BSCS Biology Chapter 12 Study Guide

1. Organisms that are produced by female parents only. What could you conclude about such offspring and their genetic identity?

2. There are grasses which spread primarily from seeds and others who depend on runners. If you knew where two kinds of grasses had been planted say 5,000 years ago, what would you find in the surrounding area?

3. Describe the following types of reproduction: external fertilization, binary fission, sexual reproduction, and asexual reproduction.

4. You have four [4] different insecticide treatments used to control pest in an apartment building. What would the treatment need to effect in order for the pests to eventually become eradicated?

5. Define the following terms: budding, mitosis, cloning

6. Sexual reproduction is a process by which_____.

7. Bacteria typically, when exposed to an antibiotic, die. However, a researcher puts an antibiotic-resistance gene into a single bacterium from which they developed. Name the type of gene needed to carry out this experiment.

8. Which of the following statements are true?

a. Medicines safe for human use are being produced from genetically engineered bacteria.
b. Genetically engineered foods can be found on grocery shelves today.
c. Animals have been cloned for nearly a half century.
d. Genetically engineered foods are widely accepted in Europe and the US but not Asia.

9. Is there a change in chromosome number during asexual reproduction?

10. Would the number of chromosomes change when a bean seed germinates and becomes a plant/

11. During gamete formation do cells go from haploid to diploid or diploid to haploid?

12. What change takes place to the chromosomes number during fertilization?

13. By alternating meiosis and mitosis,

a. Is crossing over prevented?
b. Is the chance for favorable mutations increased?
c. Is genetic recombination ensured?
d. Can a constant chromosome number be maintained?

14. Name way[s] human sperm and human eggs are similar?

15. What is the name given to the paired chromosomes in eukaryotes?

16. What is the name the reproductive cell is referred to?

17. What has to occur in order for fertilization to be accomplished?

18. There are 24 chromosomes in the somatic cell of a dogfish shark. How many chromosomes would be found in each of its gametes?

19. Describe crossing over. What does it ensure?

20. What happens to the polar bodies?

21. In which phase of meiosis does the chromosomes replicate?

22. List the correct sequence of meiosis.

23. When does genetic recombination take place?

24. Describe in detail each phase of meiosis. Include drawings.

25. You will have three [3] on the following figure.

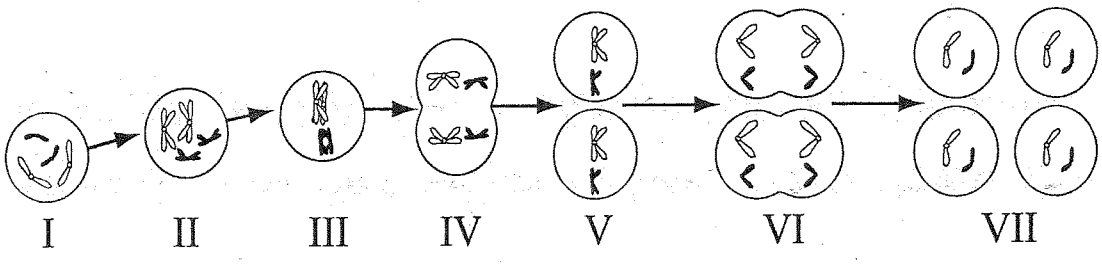


Figure 12.01

26. Which stage, diploid or haploid is part of the life cycle of most animal and plant species?

27. Name the meiotic daughter cells.

28. Which of the following would NOT be an example of conjugation in unicellular eukaryotes?

a. budding
b. cloning
c. cellular fission
d. sexual reproduction

29. A microorganism exhibits both haploid and diploid stages. What does this imply?

30. What is spawning?

31. Why are large numbers of gametes necessary in spawning?

32. Name the type of reproductive process [if any] each of the following organisms could carry on.

amoeba
porpoise
salmon
virus
lily
fern
moss
algae
goldfish
whale
bird
monkey
whale
chicken
turtle
frog

33. Why is reproduction in placental mammals most effective and efficient?

34. Which of the following are characteristic only of placental mammals?

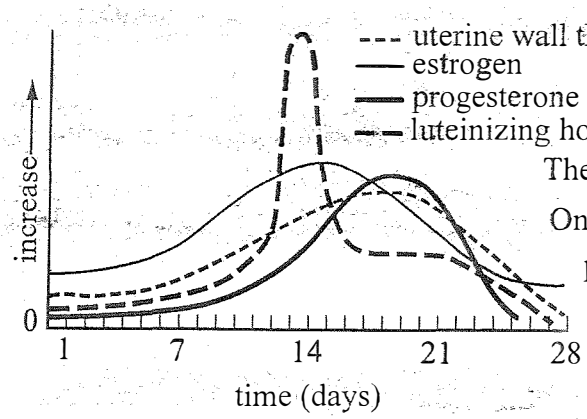
a. internal fertilization
b. hormonal control of reproductive behavior
c. production of milk
d. complete internal development of embryo and fetus

35. In the human female when is meiosis I completed?

36. Pituitary gland is taken from immature female rabbits and as a result their ovaries to do not develop normally. If the pituitary gland is removed from mature female rabbits their ovaries and uterus no longer function. What do these observations indicate about the relationship between the pituitary gland and female reproductive system?

37. In reference to the graph below, you will have 8 questions.

Figure 12.03



The graph above represents the human menstrual cycle.

On the graph are plotted the amounts of three hormones: estrogen, progesterone, and LH, as well as uterine wall thickness.

38. What process is used to transport food, gases, and wastes in the placenta?

39. What is the purpose of FSH and LH, which are produced by both females and males?

40. Name the place in the male gonads where sperm is stored.

41. Which of the following would be found in sperm cells?

a. flagella
b. DNA
c. fructose
d. seminiferous tubules

42. Although the sperm cell is highly specialized, it lacks some of the cell machinery found on other cells. Explain the reason for this.

43. Which of the following is true?

Secondary sex characteristics:

a. are restricted to humans and their close relatives such as chimpanzees.
b. can be viewed both as evolutionary adaptations and hormone responses.
c. are a necessary requirement for healthy egg and sperm development.
d. appear at the same age in human males an females in North America.

44. Describe in vitro fertilization.

45. What is the most effective method of birth control?