incorrect statement.

A. Plant, animals and fungi differ so greatly in external morphology, internal structure and physiology but 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 phase, but in the perennial species it is very difficult to clearly define these phases

C. In animals, the juvenile phase is 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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**34.** 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

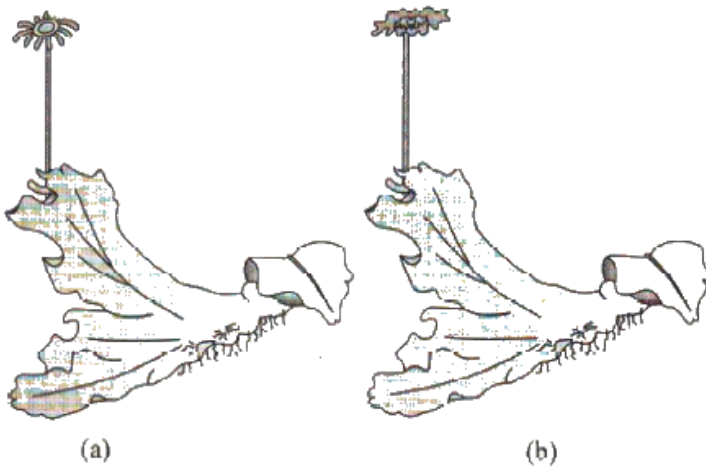
- A. Reproduction phase
- B. Senescent phase
- C. Vegetative phase in animals and juvenile phase in plants
- D. Vegetative phase in plants and juvenile phase in animals

Answer: D



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35. 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**



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

- A. Isogametes
- B. Heterogametes
- C. Homogametes
- D. Both (1) and (3)

**Answer: D**



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**37.** 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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**38.** Match the columns I and II, and choose the correct combination from the options given.

	Name	Chromosome number in gamete
<i>I.</i>	Butterfly	a. 6
<i>II.</i>	Housefly	b. 39
<i>III.</i>	Dog	c. 21
<i>IV.</i>	Cat	d. 19
<i>V.</i>	Rat	e. 190

A. a-I, b-II, c-III, e-IV, d-V

B. b-I, e-II, d-III, c-IV, a-V

C. e-I, a-II, b-III, d-IV, c-V

D. e-I, a-II, c-III, b-IV, d-V

**Answer: C**



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

A. Juvenile phase

B. Vegetative phase

C. Reproduction phase

D. Senescent phase

**Answer: C**



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**40.** 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 (1) and (2)

**Answer: D**



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

- A. Bamboo and banana
- B. Banana and neelakarauji
- C. Bamboo and *Strobilanthus kunthiana*
- D. All of the above

**Answer: C**



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**42.** *Strobilanthus kunthiana* flowers once in

- A. 50-100 years
- B. 6 years
- C. 12 years
- D. 18 years

**Answer: C**



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**43.** *Strobilanthus kunthiana* is found in India in

- A. Kerala, Karnataka and Tamil nadu
- B. Karnataka, Tamil nadu and Odisha
- C. Kerala, Karnataka and Odisha

D. Kerala, Karnataka and Maharashtra

**Answer: A**

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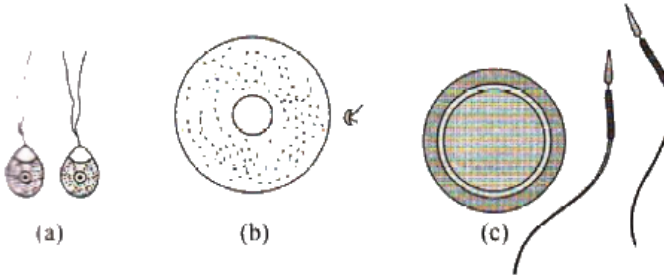
**44.** Many mammals, especially those living in natural, wild conditions exhibit reproductive cycles only during favourable seasons in their reproductive phase and are therefore called.

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

**Answer: B**

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

**Answer: D**



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**46.** 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 2 and 3

**Answer: D**



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47. Transitions between the juvenile, reproductive and senescent phases 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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48. 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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**49.** 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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**50.** 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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**Enable**

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 (1) and (2)

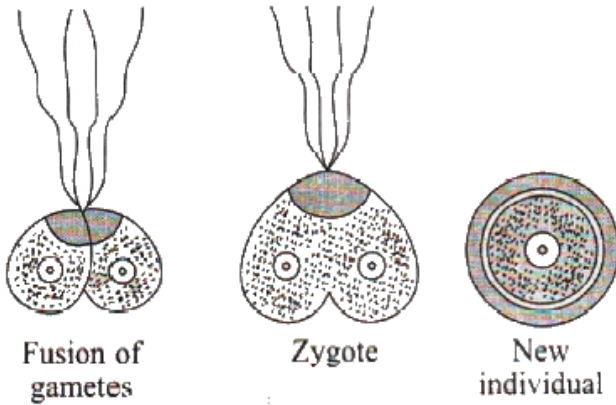
D. Can't say

**Answer: B**



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5. The following figure shows



- 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 (1) and (2)
- D. Can't say

**Answer: B**



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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 upto adulthood

D. In organism exhibiting internal fertilisation, even though 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.** The vital link ensures continuity of species between organisms of one generation and the next is

- 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. Life begin in all sexually reproducing organisms as a

- A. Gamete
- B. Spore
- C. Embryo

D. Zygote

**Answer: D**



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**11. Assertion :** Embryogenesis is the development of embryo from the zygote.

**Reason :** Cell division increase the number of cells in the developing embryo.

A. Gametogenesis

B. Sporogenesis

C. Embryogenesis

D. Oogenesis

**Answer: C**



12. Choose the correct option from following statements

I. During embryogenesis, zygote undergoes mitotic cell division.

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

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

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

A. Cell division (mitosis)

B. Cell differentiation

C. Meiosis/reduction division

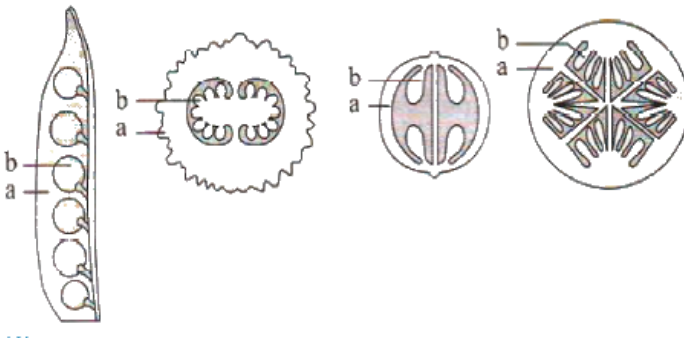
D. Both (1) and (2)

Answer: D



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13. Recognise the figure and find out the correct matching



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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 giving birth to young ones are**

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



**Answer: B**



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**16.** Deposition of calcareous shell around zygote occurs 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. Offspring formed by asexual method of reproduction have greater similarity among themselves because

- (i) Asexual reproduction involves only one parent
- (ii) Asexual reproduction does not involve gametes
- (iii) Asexual reproduction occurs before sexual reproduction
- (iv) Asexual reproduction occurs after sexual reproduction

A. Formation of gametes

B. Fusion of gametes

C. Both (1) and (2)

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 is 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 essential for fertilization in

A. Pteridophytes

B. Bryophytes

C. Thallophytes

D. Spermatophytes

**Answer: D**



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**20.** Which one cannot be included under basic feature of reproduction ?

A. DNA replication

B. Formation of reproductive units

C. Meiosis is never involved as all divisions are mitotic

D. Growth due to synthesis of more protoplasm

**Answer: C**



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**21. Which of the following can show somatogenic reproduction ?**

A. Paramecium

B. Amoeba

C. Hydra

D. All of these

**Answer: D**



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22. In mammals the sheep , cow, rat etc. show reproduction during

- A. Oestrus phase
- B. Anoestrous phase
- C. Menstrual phase
- D. Diapause phase

**Answer: A**



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23. Which of the following animals is bisexual ?

- A. Ants
- B. Cockroach

C. Leech

D. Wasps

**Answer: C**



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**24.** Which of the following statements is not correct w.r.t. earthworm ?

A. One pair of testes in segment 9

B. One pair of ovaries in segment 13

C. Protandrous condition

D. Cross-fertilization

**Answer: A**



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25. The fusion of male and female gametes in course of fertilization is called

- A. Syngamy
- B. Hologamy
- C. Isogamy
- D. Anisogamy

**Answer: A**



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26. Among butterfly, pigeon, horse and goat, which one has the highest chromosome number in gametes ?



A. Butterfly

B. Pigeon

C. Horse

D. Goat

**Answer: A**



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**27.** Which of the following members show the same number of chromosomes in their gametes ?

A. Honeybee and Hydra

B. Cockroach and mosquito

C. Monkey and frog

D. Housefly and fruitfly

**Answer: A**



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**28.** The end of juvenile/vegetative phase marks the beginning of the

- A. Vegetative phase
- B. Reproductive phase
- C. Senescence
- D. Ageing

**Answer: B**



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**29.** All of the following are pre-fertilisation events except

- A. Spermatogenesis
- B. Oogenesis
- C. Gametes transfer
- D. Embryogenesis

**Answer: D**



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**30.** Which of the following statements is not true?

- A. Life span is the period from birth to the natural death of an organism
- B. All small organisms have very short life span

C. Life expectancy is the characteristic of populations

D. Maximum life span is the characteristic of species

**Answer: B**



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**31.** Which of the following pairs of animals have almost similar maximum life span ?

A. Parrot and Peepal

B. Elephant and Pinus

C. Tortoise and Peepal

D. Cow and Banana tree

**Answer: A**



**Watch Video Solution**

**32.** Which of the following plays an important role in controlling reproduction ?

- a. Day length
- b. Nervous system
- c. Endocrine system

A. c only

B. b only

C. b and c only

D. a, b and c

**Answer: D**



Watch Video Solution

**33.** Which of the following pheromones is involved in sexual reproduction in silk moth ?

- A. Civetone
- B. Bombykol
- C. Ecdysone
- D. Villikin

**Answer: B**



**Watch Video Solution**

**34.** Which of the following is the largest -

- A. Whale
- B. Giant tortoise

C. Hippopotamus

D. Elephant

**Answer: A**



**Watch Video Solution**

**35.** Eggs are covered with a tough, leathery coat in case of

A. Sharks

B. Bony fishes

C. Lizards

D. Urochordates

**Answer: C**



**Watch Video Solution**

**36.** External syngamy occurs in case of

- A. Reptiles
- B. Birds
- C. Mammals
- D. Bony fishes

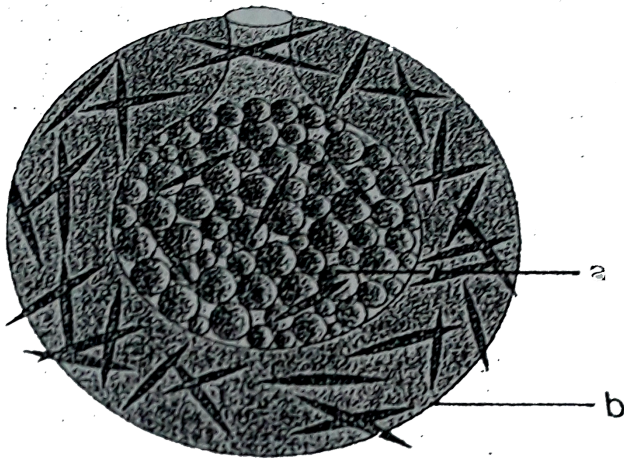
**Answer: D**



**Watch Video Solution**

**37.** Look at the given figure and find out the statements wrong regarding the gemmule formation





- A. b refers to an archeocyte and a refers to a gemmule
- B. Gemmule formation takes place only in marine
- C. On germination , each gemmule gives rise to many offsprings
- D. Gemmule formation is a kind of spore formation

- A. D only
- B. A & B
- C. A, B & C
- D. A, B, C & D

**Answer: D**



[Watch Video Solution](#)

**38.** Which type of asexual reproduction is observed in Hydra ?

- A. Exogenous budding
- B. Endogenous budding
- C. Gemmule formation
- D. Both (1) and (3)

**Answer: A**



[Watch Video Solution](#)

**39.** Which of the following statement is correct?

- A. Small number of gametes are released by animals performing external fertilisation
- B. Chimpanzee exhibits oestrous cycle
- C. Oviparous animals always lay fertilised eggs covered by hard calcareous shell
- D. The type of parthenogenesis observed in honeybees is arrhenotoky

**Answer: D**



**Watch Video Solution**

**40. Which of the following statements are correct ?**

- A. I, II and III
- B. II, III and IV

C. I, II and IV

D. All of these

**Answer: A**



**Watch Video Solution**

**41.** Select the correct pair(s) from the following

I. Zoospores - Chlamydomonas

II. Conidia - Penicillium

III. Gemmules - Sponge

IV. Buds - Hydra

Choose the correct codes.

A. I, II and III

B. I, III and IV

C. II and IV

D. All of these

**Answer: D**



**Watch Video Solution**

**42.** Consider the following statements and mark them as true/false

I. Homothallic or monoecious represents the bisexual condition, e.g.coconut.

II. Heterothallic or dioecious represents the unisexual condition, e.g. date plam.

III. Earthworm and leech are hermaphrodites.

IV. Chara and Marchantia are monoecious plants.

Choose the correct codes.

A.	I	II	III	IV
	False	True	True	True

- I      II      III      IV  
B. True True True False
- I      II      III      IV  
C. True False True True
- I      II      III      IV  
D. False False False True

**Answer: B**



**Watch Video Solution**

**43.** Chose the correct pair(s).

- I. Irregular binary fission - Amoeba
- II. Longitudinal binary fissionn - Euglena
- III. Transverse binary fission - Paramecium
- IV. Multiple fission - Plasmodium

Select the correct codes.

A. I, III and IV

B. I, II and III

C. II and IV

D. All of these

**Answer: D**



**Watch Video Solution**

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

A. 12, 24, 12

B. 24, 12, 12

C. 12, 24, 24

D. 24, 12, 24

**Answer: C**



**45.** Consider the following statements.

- I. Period of life span from birth till the development of reproductive ability is called juvenile period.
- II. Reproduction flourishes in maturity.
- III. Tissue deterioration is a sign of senescence
- IV. Death marks the end of all the phases of life.

Choose the correct ones.

- A. I, III and IV
- B. I, II and IV
- C. II, III and IV
- D. All of these

**Answer: D**





[Watch Video Solution](#)

**46.** Consider the following statements.

- I. Deer is a dioestrus animal.
- II. Mouse is a monooestrus animal.
- III. Dog Is a polyoestrus animal.
- IV. Mammals are seasonal breeders.

Choose the correct codes.

- A. I, II and III
- B. II, III and IV
- C. I, II and IV
- D. All are incorrect

**Answer: D**



[Watch Video Solution](#)

47. consider the following statements and mark them as true/false.

I. The eggs laid by alligator are cleidoic eggs.

II. The eggs laid by *Panthera leo* are non-cleidoic nature.

III. Platypus is an oviparous mammal.

IV. The chances of survival of young ones is less in viviparous organisms.

Choose the correct codes.

A.    I        II        III        IV  
     True   False   False   True

B.    I        II        III        IV  
     True   False   True   False

C.    I        II        III        IV  
     True   True   False   False

D.    I        II        III        IV  
     False   False   True   False

**Answer: B**



Watch Video Solution

48. From the differences given between oestrus and menstrual cycle, mark the correct ones.

	Menstrual Cycle	Oestrus Cycle
I.	Females do not show irresistible sexual urge	Females show irresistible sexual urge
II.	The shedding of endometrium and bleeding occurs.	Do not occur
II.	There is no heat period - and copulation occurs during any part of the cycle.	There is heat production at the time of ovulation and copulation occurs only in that period.
IV.	Occurs during reproductive phase of primate mammals.	Occurs during reproductive phase of non-primate mammals.

Choose the correct codes.

A. I and II

B. III and IV

C. II, III and IV

D. All of these

**Answer: D**



**Watch Video Solution**

**49.** Consider the following statements and select the incorrect ones.

I. Honeybee has developed arrhenotoky in which the male develop from the fertilised egg and the female from unfertilised egg.

II. In the thelytoky, the haploid unfertilised egg parthenogenetically develop into females.

III. Heterogamy is the alteration between parthenogenesis and asexual reproduction.

IV. Parthenogenesis occurs naturally during reproducing in ants

and aphids.

Choose the correct codes.

A. I and IV

B. II and IV

C. II and III

D. I & III

**Answer: B**



**Watch Video Solution**

**50.** Reproduction is

A. biological process of producing young ones similar to oneself

- B. non-biological process of producing young ones similar to oneself
- C. biological process of producing mature ones similar to oneself
- D. None of the above

**Answer: A**



**Watch Video Solution**

**Efficient**

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**



**Watch Video Solution**

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**



**Watch Video Solution**

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**



**Watch Video Solution**



4. Animals which possess cleidoic eggs exhibit

- A. External fertilization and internal development
- B. Internal fertilization and internal development
- C. Internal fertilization and external development
- D. External fertilization and external development

**Answer: C**



**Watch Video Solution**

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**



**Watch Video Solution**

**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 lack cambium

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

**Answer: C**



**Watch Video Solution**

7. Grafting is not possible in monocots because they

- A. Lack cambium
- B. Are herbaceous
- C. Have scattered vascular bundles
- D. have parallel venation

**Answer: A**



**Watch Video Solution**

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: A**



**Watch Video Solution**

**9. Plants with poor root system are propagated through**

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

**Answer: D**



**Watch Video Solution**

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**



**Watch Video Solution**

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

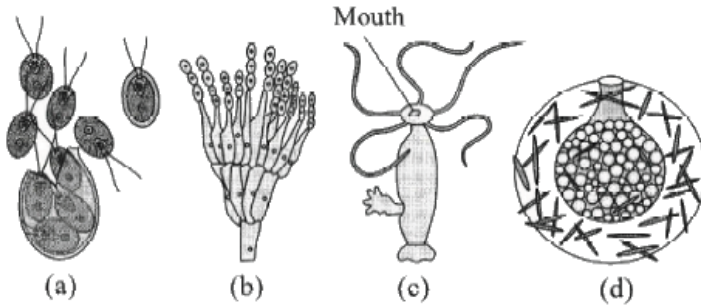
- A. Lemon and Rose
- B. Rose and Hibiscus
- C. Tamarind and Chrysanthemum
- D. Lemon and Tamarind

**Answer: D**



**Watch Video Solution**

12. Recognise the figure and find out the correct matching



- A. a-conidia, b-budding, c-gemmules, d-zoospores
- B. b-conidia, c-budding, a-gemmules, d-zoospores
- C. b-conidia, c-budding, d-gemmules, a-zoospores
- D. a-conidia, d-budding, d-gemmules, a-zoospores

**Answer: C**



**Watch Video Solution**

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

A. Choanocyte

B. Gemmule

C. Osculum

D. Blastula

**Answer: B**



**Watch Video Solution**

**14. Why grafting is not possible in monocots?**

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**



**Watch Video Solution**

**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 (1) and (2)
- D. None of the above

**Answer: A**



**Watch Video Solution**

16. Stem cutting are commonly used in propagation of

A. Mango

B. Cotton

C. Rose

D. Banana

**Answer: C**



**Watch Video Solution**

17. Maximum life span of dog in years is

A. 5

B. 10

C. 15

D. 20

**Answer: D**



**Watch Video Solution**

**18.** Binary fission is a type of

A. A. Vegetation propagation

B. B. Asexual reproduction

C. C. Sexual reproduction

D. D. Nuclear fragmentation

**Answer: B**



**Watch Video Solution**

**19.** Plant propagated by leaves is

A. Kalanchoe

B. Agave

C. Potato

D. Gladiolus

**Answer: A**



**Watch Video Solution**

**20.** Potatoes are cultivated by

A. Seeds

B. Tuber

C. Buds on tubers

D. Bud

**Answer: C**



**Watch Video Solution**

**21.** In vegetative propagation of tubers, which of the following remains constant through generation ?

A. Morphology

B. Vigour only

C. Vigour and morphology only

D. Morphology, vigour and disease resistance

**Answer: D**



**Watch Video Solution**

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**



**Watch Video Solution**

23. Mango and Guava are propagated through

- A. Tissue culture
- B. Grafting

C. Stem cuttings

D. Layering

**Answer: B**



**Watch Video Solution**

**24.** Chrysanthemum multiplies vegetatively by

A. Suckers

B. Runners

C. Bulbils

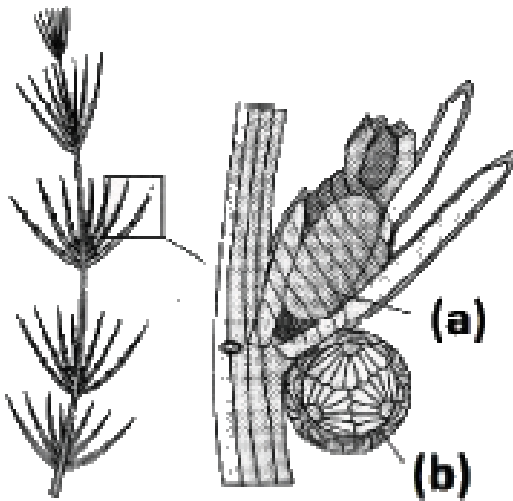
D. Rhizomes

**Answer: A**



**Watch Video Solution**

25. Recognise the figure and find out the correct matching



- A. a-Archaeogonium(male), 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**



**Watch Video Solution**

**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**



**Watch Video Solution**

**27.** Clone is a group of individuals got through

- A. Self pollination
- B. Cross pollination
- C. Vegetative propagation
- D. Hybridisation

**Answer: C**



**Watch Video Solution**

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

A. Branches

B. Stored food

C. Roots

D. Scales/eyes

**Answer: D**



**Watch Video Solution**

**29.** Layering is used in vegetativ propagation of

A. Rose

B. Jasmine

C. Mango

D. All the above

**Answer: B**



**Watch Video Solution**

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

Column I

Column II

- |                      |                      |
|----------------------|----------------------|
| <i>i.</i> Coconut    | <i>a.</i> Monoecious |
| <i>ii.</i> Papaya    | <i>b.</i> Dioecious  |
| <i>iii.</i> Tapeworm |                      |
| <i>iv.</i> Earthworm |                      |

A. a-I, b-ii, a-iii, b-iv

B. b-I, a-ii, b-iii, a-iv

C. a-I, b-ii, a-iii, a-iv

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

**Answer: C**



**Watch Video Solution**

**31.** Monoestrous animals have one:

- A. One ovulation each month
- B. One egg
- C. One breeding season in a year
- D. one menses each month

**Answer: C**

**32.** A quicker regeneration of grass leaves shall occur by

- A. A. Cutting

B. B. Grazing

C. C. Irrigation

D. D. Clipping

**Answer: D**



**Watch Video Solution**

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

A. Eucalyptus

B. Sequoia

C. Mangifera indica

D. Dalbergia sisso

**Answer: B**



Watch Video Solution

**34.** Which is not a method of vegetative propagation

A. Micropropagation

B. Budding

C. Sowing

D. Layering

A. A. Micropropagation

B. B. Budding

C. C. Sowing

D. D. Layering

**Answer: C**



Watch Video Solution

**35.** Which one is found only in aquatic plant

A. Runner

B. Stolon

C. Tuber

D. Offset

**Answer: D**



**Watch Video Solution**

**36.** What is the eye of potato?

A. Apical buds

B. Axillary buds

C. Accessory bud



D. Adventitious bud

**Answer: B**



**Watch Video Solution**

**37. Individuals of a clone have.**

A. Same age

B. Same height

C. Same genome

D. Same number of leaves

**Answer: C**



**Watch Video Solution**

**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**



**Watch Video Solution**

**39.** Clone formation occurred in the bacteria in

- A. Conjugation
- B. Transduction

C. Binary fission

D. All of the above

**Answer: C**



**Watch Video Solution**

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

A. Offspring

B. Clone

C. Variety

D. Hybrid

**Answer: B**



**Watch Video Solution**



[Watch Video Solution](#)

41. Type of asexual reproduction found in Hydra is

- A. Gemmule formation
- B. Sporulation
- C. Binary fission
- D. Budding

**Answer: D**



[Watch Video Solution](#)

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

- A. Callus

B. Clone

C. Deme

D. Aggregate

**Answer: B**



**Watch Video Solution**

**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**



**Watch Video Solution**

**44.** Estrous cycle is indication of

- A. Breeding period
- B. Estrogen secretion
- C. Pregnancy
- D. Menopause

**Answer: A**



**Watch Video Solution**

**45.** Estrous cycle is a characteristic of

A. Human females

B. Mammalian females

C. Mammalian females other than primates

D. Mammals

**Answer: C**



**Watch Video Solution**

**46. Menstrual cycle occurs in**

A. Female primates

B. Human females

C. Mammalian females

D. Rabbit

**Answer: A**



**Watch Video Solution**

**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**



**Watch Video Solution**



**48. Syngamy means**

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

**Answer: A**



**Watch Video Solution**

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

- A. Adventive embryony
- B. Polyembryony

C. Parthenocarp

D. Parthenogenesis

**Answer: D**



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**50.** The term 'parthenogenesis' was coined by

A. Grabber

B. Balfour

C. Boveri

D. Owen

**Answer: D**



**Watch Video Solution**

1. Which is used to maintain genetic trait of a green plant

- A. By propagating through seed germination
- B. By propagating through vegetative multiplication
- C. By generating hybrids through intergeneric pollination
- D. By treating the seeds with gamma radiations

**Answer: B**



**Watch Video Solution**

2. Grafting is not possible in monocots as they

- A. have conjoint vascular bundles

- B. have less number of vascular bundles
- C. Have scattered vascular bundles
- D. lack cambium cells in the vascular bundles

**Answer: D**



**Watch Video Solution**

**3. The ovary after fertilization is converted into**

- A. embryo
- B. endosperm
- C. fruit
- D. seed

A. A. embryo

B. B. endosperm

C. C. fruit

D. D. seed

**Answer: C**



**Watch Video Solution**

**4. Monocarpic plant**

A. flowers twice in every year

B. bears only one type of flower

C. flowers once in every year

D. dies after flowering once in its life cycle

**Answer: D**



**Watch Video Solution**

5. Vegetative propagation in Pistia occurs by

- A. stolon
- B. offset
- C. runner
- D. suckers

**Answer: B**



**Watch Video Solution**

6. Vegetative propagation by leaves is found in

- A. *Murraya* spp
- B. *Bryophyllum daigremontianum*

C. Albizia lebbeck

D. Dalbergia sissoo

**Answer: B**



**Watch Video Solution**

7. A haploid plant produces male or female gametes by

A. binary fission

B. mitosis

C. meiosis

D. amitosis

A. A. binary fission

B. B. mitosis

C. C. meiosis

D. D. amitosis

Answer: B



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8. Match column I with column II and select the correct option.

**Column I**  
**(Type of chloroplast)**

- (a) Cup-shaped
- (b) Girde-shaped
- (c) Stellate
- (d) Reticulate

**Column II**  
**(Algae)**

- (i) *Ulothrix*
- (ii) *Oedogonium*
- (iii) *Chlamydomonas*
- (iv) *Zygnema*

A. A-I, B-II, C-III, D-IV

B. A-II, B-III, C-IV, D-I

C. A-III, B-IV, C-II, D-I

D. A-IV, B-III, C-II, D-I

Answer: D





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9. The chromosomal number in the meiocytes of housefly is

- A. 8
- B. 12
- C. 2
- D. 23

**Answer: B**



[Watch Video Solution](#)

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

A. Penicillium - conidia

B. Water hyacinth - runner

C. Bryophyllum - leaf buds

D. Agave - bulbils

**Answer: B**



**Watch Video Solution**

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

List I

List II

A. Gemmules

I. Agave

B. Leaf-buds

II. Penicillium

C. Bulbil

III. Water hyacinth

D. Offset

IV. Sponges

E. Conidia

V. Bryophyllum

A. A-IV, B-V, C-I, D-III, E-II

B. A-IV, B-III, C-II, D-I, E-V

C. A-III, B-V, C-IV, D-II, E-I

D. A-IV, B-I, C-V, D-III, E-II

**Answer: A**



**Watch Video Solution**

**12. A clone is**

A. a group of genetically similar organisms produced through asexual reproduction

B. a group of genetically similar organisms produced through sexual reproduction

C. a group of genetically dissimilar organisms produced as a result of asexual reproduction

D. a group of genetically dissimilar organisms produced as a result of sexual reproduction

**Answer: A**



**Watch Video Solution**

**13. Which one of the following is correctly matched?**

A. Onion-Bulb

B. Ginger-Sucker

C. Chlamydomonas-Conidia

D. Yeast-Zoospores

**Answer: A**



**Watch Video Solution**

**14.** Vegetative reproduction, in which new plants develop in the notches along the tip of intact leaves is seen in

- A. Asparagus
- B. Agave
- C. Chrysanthemum
- D. Bryophyllum

**Answer: D**



**Watch Video Solution**

**15.** Banana is vegetatively propagated by

- A. tubers

B. rhizomes

C. bulbs

D. suckers

**Answer: D**



**Watch Video Solution**

**16.** Find out correct order of vegetative propagules of plants like potato, ginger Agave, Bryophyllum and water hyacinth.

A. Offset, bulbil, leaf bud, rhizome and eyes

B. Leaf bud, bulbil, offset, rhizome and eyes

C. Eyes, rhizome, bulbil, leaf bud and offset

D. Rhizome, bulbil, leaf bud, eyes and offset

**Answer: C**



**Watch Video Solution**

**17. Product of sexual reproduction generally generates**

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

**Answer: A**



**Watch Video Solution**

**18.** Meiosis takes place in

- A. gemmule
- B. megaspore
- C. meiocyte
- D. conidia

A. A. gemmule

B. B. megaspore

C. C. meiocyte

D. D. conidia

**Answer: C**



**Watch Video Solution**

**19.** Vegetative propagation in water hyacinth takes place by



A. A. rhizome

B. B. bulbil

C. C. leaf bud

D. D. offset

**Answer: D**



**Watch Video Solution**

**20.** Syngamy can occur outside the body of the organism in

A. A. mosses

B. B. algae

C. C. ferns

D. D. fungi

**Answer: B**



**Watch Video Solution**

**21. Choose the correct pair**

- A. Coconut, Cucurbits - dioecious
- B. Honeybee, Rotifers - parthenogenesis
- C. Ornithorhynchus, Whale - viviparity
- D. Frog, Peacock - external fertilisation

**Answer: B**



**Watch Video Solution**

**22. Select the incorrect match out of the following**

A. Offset - Potato

B. Runner - Grass

C. Stolon- Jasmine

D. Sucker- Chrysanthemum

**Answer: A**



**Watch Video Solution**

**23.** Stock and scion are used in :

A. Cutting

B. Grafting

C. layering

D. micropropagation

**Answer: B**



**Watch Video Solution**

**24.** The number of chromosomes in meiocyte ( $2n$ ) in apple is

A. 24

B. 380

C. 34

D. 20

**Answer: C**



**Watch Video Solution**

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

A. *Strobilanthus kunthiana*

B. Bamboo

C. *Calistemon linearis*

D. *Cymbopogon reptans*

**Answer: B**



**Watch Video Solution**

26. Which of the following organisms breeds only once in lifetime ?

- A. Bamboo
- B. Oysters
- C. Pelagic fishes
- D. Birds

**Answer: A**



**Watch Video Solution**

**27.** The chromosome number in meiocyte is 34. The organism could be

- A. Ophioglossum
- B. dog
- C. onion
- D. apple

**Answer: D**



**Watch Video Solution**

**28.** Which one of the following statements is not correct ?

- A. Offspring produced by the asexual reproduction are called clone
- B. Microscopic, motile, asexual reproductive structures are called zoospores
- C. In potato, banana and ginger, the plantlets arise from, the intemodes present in the modified stem
- D. Water hyacinth, growing in the standing water, drains oxygen from water that leads to the death of fishes.

**Answer: C**



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**29.** Identify from the following group of animals which exhibit oestrus cycle

- A. Monkey, ape, man and elephant
- B. Lion, deer, dog and cow
- C. Lion, dog, monkey and ape
- D. Cow, monkey, elephant and ape

**Answer: B**



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**30. What is not a post fertilization event**

- A. Fruit formation
- B. Gametogenesis
- C. Seed formation
- D. Embryogenesis

**Answer: B**



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

- A. sexual reproduction is more complicated
- B. genetic material comes from two different individuals

C. genetic material comes from male parent

D. greater amount of DNA is involved

**Answer: B**



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**32. Which of the following flowers only once in its lifetime**

A. Mango

B. Jackfruit

C. Bamboo species

D. Papaya

**Answer: C**



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**33.** Offsets are produced by

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

**Answer: B**



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## Illustration

**1.** Is there a relationship between the size of an organism and its life span ? Give two examples support of your answer.



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2. Define clone.



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3. What is meant by ramet?



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4. What is multiple fission?



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5. Which type of binary fission occurs in Euglena?





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6. What is parthenogenesis?



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7. What is sexual dimorphism?



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8. What type of cell division occurs during gametogenesis of the diploid parent?



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9. What is transverse binary fission? Give an example.



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10. What is fragmentation ?



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## Solved Examples

1. Syngamy means

- A. fusion of gamete
- B. fusion of cytoplasms
- C. fusion of two similar spores
- D. fusion of two dissimilar spores.

**Answer:**



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



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3. Which is correct?

- A. Gametes are invariably haploid
- B. Spores are invariably haploid
- C. Gametes are generally haploid
- D. Both spores and gametes are invariably haploid

**Answer:**



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4. A haploid plant produces male or female gametes by



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5. Organisms reproducing throughout the year are called \_\_\_\_\_ breeders e.g., \_\_\_\_\_, and those who show recurring sexual activity are called \_\_\_\_\_ breeders e.g., \_\_\_\_\_.



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6. Select the option which shows viviparous animals only.



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7. Deposition of calcareous shell around zygote occurs in



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8. In which of the following plants, sepals do not fall off after fertilisation and remain attached to the fruit ?



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9. Parthenogenesis is a term for special case of

A. sexual reproduction

B. asexual reproduction

C. budding

D. regeneration

**Answer:**



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**10.** Read the following statements and select the correct option.

Statement 1 : Viviparous animals give better protection to their offspring.

Statement 2 : In viviparous animals, young ones, after attaining a certain stage of growth, are delivered out of the body of female organism.



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**11.** Which of the following statements is incorrect?

A. Earthworm and leech are hermaphrodite animals.

- B. Young ones of animals which have external fertilisation receive little or non-parental care.
- C. If the egg is not fertilised, it is thrown out of the body along with the lining of the uterus as menstrual flow.
- D. Sex organs in human beings are formed at puberty.

**Answer:**



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**12. Arrhenotoky is related to :**

- A. Parthenogenesis
- B. virgin birth
- C. both (1) and (2)
- D. none of these

**Answer:**



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**13.** Parthenogenesis occurs in



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**14.** Select the incorrect statement about neoteny,

- A. The larva retains adult characters such as gonads and starts producing young ones by sexual reproduction
- B. It occurs in axolotl larva.
- C. It occurs in fishes and salamander
- D. None of these

**Answer:**



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**15. Select the incorrect matched pair.**

- A. parthenocarpy - Pear
- B. Polyembryony - Armadillo
- C. Peadogenesis - Liver fluke
- D. Thelytoky - Mites

**Answer:**



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**Practice**

1. What is fertilisation?



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2. What is meant by hermaphrodite or bisexual?



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3. Define reproduction. How does it help in providing stability to the population of species ?



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4. Which one enables the continuity of the species generation after generation?



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5. Define the term 'syngamy'.

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6. What is external budding?

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## Exercise A

1. Which one of the following statements is correct?

A. All the individuals of a species have exactly the same life span

B. Smaller organisms always have shorter life span and vice versa

C. Life span of an organism is the time period from its birth to its natural death

D. No organism may have a life span of several hundred years

**Answer: C**



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**2. Single celled animals are said to be immortal because**

A. They grow indefinitely in size

B. They can tolerate any degree of change in temperature

C. They can reproduce throughout their life span

D. They continue to live as their daughter cells



**Answer: D**



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**3.** Read the following statements about asexual reproduction and select the correct ones.

- (i) It involves a single parent.
- (ii) It is slower than sexual reproduction.
- (iii) It produces progeny that are genetically identical with the parent but not with one another.
- (iv) The progeny of asexual reproduction can be termed as clones.

A. i and ii

B. ii and iii

C. i and iv

D. i, iii and iv

**Answer: C**



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**4. Asexual reproduction is seen in members of Kingdom**

A. Monera

B. Plantae

C. Animalia

D. All of these

**Answer: D**



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5. Which of the following options shows two plants in which new plantlets arise from the same organ ?

- A. Dahlia and ginger
- B. Potato and sweet potato
- C. Dahlia and rose
- D. Potato and sugarcane

**Answer: D**



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6. Read the following statements about 'Terror of Bengal' and select the correct ones.

(i) 'Terror of Bengal' is the name given to water hyacinth (Eichhornia), an algae.

- (ii) Eichhornia was introduced in India due to its aesthetic value.
- (iii) Eichhornia drains oxygen from the water which leads to death of fishes.

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

**Answer: D**



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7. Read the following statements and select the correct option,

Statement 1 : Many plants are propagated vegetatively even though they bear seeds.

Statement 2 : Sweet potatoes multiply vegetatively by root tubers.

- A. both statements I and II are incorrect
- B. both statements I and II are correct
- C. statements I is correct and statement II is incorrect
- D. statements II is correct and statement I is incorrect

**Answer: B**



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**8.** Read the following statements and select the correct ones.

(i) Conidia are the asexual propagules restricted to Kingdom Fungi.

(ii) A piece of potato tuber having at least one eye (or node) is capable of giving rise to a new plant.

(iii) Ginger propagates vegetatively with the help of its underground roots.

(iv) Fleshy buds which take part in vegetative propagation are called bulbils present in Dioscorea, Agave, etc.

A. ii and iii

B. i and iv

C. i, ii and iv

D. i, ii and iii

**Answer: C**



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**9.** Which of the following cannot serve as a vegetative propagule ?

- A. A piece of potato tuber with eyes
- B. A middle piece of sugarcane internode
- C. A piece of ginger rhizome
- D. A marginal piece of Bryophyllum leaf

**Answer: B**



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## Exercise B

1. Which of the following groups is formed only of the hermaphrodite organisms ?

- A. Earthworm, tapeworm, housefly, frog
- B. Earthworm, tapeworm, sea horse, housefly

C. Earthworm, leech, sponge, roundworm

D. Earthworm, tapeworm, leech, spong

**Answer: D**



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2. It is observed that simple organisms like algae and fungi normally reproduce asexually but before the onset of adverse conditions they shift to sexual reproduction, It is so because sexual reproduction

A. saves time

B. is rapid

C. produces variations

D. all of these



**Answer: C**



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3. The growth phase of an organism before attaining sexual maturity is referred to as

- A. juvenile phase
- B. vegetative phase
- C. both a and b
- D. none of these

**Answer: C**



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4. Clear cut vegetative, reproductive and senescent phases cannot be observed in

- A. annual plants
- B. perennial plants
- C. biennial plants
- D. ephemeral plants<sup>15</sup>

**Answer: B**



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5. *Strobilanthus kunthiana* differs from bamboo in

- A. being monocarpic
- B. duration of juvenile phase

C. being polycarpic

D. none of these

**Answer: B**



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**6.** Which of the following is an incorrect combination of organism with its chromosome number in meiocyte and in gamete ?

**A.**

Name of organism	chromosome numbers meiocyte	gamete
onion	24	12

**B.**

Name of organism	chromosome numbers meiocyte	gamete
Ophioglossum	1260	630

**C.**

Name of organism	chromosome numbers meiocyte	gamete
Human beings	46	23

D.

Name of organism	chromosome numbers	meiocyte	gamete
Fruitfly		8	4

**Answer: A**



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7. Read the following statements and select the correct option.

Assertion : In gymnosperms, endosperm is formed before fertilization and is haploid.

Reason : In angiosperms, endosperm is formed after fertilization and is diploid.

A. both statements I and II are correct

B. both statements I and II are incorrect

C. statements I is correct and statement II is incorrect

D. statements II is correct and statement I is incorrect

**Answer: C**



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**8.** If a leaf cell of Agave has 'x' chromosomes then what will be the number of chromosomes in its egg cell?

A.  $2x$

B.  $x/2$

C.  $x/4$

D.  $x$

**Answer: B**



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9. Consider the following statements and choose the correct option

(i) The genetic constitution of a plant is unaffected in vegetative propagation

(ii) Rhizome in ginger serves as an organ of vegetative reproduction

(iii) Totipotency of cells enables us to micropropagate plants

A. Statements (i) and (ii) alone are true

B. Statements (ii) and (iii) alone are true

C. Statement (ii) alone is true

D. All the three statements [(i), (ii) and (iii)] are true.

**Answer: D**



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**10.** Read the following statements and select the incorrect one.

(i) In reparative regeneration several body parts can develop e.g. broken tail of wall lizard.

(ii) Fragmentation occurs in algae and bryophytes only.

(iii) Exogenous budding occurs in certain annelids and urochordates.

(iv) A small shoot of plant with superior characters is called scion or graft.

A. (i) and (iii)

B. (ii) and (iii)

C. (iii) and (iv)

D. (i) and (ii)

**Answer: D**



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