

**UNIQUE STUDY POINT BY SUMEET SAHU**  
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**REPRODUCTION**

**Class 10 - Science**

**Time Allowed: 30 minutes**

**Maximum Marks: 70**

1. Which of the following is the correct sequence of events of sexual reproduction in a flower? [1]
- a) Pollination, fertilization, embryo, seedling      b) Pollination, fertilisation, seedling, embryo  
c) Embryo, seedling, pollination, fertilisation      d) Seedling, embryo, fertilisation, pollination

2. A condom is a method of control that falls under the following category: [1]
- a) Mechanical method      b) Hormonal Method  
c) Surgical Method      d) Chemical Method

3. Match column I with column II and select the correct option from the codes given below. [1]

Column I	Column II
(a) Riccia	(i) Binary fission
(b) Planaria	(ii) Budding
(c) Euglena	(iii) Fragmentation
(d) Sycon	(iv) Regeneration

- a) (a) - (ii), (b) - (iii), (c) - (i), (d) - (iv)      b) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)  
c) (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)      d) (a) - (ii), (b) - (iv), (c) - (i), (d) - (ii)
4. Which hormone causes contraction of the uterus during birth? [1]
- a) Oxytocin      b) Thyroxin  
c) Progesterone      d) Estrogen
5. In human females, an event that reflects the onset of the reproductive phase is [1]
- a) change in voice      b) growth of body  
c) menstruation      d) changes in hair pattern
6. The thread like structures that develop on a moist slice of bread in Rhizopus are [1]
- a) Hyphae      b) Sporangia  
c) Rhizoids      d) Filaments
7. In human beings, fertilization of ovum takes place in: [1]
- a) Vagina      b) Ovary  
c) Fallopian tubes      d) Uterus
8. A bisexual flower contains: [1]

- a) Stamens only  
 b) Carpels only  
 c) Either stamens or carpels  
 d) Both stamens and carpels

9. In which of the following animals external fertilization takes place? [1]

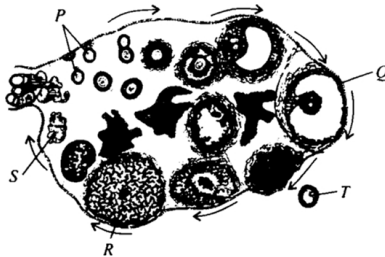
- a) Hen and dog  
 b) Donkey and fish  
 c) Fish and frog  
 d) Man and snake

10. Identify the mode of asexual reproduction in the following organism: [1]



- a) Binary fission  
 b) Multiple fission  
 c) Fragmentation  
 d) Budding

11. The given figure shows monthly changes in the human ovary during the reproductive cycle. [1]



Which of the following statements is correct regarding the labelled structures?

- i. Before puberty, only structure T undergoes meiosis.
- ii. The hormone produced by structure R stimulates the pituitary gland to secrete luteinising hormone.
- iii. The hormone produced by structure S is responsible for the development of female secondary sex characters.
- iv. The hormone produced by P and Q stimulates the proliferation of the endometrial lining of the uterine wall.

- a) Statement (i) is correct.  
 b) Statement (iii) is correct.  
 c) Statement (ii) is correct.  
 d) Statement (iv) is correct.

12. \_\_\_\_\_ is a product of meiosis. [1]

- a) Megaspore mother cell  
 b) Primary endosperm nucleus  
 c) Microspore mother cell  
 d) Megaspore

13. Which of the following plants reproduce through spores? [1]

- a) Amoeba  
 b) Hydra  
 c) Penicillin  
 d) Rose

14. The number of chromosomes in parents and offsprings of a particular species remains constant due to [1]

- a) doubling of chromosomes after zygote formation  
 b) halving of chromosomes during gamete formation  
 c) doubling of chromosomes after gamete formation  
 d) halving of chromosomes after gamete formation

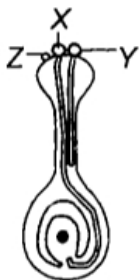
15. Vegetative propagation refers to formation of new plants from [1]
- a) stem, flowers and fruits b) stem, leaves and flowers  
 c) stem, roots and leaves d) stem, roots and flowers
16. At what stage of the menstrual cycle is a woman said to be fertile? [1]
- a) All of these b) Secretary phase  
 c) Ovulation d) Proliferative phase
17. Testes in mammals descend into scrotum because: [1]
- A. Scrotum acts as a passage for the transportation of sperms.  
 B. Scrotum decreases the temperature of the testes from 2-3 degrees lower than that of the body.  
 C. Scrotum provides a disease-prone medium to the sperm outside the body.  
 D. Scrotum provides nutritional material to the sperm.
- a) (D) b) (C)  
 c) (A) d) (B)
18. Which of the following is a characteristic of wind pollinated flowers? [1]
- a) Pollen grains are heavy and dry whereas the stigma is short and sticky. b) Pollen grains are light, small and dusty whereas the stigma is hairy and feathery.  
 c) Flowers are small with nectar and fragrance. d) Flowers are brightly coloured.
19. The correct sequence of organs in the male reproductive system for transport of sperms is [1]
- a) testis → urethra → ureter b) testis → ureter → urethra  
 c) testis → ureter → vasdeferens d) testis → vasdeferens → urethra
20. In generative fertilisation, a \_\_\_\_\_ fuses with a \_\_\_\_\_. [1]
- a) Male gamete, Female gamete b) Male gamete, Polar nucleus  
 c) Polar nucleus, Secondary nucleus d) Female gamete, Secondary nucleus
21. Factors responsible for the rapid spread of bread mould on slices of bread are [1]
- i. a large number of spores  
 ii. availability of moisture and nutrients in bread  
 iii. presence of tubular branched hyphae  
 iv. formation of round shaped sporangia
- a) (i) and (iii) b) (ii) and (iv)  
 c) (i) and (ii) d) (iii) and (iv)
22. To which type of disease Trichomoniasis belongs [1]
- a) Cancer b) AIDS  
 c) Lung disease d) STD
23. Donkey is an example of [1]
- a) Hermaphrodite b) Monoecious  
 c) Dioecious d) intersex

24. In the list of organisms given below, those that reproduce by the asexual method are **[1]**
- banana
  - dog
  - yeast
  - Amoeba
- (i), (iii) and (iv)
  - (ii), (iii) and (iv)
  - (ii) and (iv)
  - (i) and (iv)
25. Characters transmitted from parents to offspring are present in **[1]**
- Cytoplasm
  - Ribosome
  - Genes
  - Golgi bodies
26. A group of organisms that can interbreed to produce fertile offspring is called **[1]**
- family
  - order
  - species
  - genus
27. What is the full form of IUCD: **[1]**
- Inter-Uterine Contraceptive Device
  - Intra-Uterine Contraceptive Diet
  - Intra-Uterine Contraceptive Device
  - Intra-Uterine Cover Device
28. Offspring formed as a result of sexual reproduction exhibit more variations because **[1]**
- genetic material comes from many parents
  - genetic material comes from two parents of the same species
  - genetic material comes from two parents of different species
  - sexual reproduction is a lengthy process
29. A slide showing several Amoeba was given to a student and was asked to focus the Amoeba undergoing binary fission. What will the student look for to correctly focus on a dividing Amoeba? **[1]**
- An Amoeba with many pseudopodia and a small nucleus
  - An Amoeba covered by a cyst and many nuclei
  - A rounded Amoeba with rounded nucleus
  - An Amoeba with an elongated nucleus and a constriction in the middle
30. Plants which bear unisexual flowers are: **[1]**
- Hibiscus and Watermelon
  - Mustard and Papaya
  - Mustard and Hibiscus
  - Watermelon and Papaya
31. Which one of the following is not a part of the organ system to which the other three belong? **[1]**
- Fallopian tube
  - Vas deferens
  - Semeniferous tubules
  - Epididymis
32. During adolescence, reproductive phase starts and: **[1]**
- hair growth decreases
  - the body weight is reduced
  - height becomes less
  - general growth rate begins to slow down

33. The stamen contains [1]
- a) pollen grain b) ovule  
 c) stigma d) sepal

34. Select the incorrect statement. [1]
- i. Carpel is a part of androecium.  
 ii. One non-motile male gamete is formed inside the tube during its growth through style.  
 iii. Synergids have filiform apparatus that guides the entry of pollen tube into the nucellus.  
 iv. All of these
- a) Statement (iii) is correct. b) Statement (iv) is correct.  
 c) Statement (ii) is correct. d) Statement (i) is correct.

35. The given diagram shows the carpel of an insect pollinated flower. What is the most likely reason for the non-germination of pollen grain Z? [1]



- i. Pollen grains X and Y were brought to the stigma earlier, therefore, their germination inhibited the germination of pollen grain Z.  
 ii. Pollen grain Z was brought to the flower by wind, while pollen grains X and Y were brought to the flower by insects.  
 iii. Pollen grain Z lacks protrusions that allow it to adhere properly onto the stigma surface.  
 iv. Pollen grain Z comes from a flower of an incompatible species.
- a) Statement (iii) is correct. b) Statement (ii) is correct.  
 c) Statement (i) is correct. d) Statement (iv) is correct.

36. In which of the following organisms, multiple fission is a means of asexual reproduction? [1]
- a) Plasmodium b) Yeast  
 c) Leishmania d) Paramoecium

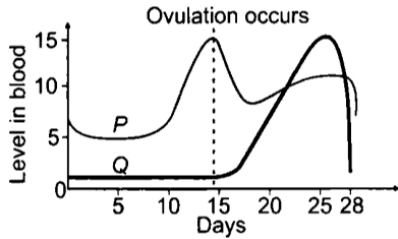
37. The number of chromosomes in parents and offsprings of a particular species undergoing sexual reproduction remain constant due to: [1]
- a) doubling of chromosomes after zygote formation. b) halving of chromosomes at the time of gamete formation.  
 c) doubling of chromosomes before gamete formation. d) halving of chromosomes after zygote formation.

38. Length of pollen tube depends on the distance between [1]
- a) pollen grain on upper surface of stigma and ovule b) upper surface of stigma and lower part of style

- c) pollen grain and upper surface of stigma      d) pollen grain in anther and upper surface of stigma

39. During grafting, the portion of plant that is grafted is called- [1]  
 a) stalk      b) Scion  
 c) stem      d) Slack

40. The given graph shows the hormonal changes during a normal menstrual cycle. What would be a likely consequence if the hormone represented by Q in the given graph is lacking in an adult female? [1]



- a) Levels of the hormone represented by graph P would be higher than normal.      b) Fertilisation of ovum would fail to occur.  
 c) There would be no significant effect since the functions of the hormones overlap.      d) The uterine lining might not be sufficiently stable for implantation of fertilised ovum.

41. Chlamydia is related to: [1]  
 a) Gonorrhoea      b) Syphilis  
 c) HIV      d) Urethra

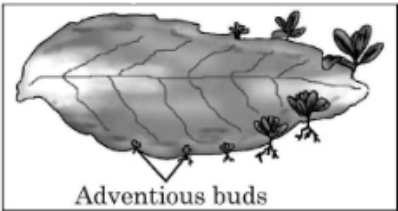
42. Which of the following is not an example of natural method of vegetative propagation in plants? [1]  
 a) Stem in case of Eichhornia and strawberry.      b) Roots in case of sweet potato and Colocasia.  
 c) Leaves in case of Bryophyllum and Begonia.      d) Stem in case of garlic and onion.

43. **Statement 1:** Subcutaneous implant is a method of contraception and it is effective for a longer period. [1]  
**Statement 2:** Capsules are inserted under the skin and they slowly release synthetic progesterone.  
 a) Statement 1 is true but statement 2 is false.      b) Both statements 1 and 2 are false.  
 c) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.      d) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

44. Which one out of the following sets of diagrams correctly depicts reproduction in Amoeba and Yeast? (Please change option images) [1]  
 a)      b)





- a) Only stamens and carpel  
b) Only carpel  
c) Only ovary  
d) Whole flower
61. In human males, the testes lie in the scrotum, because it helps in the [1]  
a) all of these  
b) easy transfer of gametes  
c) formation of sperm  
d) process of mating
62. To perform an experiment to identify the different parts of an embryo of a dicot seed, first of all you require a [1]  
dicot seed. Select dicot seeds from the following group.  
Wheat, gram, maize, pea, barley, ground-nut.  
a) Maize, pea and barley  
b) Gram, maize and ground-nut  
c) Gram, pea and ground-nut  
d) Wheat, gram and pea
63. A chain of Yeast cells forms because: [1]  
A. Yeast cells do not separate after budding.  
B. Daughter cells are unable to survive without parent cells.  
C. Buds reproduce as soon as they are formed.  
D. Daughter cells stick together with the help of mucus.  
a) (B)  
b) (D)  
c) (A)  
d) (C)
64. A Yeast cell in which budding occurs, it can have [1]  
a) Three bud cell  
b) One bud cell  
c) Two bud cell  
d) A chain of bud cells
65. Which among the following is not the function of testes at puberty? [1]  
i. formation of germ cells  
ii. secretion of testosterone  
iii. development of placenta  
iv. secretion of estrogen  
a) (i) and (iv)  
b) (i) and (ii)  
c) (ii) and (iii)  
d) (iii) and (iv)
66. In the given diagram the leaf shown belongs to which plant? [1]  
  
a) Mustard  
b) Money plant  
c) Bryophyllum  
d) Hibiscus
67. Syphilis is caused by [1]  
a) Virus  
b) Mosquito

c) Parasite

d) Bacteria

68. Offsprings formed as a result of sexual reproduction produce more variations because [1]

a) sexual reproduction is a lengthy process.

b) genetic material is contributed by two individuals of same species to produce a new generation.

c) genetic material is contributed by many parents.

d) DNA copying is not accompanied by the creation of cellular apparatus.

69. Select from the following the conditions responsible for the rapid spread of bread mould on a slice of bread: [1]

i. Formation of large number of spores

ii. Presence of moisture and nutrients in bread

iii. Low temperature

iv. Presence of hyphae

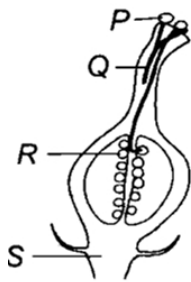
a) (iii) and (iv)

b) (ii) and (iv)

c) (ii) and (iii)

d) (i) and (ii)

70. New plants may be grown from groups of cells that are taken from other plants. The given diagram shows parts [1]  
different of a plant X. Cell samples obtained from which of the labelled structures will grow into new plants that are genetically identical to plant X?



a) P

b) Q

c) S

d) R

**Solution**  
**REPRODUCTION**  
**Class 10 - Science**

1. **(a)** Pollination, fertilization, embryo, seedling

**Explanation:**

In pollination, the pollen grains transfer from stamen (anther) to stigma after which fertilization takes place during which germ cells fuse together to form a zygote which in turn leads to embryo formation. Fertilized ovule becomes seed and seeds germinate to produce a seedling.

2. **(a)** Mechanical method

**Explanation:**

Mechanical Barrier methods include the diaphragm, cervical cap, male and female condom, spermicidal foam, sponges, and film. Unlike other methods of birth control, barrier methods are used only when you have sexual intercourse.

- 3.

**(c)** (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

**Explanation:**

(a) - (iii), (b) - (iv), (c) - (i), (d) - (ii)

4. **(a)** Oxytocin

**Explanation:**

Oxytocin is secreted by the posterior pituitary gland at the time of parturition.

- 5.

**(c)** menstruation

**Explanation:**

Menstruation is the event that reflects the onset of the reproductive phase.

6. **(a)** Hyphae

**Explanation:**

The thread like structures that developed on the bread are the hyphae of the fungus *Rhizopus stolonifera* also known as black bread mold.

- 7.

**(c)** Fallopian tubes

**Explanation:**

The fertilization of ovum takes place in the ampulla of the fallopian tube.

- 8.

**(d)** Both stamens and carpels

**Explanation:**

A bisexual flower consists of both the male and the female reproductive parts. The male part is known as the stamen and the female is the carpel/pistil.

- 9.

**(c)** Fish and frog

**Explanation:**

External fertilization is a male organism's sperm fertilizing a female organism's egg outside of the female's body. The female and male of fish and frogs both release their gametes into the water, where they diffuse together and fertilize

- 10.

**(d)** Budding

**Explanation:**

Above organism is hydra which reproduce by budding.

11.  
**(d)** Statement (iv) is correct.  
**Explanation:**  
In the given figure of human ovary, P is primary follicles, Q is mature Graafian follicle, R is corpus luteum, S is corpus albicans and T is secondary oocyte.  
Secondary oocyte (7) is formed only after puberty in a monthly cycle (one in each cycle). The corpus luteum (R) is developed under the effect of luteinising hormone from pituitary. The hormone progesterone secreted by it, maintains the uterine endothelium and stimulates secretion of watery mucus from uterine glands. Corpus albicans (S) secretes no hormone. P (primary follicle) and Q (Graafian follicle) secrete estrogen which stimulates the proliferation of endometrial lining of the uterine wall.
12.  
**(d)** Megaspore  
**Explanation:**  
Megaspore is a haploid cell that is formed by meiosis in the megaspore mother cell. It is the first cell of female gametophyte.
13.  
**(c)** Penicillin  
**Explanation:**  
Penicillin reproduces by the method of spore formation. Asexual reproduction begins with the formation of asexual non-motile spores known as conidia, which are borne on the erect, aerial hyphae called conidiophores. The conidiophore may be branched or unbranched.
14.  
**(b)** halving of chromosomes during gamete formation  
**Explanation:**  
The number of chromosomes in parents and offspring of a particular species remains constant due to the halving of chromosomes during the gamete formation.
15.  
**(c)** stem, roots and leaves  
**Explanation:**  
Vegetative propagation is a type of asexual reproduction. In this, new plants are produced by the parts of plants like stem, roots, and leaves without the help of any reproductive organ.
16.  
**(c)** Ovulation  
**Explanation:**  
In general, a woman's fertile window is the day of ovulation (usually 12 to 16 days before the cycle begins) and the five days preceding it.
17.  
**(d)** (B)  
**Explanation:**  
Testes in mammals descend into scrotum because scrotum acts as the climate control system for testes. Scrotum decreases the temperature of the testes from 2-3 degrees lower than that of the body.
18.  
**(b)** Pollen grains are light, small and dusty whereas the stigma is hairy and feathery.

**Explanation:**

In wind pollinated flowers, pollen grains are light, small and dusty so that they can be carried by wind to distant places. Stigma is hairy and feathery to catch the wind-borne pollen grains.

19. **(d)** testis → vasdeferens → urethra  
**Explanation:**  
Sperms are produced in the testis and then carried away by the vas deferens to the urethra.
20. **(a)** Male gamete, Female gamete  
**Explanation:**  
In generative fertilisation, a male gamete fuses with a female gamete and forms diploid zygote.
21. **(c)** (i) and (ii)  
**Explanation:**  
Factors responsible for the rapid spread of bread mould on slices of bread are:  
i. a large number of spores  
ii. availability of moisture and nutrients in bread
22. **(d)** STD  
**Explanation:**  
Trichomoniasis is an infectious disease which is caused by a parasite called trichomonas vaginalis.
23. **(c)** Dioecious  
**Explanation:**  
Donkey is dioecious because it has male and female reproductive organs in separate individual.
24. **(a)** (i), (iii) and (iv)  
**Explanation:**  
Asexual reproduction is the mode of reproduction in single-parent produces offsprings.  
▪ Amoeba reproduces asexually by binary fission.  
▪ Asexual reproduction occurs in yeast by means of budding and in banana asexual reproduction occurs by the means of vegetative propagation from the stem.  
▪ Dogs reproduced sexually.
25. **(c)** Genes  
**Explanation:**  
The characteristics or traits of parents are transmitted to their progeny (offsprings) through genes present on their chromosomes
26. **(c)** species  
**Explanation:**  
A **species** is often defined as the largest group of organisms in which two individuals can produce fertile offspring, typically by sexual reproduction.
27. **(c)** Intra-Uterine Contraceptive Device  
**Explanation:**

An Intra-Uterine Contraceptive Device (IUCD) is a device which is inserted into the uterus (womb) to prevent pregnancy. There are many types of IUCD and they come in different shapes and sizes. Commonly used types are IUCD containing copper.

28. **(b)** genetic material comes from two parents of the same species  
**Explanation:**  
Sexual reproduction involves two parents of the same species. Thus, both of them contribute to the genetic material of the offspring and bring about the variations.
29. **(d)** An Amoeba with an elongated nucleus and a constriction in the middle  
**Explanation:**  
The body of Amoeba is elongated and has a constriction in the middle. Hence the given slide is the one that shows the asexual reproduction process of binary fission in Amoeba.
30. **(d)** Watermelon and Papaya  
**Explanation:**  
Watermelon and Papaya bears unisexual flower.
31. **(a)** Fallopian tube  
**Explanation:**  
The fallopian tube is the part of female reproductive system.
32. **(d)** general growth rate begins to slow down  
**Explanation:**  
As the rate of general body growth begins to slow down, reproductive tissues begin to mature. This period during adolescence is called puberty.
33. **(a)** pollen grain  
**Explanation:**  
pollen grain
34. **(b)** Statement (iv) is correct.  
**Explanation:**  
Carpel is a part of gynoecium. Two non-motile male gametes are formed inside the tube during its growth through style. Synergids guide the entry of pollen tube that has already entered nucellus, into the embryo sac.
35. **(d)** Statement (iv) is correct.  
**Explanation:**  
Pollen grains can only germinate if the pollen grain and stigma are compatible, i.e., of the same or closely related species, Pollen grains X and Y must have come from a compatible species. Only compatible pollen grains germinate and form pollen tubes.
36. **(a)** Plasmodium  
**Explanation:**  
Plasmodium multiply by multiple fission.
37. **(b)** halving of chromosomes at the time of gamete formation.

**Explanation:**

There are always half as many chromosomes in gametes as there are in an individual. As a result, chromosomes are cut in half just before gamete formation. The normal chromosome number (half from each gamete) is restored once the male gamete fuses with the female gamete.

38. (a) pollen grain on upper surface of stigma and ovule

**Explanation:**

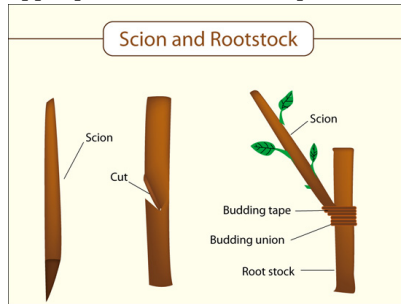
The **length** of the **pollen tube depends on the distance between** the upper surface of the stigma and the ovule.

- 39.

**(b) Scion**

**Explanation:**

Grafting or graftage is a horticultural technique whereby tissues of plants are joined so as to continue their growth together. The upper part of the combined plant is called the scion while the lower part is called the rootstock.



- 40.

(d) The uterine lining might not be sufficiently stable for implantation of fertilised ovum.

**Explanation:**

In the given graph, P represents changes in estrogen level and graph Q represents changes in progesterone level during a normal menstrual cycle. Progesterone is required for the maintenance of uterine lining which is needed to implant the fertilised ovum. Thus, if progesterone is lacking in an adult female, her uterine lining might not be stable to support an implanted embryo.

- 41.

**(d) Urethra**

**Explanation:**

Chlamydia is a common sexually transmitted disease. It is caused by bacteria called Chlamydia trachomatis. It can infect both men and women. In Men, this condition often causes swelling and inflammation of the urethra, accompanied by a penile discharge.

- 42.

(b) Roots in case of sweet potato and Colocasia.

**Explanation:**

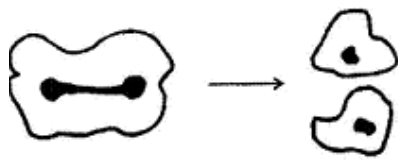
Colocasia is vegetatively propagated from underground stem.

- 43.

(d) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.

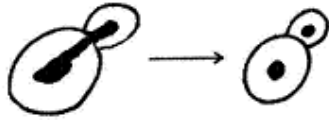
**Explanation:**

Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.



Binary fission in *Amoeba*

44. (a)



Budding in Yeast

**Explanation:**

These are the correct modes of reproduction of Amoeba and yeast.

Amoeba is a very good example of the organism which reproduces by binary fission.

Yeast is an example of unicellular organism which reproduces by budding.

45.

(d) Cervical cap

**Explanation:**

Cervical cap is a flexible rubber or plastic cover that is fitted over the cervix in the female's vagina. It checks the entry of sperms into the uterus.

46.

(c) Vegetative Propagation

**Explanation:**

It is a quick method of multiplication. Since the rate of multiplication is high there is overcrowding.

47.

(d) Yeast

**Explanation:**

Yeast

48.

(d) Gonorrhoea and Syphilis

**Explanation:**

Gonorrhoea and Syphilis

49.

(d) Rhizopus

**Explanation:**

Rhizopus is shown in above diagram

50.

(d) Both similarities and variations with parents

**Explanation:**

It is not necessary that all characters are transmitted from parent to offspring

51.

(c) 44 + XX

**Explanation:**

As there are 23 pairs of chromosomes and if X sperm is fertilized the result is XX

52. (a) Reptiles

**Explanation:**

Reptiles

53. (a) multiple fission

**Explanation:**

The ability of a cell to divide itself into several cells during reproduction is called multiple fission. e.g., Plasmodium.

54.

(c) they reproduce asexually

**Explanation:**

All of the above mentioned organisms reproduce by asexual means

55.

(d) false feet developed in some unicellular organisms.

**Explanation:**

false feet developed in some unicellular organisms.

56. (a) anther and ovary

**Explanation:**

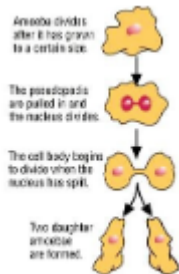
- The anther is part of the stamen (male sex organ) that produce pollen (male gamete).
- The ovary is an inferior part of the pistil (female sex organ) which contains ovule. Female gametophyte develops in the ovule.

57.

(b) Amoeba

**Explanation:**

Binary fission is a type of asexual reproduction and the most common form of reproduction in prokaryotes and eukaryote. Amoeba reproduces by the common asexual reproduction method called binary fission. After replicating its genetic material through mitotic division, the cell divides into two equal sized daughter cells.



58.

(c) Micropropagation

**Explanation:**

The propagation of plants by growing plantlets in tissue culture and then planting them out.

59.

(d) Rose, root

**Explanation:**

Rose vegetative part is stem.

60.

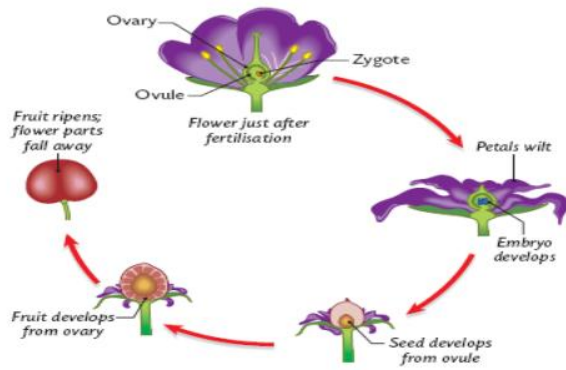
(c) Only ovary

**Explanation:**

After fertilization through the act of pollination, the flower's ovary becomes swollen and turns into a fruit. The flower's ovules, found inside the ovary, harden and become the seeds inside the fruit.

The ovary becomes a fruit. The wall of the ovary becomes the wall of the fruit called the pericarp. The fruit protects the

developing seeds and plays an important role in seed dispersal. This process is controlled by auxins produced by the seeds. Once the fruit forms the rest of the flower parts die and fall away.



61.

(c) formation of sperm

**Explanation:**

The testes lie outside the body in the scrotum because sperm production requires low temperature, which is provided by the scrotum.

62.

(c) Gram, pea and ground-nut

**Explanation:**

Gram, pea and ground-nut

63.

(c) (A)

**Explanation:**

Yeast cells do not separate after budding because it is only after the formation of a chain of buds get separated.

64.

(d) A chain of bud cells

**Explanation:**

Yeast is an example of a unicellular organism which reproduces by budding. In yeast cell, the budding process continuous three-four times resulting in a chain of the yeast cell.

65.

(d) (iii) and (iv)

**Explanation:**

Gonads have a dual function, production of hormones and gametes. In the male, testes produce sperms and testosterone. The placenta develops in females during pregnancy. It has a number of functions, like the production of hormones, nutrition, excretion, etc. Estrogen is a female hormone produced by the ovaries (female gonads).

66.

(c) Bryophyllum

**Explanation:**

Bryophyllum

67.

(d) Bacteria

**Explanation:**

Syphilis is a sexually transmitted infection caused by the bacterium *Treponema pallidum* subspecies *pallidum*. The signs and symptoms of syphilis vary depending on which of the four stages it presents (primary, secondary, latent, and tertiary).

68.

**(b)** genetic material is contributed by two individuals of same species to produce a new generation.

**Explanation:**

genetic material is contributed by two individuals of same species to produce a new generation.

69.

**(d)** (i) and (ii)

**Explanation:**

(i) and (ii)

70.

**(c)** S

**Explanation:**

There are two types of cells in an organism somatic cells ( $2n$ ) and germ cells ( $n$ ). Somatic cell samples give rise to new organisms that are genetically identical to their parents because in somatic cells, crossing over does not occur and hence variations are not produced. Germ cells produce variations. Thus, cell samples taken from part S (thalamus) of plant X will give rise to new plants that are genetically identical to plant X. Other parts P, Q and R have germ cells.