SCIENCE

(BIOLOGY)

PRACTICE SET-TERM II

SESSION- 2021-2022

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Praadis Education

The Complete Learning App

ASSIGNMENT QUESTIONS SET – 1
CHAPTER – 8
HOW DO ORGANISMS REPRODUCE?

1. Define reproduction.

2. Define fertilization.

3. Where the fertilization does takes place in human female?

4. Name two type of reproduction.

5. What method will you use for growing jasmine and rose plant?

6. Define menstruation.

7. Write the name of male and female reproductive part of a flower.

8. Define gestation period. What is the gestation period in human?

9. Why do testes in mammals descend in scrotum?

10. Name the type of fission carried out by Amoeba.

11. Name two sexually transmitted diseases.

12. What is vegetative propagation?

13. Name the male and female gonads and what are the products they produce.

14. Which part of human female reproduction system is called ―birth canal and the ―womb?

15. Write the full form of IUCD and AIDS,

16. What is syngamy?

17. What is advantage of fruit formation in plant?

18. What is ovulation?

19. What is menopause?

20. What is the importance of the process of reproduction?

21. What is species?

22. Do organisms produce exact copies of themselves during reproduction?

23. What is the importance of variations?

24. Why is variation beneficial to the species but not necessarily for the individuals?

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25. What is the importance of DNA copying in reproduction?

26. What are the different methods of asexual reproduction?

27. Name the following:
An organism which reproduces by
a. Binary fission
b. Multiple fission
c. Budding
d. Fragmentation
e. Spore Formation

28. How does binary fission in amoeba differ from binary fission in Leishmania?

29. How will an organism be benefitted if it reproduces through spores?

30. Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration?

31. Why is vegetative propagation practised for growing some types of plants?

32. What are the advantages of sexual reproduction over asexual reproduction?

33. What is asexual reproduction? Explain briefly various methods of asexual reproduction?

34. How is specific chromosome number maintained in a sexually reproducing organism?

35. Draw and label the parts of a flower.

36. What are the functions of the following parts of a flower?

37. What is pollination?

38. What are the steps involved in fertilization and formation of seeds?

39. What are the secondary sexual characteristics seen in males?

40. Why are the testis located outside the abdominal cavity in the scrotum?

41. Draw the female reproductive system and label the parts.

42. What is ovulation?

43. Draw the longitudinal section of pistil to show pollen grains' germination.

44. List the events after fertilization in an angiosperm takes place.

45. Draw the male reproductive system and label the parts.

46. What is the role of the seminal vesicles and the prostate glands?

47. What are the changes seen in females at the time of puberty?

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48. What happens when the egg is not fertilized?

49. How does the embryo get nourishment inside the mother's body?

50. What are the functions performed by the testis in males?

51. How are the modes of reproduction different in unicellular and multi-cellular organisms?

52. How does reproduction help in providing stability to population of species?

53. What could be the reasons for adopting contraceptive methods?

54. What is the importation of DNA copying in reproduction?

55. Why is variation beneficial to the species but not necessarily for the individual?

56. How will an organism be benefited if it reproduces through spores?

57. Can you think of reasons why more complex organisms cannot give rise to new individuals through regeneration?

58. Why vegetative reproduction is practiced for growing some type of plants?

59. Why is DNA copying an essential part of the process of reproduction?

60. What are the changes seen in girl's at the time of puberty?

61. What is the role of the seminal vesicles and the prostate gland?

62. How is the process of pollination different from fertilization?

63. How does the embryo get nourishment inside the mother's body?

64. Show by a series of labeled diagram, the manner in which reproduction in Hydra.

65. Describe regeneration.

66. Define the terms unisexual and bisexual flowers by giving one example of each.

67. Leaves of the bryophyllum fallen on the ground produce new plants whereas the leaves of rose donot. Why?

68. Why does menstruation occur?

69. How does reproduction help in providing stability to populations of species?

70. What is advantages of sexual reproduction over asexual reproduction?

71. What are function performed by testis in human beings.?

72. Differentiate between natural and artificial vegetative propagation.

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73. Draw a diagram of a flower to show its male and female reproductive parts. Label on it : a.- the ovary b- the anther c- the filament d- the stigma .

74. Desribe the fertilization in flower.

75. What is meant by pollination? How it takes place?

76. What is 'vegetative propagation'? Write two examples where it is used. State two reasons of practicing vegetative propagation for giving same types of plants.

77. Illustrate the following with the help of suitable diagram: a) Regeneration in Planaria. b) Budding in Hydra.

78. Describe why : a) Scrotum remains outside the body of human males ? b) Some plants are propagated only by vegetative propagation ?

79. How does reproduction help in providing stability to populations of species ?

80. Describe the changes taking place in female reproductive organs every month

81. What will happen if ovum is not fertilized? Describe the events in a sequence wise manner.

82. How do following organisms reproduce? a)Amoeba b) Planaria c) Yeast d) Frog e)Rose f) Bacteria

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ASSIGNMENT QUESTIONS SET – 2
CHAPTER – 8
HOW DO ORGANISMS REPRODUCE?

1. Mention the common mode of reproduction found in (i) Amoeba (ii) Planaria.

2. Name any two types of asexual reproduction.

3. Define reproduction.

4. Name two organisms that show asexual reproduction.

5. How does Hydra reproduce? Name another organism that reproduces by a similar method.

6. What is a spore?

7. Name two plants which reproduce through spores.

8. Why is regeneration considered a method of reproduction?

9. Which vegetative part is used in the propagation of Bryophyllum and mint?

10. Name two types of layering.

11. Name some plants where layering is used.

12. Which technique would you use for propagating improved varieties of mango and rose?

13. Name various types of asexual reproduction.

14. Mention the reproductive parts of a flower.

15. Define fertilisation.

16. What is self-pollination?

17. What is cross pollination?

18. What are the agents of pollination?

19. Which process results in formation of zygote?

20. What grows to form a fruit?

21. What is carpel?

22. Which parts of the flower transform into the seed and fruit?

23. What are gonads?

24. What is puberty?

25. When is ovum released in human female?

26. What is endometrium?

27. What is implantation?

28. What is parturition?

29. What is ovulation?

30. Where are the ova produced in woman?

31. Name two sex hormones.

32. What is the normal reproductive life in human female?

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33. What are oral contraceptives?

34. What is epididymis?

35. What are the functions of urethra?

36. What are the secondary sex characters in human male?

37. Why do testes lie outside the abdominal cavity?

38. When does puberty occur in human male and female?

39. State the methods used for growing rose plants.

40. State what type of method is used for growing jasmine plant.

41. Name the hormone, secretion of which is responsible for dramatic changes in appearance in girls when they approach 10-12 years of age.

42. The organisms formed by asexual reproduction are considered as clones. Why? State the advantage of sexual reproduction over asexual reproduction.

43. What is the effect of DNA copying which is not perfectly accurate on the reproduction process?

44. How does the process of budding differ from the process of spore formation?

45. Name the type of asexual reproduction in : (a) *Planaria* (b) *Rhizopus* (iii) *Spirogyra* (iv) *Hydra*

46. With the help of a diagram only show regeneration in *Planaria*. Regeneration is not possible in all types of animals. Why?

47. How does the process of seed germination take place in plants? Describe in brief.

48. Name the sex hormones secreted by male and female sex organs in human beings. State one function of each.

49. State the mode of reproduction in following organisms : Earthworm, Frog, *Rhizopus*, *Plasmodium.*

50. State in brief any two functions of copper-T used by some women.

51. In what respect is the human male gamete different from the female gamete?

52. What is reproduction? What are its two types? Which one of the two confers new characteristics on the offsprings and how?

53. What is binary fission? Draw a diagram to show binary fission in *Amoeba.*

54. What is regeneration? State a reason why a more complex organism cannot give rise to new individuals through this method.

55. Name the male and female gametes in animals. What is fertilisation and where does it take place in human females?

56. What is _reproduction‘? Mention the importance of DNA copying in reproduction.

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57. Mention the information source of making proteins in the cell. What is the basic event in reproduction?

58. Name one sexually transmitted disease each caused due to bacterial infection and viral infection. How can these be prevented?

59. Describe briefly four ways in which individuals with a particular trait may increase in a population.

60. Why is it said that ―sexual reproduction promotes diversity of characters in the offspring?

61. Why cannot fertilisation take place in flowers if pollination does not occur?

62. Why does bread mould grow profusely on a moist slice of bread rather than on a dry slice of bread?

63. Leaves of Bryophyllum fallen on the ground produce new plants whereas the leaves of Jasmine do not, why?

64. What is clone? Why do offspring formed by asexual reproduction exhibit remarkable similarity?

65. Write one disadvantage of asexual reproduction. When and how does multiple fission take place?

66. State in brief the function of the following organs in the human female reproductive system. (a) Ovary (b) Fallopian tube (c) Uterus

67. Differentiate between : (a) Asexual and sexual reproduction. (b) Plumule and Radicle (c) Pollination and Fertilisation

68. Why is vegetative propagation practised for growing some types of plants? (b) Name the different parts of a flower that has germ cells. (c) List any two agents of pollination.

69. What happens to the pollen which falls on a suitable stigma? Explain.

70. List and describe in brief any three ways devised to avoid pregnancy.

71. What are sexually transmitted diseases? Name four such diseases. Which one of them damages the immune system of human body?

72. Define grafting. Suggest any two advantages and disadvantages of grafting.

73. Name any two mechanical barriers of pregnancy. What are the benefits of using mechanical barriers during sexual act?

74. State in brief the functions of the following parts of the human male reproductive system : (i) Scrotum (ii) Testes (iii) Vas deferens

75. State the role of ovary and fallopian tube in human body.

76. What could be the possible reason for declining female to male sex ratio in our country. Suggest two measures to achieve 1:1 ratio.

77. What is the advantage of reproducing through spores?

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78. How does variation lead to the survival of species overtime?

79. What will happen when :

(a) A mature *Spirogyra* filament attains considerable length?

(b) *Planaria* gets cut into two pieces?

80. (a) Give reason : Regeneration is not the same as Reproduction.

(b) State the mode of a asexual reproduction in *Plasmodium*

81. (a) Surgical methods can be used to create a block in the reproductive system for contraceptive purposes. Name such parts where blocks are created in : (i) males (ii) females

(b) State any two reasons for using contraceptive devices.

82. (a) What is vegetative propagation?

(b) Write any two advantages of practising this method.

83. (a) Out of the following plants which two plants are reproduced by vegetative propagation? jasmine, wheat, mustard, banana

(b) List any one advantage of practising this kind of propagation.

84. (a) Identify the asexual method of reproduction in each of the following organisms : (i) rose (ii) yeast (iii) *planaria*

(b) What is fragmentation? Name a multicellular organism which reproduces by this method.

85. (a) How do the oral pills function as contraceptives?

(b) The use of these pills may be harmful. Why?

86. (a) Explain the terms : (i) implantation (ii) placenta

(b) What is the average duration of human pregnancy?

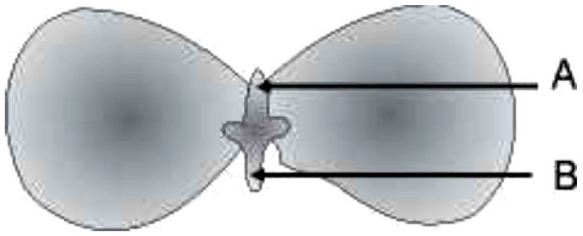
87. (a) Why do testes located in scrotum outside the abdominal cavity?

(b) What will happen to ovary and ovule after fertilization in angiospermic plants.

88. In a bisexual flower inspite of the young stamens being removed artificially, the flower produces fruit. Give reasons.

(a) Name the parts of the flower which ripens to form fruit and seed?

(b) In the following diagram label A and B.



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ASSIGNMENT QUESTIONS SET – 3
CHAPTER – 8
HOW DO ORGANISMS REPRODUCE?

1. In the list of organisms given below, those that reproduce by the asexual method are

(i) banana

(ii) dog

(iii) yeast

(iv) Amoeba

2. In a flower, the parts that produce male and female gametes (germ cells) are

(a) stamen and anther

(b) filament and stigma

(c) anther and ovary

(d) stamen and style

3. Which of the following is the correct sequence of events of sexual reproduction in a flower?

(a) pollination, fertilisation, seedling, embryo

(b) seedling, embryo, fertilisation, pollination

(c) pollination, fertilisation, embryo, seedling

(d) embryo, seedling, pollination, fertilisation

4. 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) (i) and (ii) (b) (i) and (iii)

(c) (ii) and (iv) (d) (iii) and (iv)

5. Characters transmitted from parents to offspring are present in

(a) cytoplasm

(b) ribosome

(c) golgi bodies

(d) genes

6. Characters that are transmitted from parents to offspring during reproduction show

(a) only similarities with parents

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(b) only variations with parents

(c) both similarities and variations with parents

(d) neither similarities nor variations

7. A feature of reproduction that is common to *Amoeba, Spirogyra* and Yeast is that

(a) they reproduce asexually

(b) they are all unicellular

(c) they reproduce only sexually

(d) they are all multicellular

8. In *Spirogyra*, asexual reproduction takes place by

(a) breaking up of filaments into smaller bits

(b) division of a cell into two cells

(c) division of a cell into many cells

(d) formation of young cells from older cells.

9. The ability of a cell to divide into several cells during reproduction in *Plasmodium* is called

(a) budding

(b) reduction division

(c) binary fission

(d) multiple fission

10. The correct sequence of reproductive stages seen in flowering plants is

(a) gametes, zygote, embryo, seedling

(b) zygote, gametes, embryo, seedling

(c) seedling, embryo, zygote, gametes

(d) gametes, embryo, zygote, seedling

11. The number of chromosomes in parents and offsprings of a particular species remains constant due to

(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

12. In *Rhizopus*, tubular thread-like structures bearing sporangia at their tips are called

(a) filaments

(b) hyphae

(c) rhizoids

(d) roots

13. Vegetative propagation refers to formation of new plants from

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(a) stem, roots and flowers

(b) stem, roots and leaves

(c) stem, flowers and fruits

(d) stem, leaves and flowers

14. Factors responsible for the rapid spread of bread mould on slices of bread are

(i) 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)

15. Length of pollen tube depends on the distance between

(a) pollen grain and upper surface of stigma

(b) pollen grain on upper surface of stigma and ovule

(c) pollen grain in anther and upper surface of stigma

(d) upper surface of stigma and lower part of style

16. Which of the following statements are true for flowers?

(i) Flowers are always bisexual

(ii) They are the sexual reproductive organs

(iii) They are produced in all groups of plants

(iv) After fertilisation they give rise to fruits

(a) (i) and (iv) (b) (ii) and (iii)

(c) (i) and (iii) (d) (ii) and (iv)

17. Which among the following statements are true for unisexual flowers?

(i) They possess both stamen and pistil

(ii) They possess either stamen or pistil

(iii) They exhibit cross pollination

(iv) Unisexual flowers possessing only stamens cannot produce fruits

(a) (i) and (iv) (b) (ii), (iii) and (iv)

(c) (iii) and (iv) (d) (i), (iii) and (iv)

18. Which among the following statements are true for sexual reproduction in flowering plants?

(i) It requires two types of gametes

(ii) Fertilisation is a compulsory event

(iii) It always results in formation of zygote

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(iv) Offspring formed are clones

(a) (i) and (iv) (b) (i), (ii) and (iv)

(c) (i), (ii) and (iii) (d) (i), (ii) and (iv)

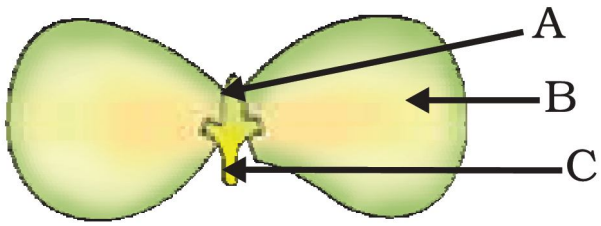
19. In the below Figure, the parts A, B and C are sequentially

(a) cotyledon, plumule and radicle

(b) plumule, radicle and cotyledon

(c) plumule, cotyledon and radicle

(d) radicle, cotyledon and plumule



20. Offspring formed as a result of sexual reproduction exhibit more variations because

(a) sexual reproduction is a lengthy process

(b) genetic material comes from two parents of the same species

(c) genetic material comes from two parents of different species

(d) genetic material comes from many parents

21. Reproduction is essential for living organisms in order to

(a) keep the individual organism alive

(b) fulfill their energy requirement

(c) maintain growth

(d) continue the species generation after generation

22. During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys

(a) loss of milk teeth

(b) increase in height

(c) cracking of voice

(d) weight gain

23. In human females, an event that reflects onset of reproductive phase is

(a) growth of body

(b) changes in hair pattern

(c) change in voice

(d) menstruation

24. In human males, the testes lie in the scrotum, because it helps in the

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(a) process of mating

(b) formation of sperm

(c) easy transfer of gametes

(d) all the above

25. Which among the following is not the function of testes at puberty?

(i) formation of germ cells

(ii) secretion of testosterone

(iii) development of placenta

(iv) secretion of estrogen

(a) (i) and (ii) (b) (ii) and (iii)

(c) (iii) and (iv) (d) (i) and (iv)

26. The correct sequence of organs in the male reproductive system for transport of sperms is

(a) testis →□vasdeferens →□urethra

(b) testis →□ureter →□urethra

(c) testis →□urethra →□ureter

(d) testis →□vasdeferens →□ureter

27. Which among the following diseases is not sexually transmitted?

(a) Syphillis

(b) Hepatitis

(c) HIV - AIDS

(d) Gonorrhoea

28. In a bisexual flower inspite of the young stamens being removed artificially, the flower produces fruit. Provide a suitable explanation for the above situation.

29. Can you consider cell division as a type of reproduction in unicellular organism? Give one reason.

30. What is a clone? Why do offsprings formed by asexual reproduction exhibit remarkable similarity?

31. Explain how, offspring and parents of organisms reproducing sexually have the same number of chromosomes?

32. Colonies of yeast fail to multiply in water, but multiply in sugar solution. Give one reason for this.

33. Why does bread mould grow profusely on a moist slice of bread rather than on a dry slice of bread?

34. Give two reasons for the appearance of variations among the progeny formed by sexual reproduction.

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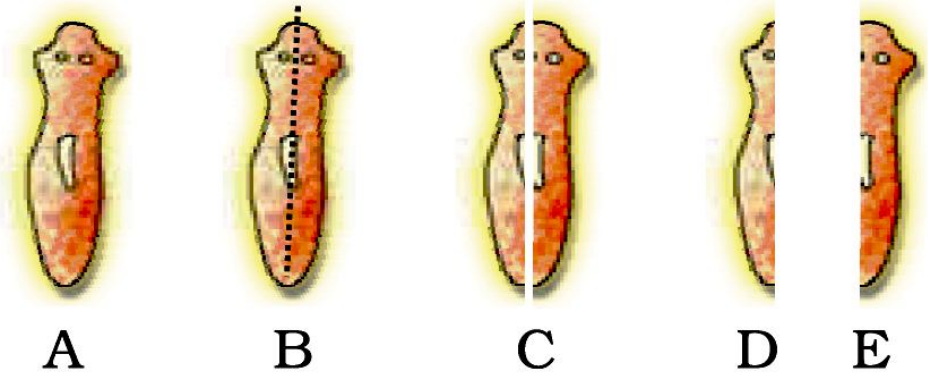
35. Would a *Planaria* cut vertically into two halves regenerate into two individuals? Complete the below Figure D and E by indicating the regenerated regions.



36. From the internet, gather information about the chromosome numbers of five animals and five plants. Correlate the number with the size of organism and answer the following questions.

(a) Do larger organisms have more number of chromosomes/cells?

(b) Can organism with fewer chromosomes reproduce more easily than organisms with more number of chromosomes?

(c) More the number of chromosomes/cells greater is the DNA content. Justify.

37. In tobacco plant, the male gametes have twenty four chromosomes. What is the number of chromosomes in the female gamete? What is the number of chromosomes in the zygote?

38. Why cannot fertilisation take place in flowers if pollination does not occur?

39. Is the chromosome number of zygote, embryonal cells and adult of a particular organism always constant? How is the constancy maintained in these three stages?

40. Where is the zygote located in the flower after fertilization?

41. Reproduction is linked to stability of population of a species. Justify the statement.

42. How are general growth and sexual maturation different from each other?

43. Trace the path of sperm during ejaculation and mention the gland and their functions associated with the male reproductive system.

44. What changes are observed in the uterus if fertilisation does not occur?

45. What changes are observed in the uterus subsequent to implantation of young embryo?

46. What are the benefits of using mechanical barriers during sexual act?

47. In the given below Figure label the parts and mention their functions

(a) Production of egg

(b) Site of fertilisation

(c) Site of implantation

(d) Entry of the sperms

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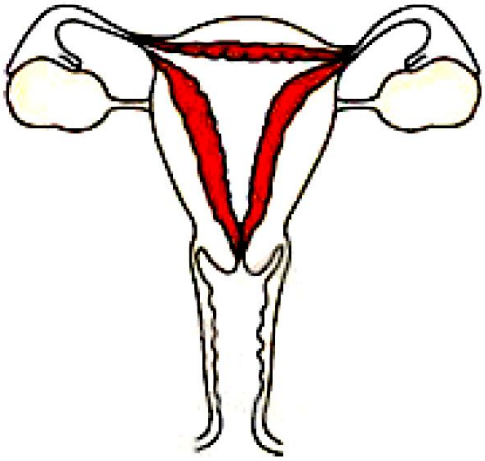

48. What would be the ratio of chromosome number between an egg and its zygote? How is the sperm genetically different from the egg?

49. Why are budding, fragmentation and regeneration all considered as asexual types of reproduction? With neat diagrams explain the process of regeneration in *Planaria.*

50. Write two points of difference between asexual and sexual types of reproduction. Describe why variations are observed in the offspring formed by sexual reproduction.

51. Distinguish between pollination and fertilisation. Mention the site and product of fertilisation in a flower.

52. Draw a neat, labelled diagram of a pistil showing pollen tube growth and its entry into the ovule.

53. Distinguish between a gamete and zygote. Explain their roles in sexual reproduction.

54. Draw the diagram of a flower and label the four whorls. Write the names of gamete producing organs in the flower.

55. What is placenta? Mention its role during pregnancy?

56. What are various ways to avoid pregnancy? Elaborate any one method.

57. What are placenta ? Explain its structure and function.

58. How does fertilisation take place? Fertilisation occurs once in a month. Comment.

59. Reproduction is essentially a phenomenon that is not for survival of an individual but for the stability of a species. Justify.

60. Describe sexually transmitted diseases and mention the ways to prevent them.

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ASSIGNMENT QUESTIONS SET – 1
CHAPTER – 9
HEREDITY AND EVOLUTION

1. What is heredity?

2. Name the plant on which Mendel performed his experiments?

3. Define variation?

4. Define a gene?

5. Who proposed the theory of inheritance of acquired characters.

6. State one of the evolutionary forces leading to the origin of a new species according to the synthetic theory of evolution.

7. Give an example of a vestigial organ present in human body.

8. What is the evolutionary significance of the fossil Archaeopteryx?

9. Who proposed the double helical model of DNA? Answer: Watson and Crick.

10. Who proposed the theory of natural selection? Answer: Charles Darwin.

11. What is retro virus?

12. What is a genetically modified organism (GMO)?

13. Name any two genetic diseases.

14. Write the expanded form of DNA?

15. What are the components of chromosome?

16. What is a retrovirus?

17. What is sex chromosome?

18. How is sex determined in human beings?

19. What do you understand by evolution?

20. Define homologous organs?

21. Explain Darwin's theory of evolution?

22. Define genetics. What is the contribution of Mendel in this branch of biology?

23. Where are the genes located? What is the chemical nature of gene?

24. During which stage of cell division can chromosome be seen? Write the features of prokaryotic and eukaryotic chromosome.

25. Who provided the evidence of DNA as a genetic material? Write the names of components of DNA?

26. What do you understand by the double helical structure of DNA? Who proposed this structure?

27. Describe the different types of chromosomes.

28. How many types of nitrogenous bases are present in DNA? Name them.

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29. How do embryological studies provide evidence for evolution?

30. Define evolution. And Describe the contribution of Lamarck?

31. What are homologous organs? How do they provide evidence in support of evolution?

32. Define the following terms? (i) Vestigial organs (ii) Analogous organs.

33. What are transgenic organisms? Which property of DNA is used as a tool in genetic engineering?

34. Explain how the sex of the child is determined at the time of conception in human beings.

35. One of the examples of two analogous organs can be the wing of parrot and

a) Flippers of whale.

c) Foreleg of horse

b) Front leg of frog

d) Wing of housefly

36. Mention the ways by which variant genotypes are produced in organism?

37. In human beings blue eye colour is recessive to brown eye colour. If a brown eyed man has a blue eyed mother then find

a) What are the possible genotypes of his father?

b) What is the genotype of the man and his mother?

38. What are fossils? Of what interest are fossils to the evolutionary biologists?

39. Who isolated DNA for the first time from pus cells?

40. Why is DNA called polynucleotide?

41. Name two purine nitrogenous bases found in a DNA molecule.

42. Who put forward the double helical model of DNA?

43. What are the three chemically essential parts of nucleotides constituting a DNA?

44. Guinea pig having black colour when crossed with guinea pig having same colour produced 80 offspring, out of which 60 were black and 20 were white. Now,find out: (a) What is the possible genotype of the guinea pigs?

(b) Which trait is dominant and which trait is recessive?

(c) What is this cross called as and what is its phenotypic ratio?

45. Distinguish between acquired and inherited traits giving one example of each.

46. Why did Mendel chosen pea plant for his experiments?

47. Cat’s paw, human hand and horse’s legs-are these organs homologous or analogous? Give reason

48. Wings of bird and wings of insect-are these organs homologous or analogous? Give one suitable season to support your answer.

49. Give one difference between eyes and eye spot. Which animal possesses eye spots?

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50. Give one difference between artificial selection and natural selection.

51. What is true- humans have evolved from chimpanzees or humans and chimpanzees both have evolved from a common ancestor?

52. What is the mechanism behind the expression of a particular trait?explain briefly.

53. What will happen to the expression of a particular trait if a gene get altered?

54. What are various ways by which genes can enter a population?

55. How will new species arise in case:

(a) Two sub-populations are separated due to a huge mountain in between them?

(b) A small population of individuals gets drifted away from the main land due to sea?

56. Only advantageous variations help in the evolution of an organism giving rise to a new species. Explain with the help of an example.

57. A trait may be inherited, but may not be expressed." Justify this statement with the help of a suitable example.

58. (a). What is genetics?

(b). Give the common name of plant on which Mendel performed his experiments. (c). What for did Mendel use the term factors and what are these factors called now. (d). What are genes? Where are the genes located?

59. 'It is a matter of chance whether a couple will give birth to a male child or a female child." Justify this statement with the help of a flow chart showing the fusion of sex chromosomes.

60. What are homologous organs? How do they provide evidence in support of evolution?

61. Who provided the evidence of DNA as a genetic material? Write the names of components of DNA? How many types of nitrogenous bases are present in DNA? Name them.

62. Name the two homologous structures in vertebrates. Why are they so called? How do such organs help in understanding an evolutionary relationship?

63. Will geographical isolation be a major factor in the speciation of a self-pollination plant species? Why or why not?

64. What are vestigial organs? Name any two vestigial organs in man and name organ which is vestigial in man but not in birds.

65. All dead organisms do not leave their fossil records, but in some cases their fossils are formed. How do these fossils records form a direct evidence of past happenings?

66. Evolution is a process in which simple life forms change into complex life forms by gradual changes. But, there is a difference between chemical and organic evolution. Differentiate by giving three points.

67. There are a number of ways by which the genes enter a population. Explain briefly the three ways.

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68. Why can the wings of a bird and the wings of a bat not be considered analogous? (Imp.)

69. How did the Mendelian 'factors' acquire a change in the terminology? Who changed it?

70. What is palaeontology? What is its importance? (Imp.)

71. The genotype of green stemmed tomato plants is denoted as GG and that of purple stemmed tomato plants is denoted as gg. When these two are crossed with each other: (a) What colour of stem would you expect in the F1 progeny?

(b) Give the percentage of purple stemmed plants if F1 plants are self pollinated.

(c) In what ratio would you find the genotypes GG and gg in the progeny?

Draw flow chart in support of your answer.

72. How has the method of artificial selection by humans helped in the evolution of different vegetables? Explain in brief giving an example.

73. (a) Write two factors which could lead to the rise of a new species.

(b) (i) What is the scientific term of the organs shown below? (ii) How do these organs provide evidence in support of evolution?

74. (a) Name the type of sex chromosome present in human male and human female.

(b) With the help of a flow chart determine genetically in human beings the sex of the offspring if a sperm carrying Xchromosome fertilizes the egg?

75. In pea plant round seed is dominant over the wrinkled. If a cross is carried between these two plants, give answer to the following questions.

(a) Mention the genes for the traits of parents.

(b) State the trait of F1 hybrids.

(c) Write the ratio of F2 progeny obtained from this cross. What is the name of the cross? [2011]

76. Give appropriate terms for the following :

(a) The trait which can express itself in next generation.

(b) The trait an organism have due to inheritance.

(c) Origin of a new species from pre-existing one.

77. If a pure tall pea plant is crossed with a pure dwarf plant, then in the first generation only tall plants appear.

(a) What happens to the traits of the dwarf plant?

(b) In the second generation, the dwarf trait reappears. Why?

78. How was it established that genes are located on the chromosomes?

79. Clarify the terms 'haploid' and 'diploid'. What is the relation between the two terms?

80. Explain the law of segregation by taking an example.

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81. If a trait A exists in 10% of a population of an asexually reproducing species and a trait B exists in 60% of the same species, which trait is likely to have arisen earlier?

82. How does creation of variations in a species promote survival?

83. 'Variations that confer an advantage to an individual organism only will survive in a population.' Justify.

84. Suggest three similarities between Mendel's 'factors' and 'chromosomes'.

85. Justify logically that many genes are present on one chromosome.

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ASSIGNMENT QUESTIONS SET – 2
CHAPTER – 9
HEREDITY AND EVOLUTION

1. Exchange of genetic material takes place in

(a) vegetative reproduction

(b) asexual reproduction

(c) sexual reproduction

(d) budding

2. Two pink coloured flowers on crossing resulted in 1 red, 2 pink and 1 white flower progeny. The nature of the cross will be

(a) double fertilisation

(b) self pollination

(c) cross fertilisation

(d) no fertilisation

3. A cross between a tall plant (TT) and short pea plant (tt) resulted in progeny that were all tall plants because

(a) tallness is the dominant trait

(b) shortness is the dominant trait

(c) tallness is the recessive trait

(d) height of pea plant is not governed by gene 'T' or 't'

4. Which of the following statement is incorrect?

(a) For every hormone there is a gene.

(b) For every protein there is a gene.

(c) For production of every enzyme there is a gene.

(d) For every molecule of fat there is a gene

5. If a round, green seeded pea plant (RR yy) is crossed with wrinkled, yellow seeded pea plant, (rr YY) the seeds produced in F1 generation are

(a) round and yellow

(b) round and green

(c) wrinkled and green

(d) wrinkled and yellow

6. In human males all the chromosomes are paired perfectly except one. This/these unpaired chromosome is/are

(i) large chromosome

(ii) small chromosome

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(iii) Y-chromosome

(iv) X-chromosome

(a) (i) and (ii) (b) (iii) only

(c) (iii) and (iv) (d) (ii) and (iv)

7. The maleness of a child is determined by

(a) the X chromosome in the zygote

(b) the Y chromosome in zygote

(c) the cytoplasm of germ cell which determines the sex

(d) sex is determined by chance

8. A zygote which has an X-chromosome inherited from the father will develop into a

(a) boy

(b) girl

(c) X- chromosome does not determine the sex of a child

(d) either boy or girl

9. Select the incorrect statement

(a) Frequency of certain genes in a population change over several generations resulting in evolution

(b) Reduction in weight of the organism due to starvation is genetically controlled

(c) Low weight parents can have heavy weight progeny

(d) Traits which are not inherited over generations do not cause evolution

10. New species may be formed if

(i) DNA undergoes significant changes in germ cells

(ii) chromosome number changes in the gamete

(iii) there is no change in the genetic material

(iv) mating does not take place

(a) (i) and (ii) (b) (i) and (iii)

(c) (ii), (iii) and (iv) (d) (i), (ii) and (iii)

11. Two pea plants one with round green seeds (RRyy) and another with wrinkled yellow (rrYY) seeds produce F1 progeny that have round, yellow (RrYy) seeds. When F1 plants are selfed, the F2 progeny will have new combination of characters. Choose the new combination from the following

(i) Round, yellow

(ii) Round, green

(iii) Wrinkled, yellow

(iv) Wrinkled, green

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(a) (i) and (ii) (b) (i) and (iv)

(c) (ii) and (iii) (d) (i) and (iii)

12. A basket of vegetables contains carrot, potato, radish and tomato. Which of them represent the correct homologous structures?

(a) Carrot and potato

(b) Carrot and tomato

(c) Radish and carrot

(d) Radish and potato

13. Select the correct statement

(a) Tendril of a pea plant and phylloclade of *Opuntia* are homologous

(b) Tendril of a pea plant and phylloclade of *Opuntia* are analogous

(c) Wings of birds and limbs of lizards are analogous

(d) Wings of birds and wings of bat are homologous

14. If the fossil of an organism is found in the deeper layers of earth, then we can predict that

(a) the extinction of organism has occurred recently

(b) the extinction of organism has occurred thousands of years ago

(c) the fossil position in the layers of earth is not related to its time of extinction

(d) time of extinction cannot be determined

15. Which of the following statements is not true with respect to variation?

(a) All variations in a species have equal chance of survival

(b) Change in genetic composition results in variation

(c) Selection of variants by environmental factors forms the basis of evolutionary processes.

(d) Variation is minimum in asexual reproduction

16. A trait in an organism is influenced by

(a) paternal DNA only

(b) maternal DNA only

(c) both maternal and paternal DNA

(d) neither by paternal nor by maternal DNA

17. Select the group which shares maximum number of common characters

(a) two individuals of a species

(b) two species of a genus

(c) two genera of a family

(d) two genera of two families

18. According to the evolutionary theory, formation of a new species is generally due to

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(a) sudden creation by nature

(b) accumulation of variations over several generations

(c) clones formed during asexual reproduction

(d) movement of individuals from one habitat to another

19. From the list given below, select the character which can be acquired but not inherited

(a) colour of eye

(b) colour of skin

(c) size of body

(d) nature of hair

20. The two versions of a trait (character) which are brought in by the male and female gametes are situated on

(a) copies of the same chromosome

(b) two different chromosomes

(c) sex chromosomes

(d) any chromosome

21. Select the statements that describe characteristics of genes

(i) genes are specific sequence of bases in a DNA molecule

(ii) a gene does not code for proteins

(iii) in individuals of a given species, a specific gene is located on a particular chromosome

(iv) each chromosome has only one gene

(a) (i) and (ii) (b) (i) and (iii)

(c) (i) and (iv) (d) (ii) and (iv)

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22. In peas, a pure tall plant (TT) is crossed with a short plant (tt). The ratio of pure tall plants to short plants in F2 is

(a) 1 : 3

(b) 3 : 1

(c) 1 : 1

(d) 2 : 1

23. The number of pair (s) of sex chromosomes in the zygote of humans is

(a) one

(b) two

(c) three

(d) four

24. The theory of evolution of species by natural selection was given by

(a) Mendel (b) Darwin

(c) Morgan (d) Lamarck

25. Some dinosaurs had feathers although they could not fly but birds have feathers that help them to fly. In the context of evolution this means that

(a) reptiles have evolved from birds

(b) there is no evolutionary connection between reptiles and birds

(c) feathers are homologous structures in both the organisms

(d) birds have evolved from reptiles

26. State one advantage of variation of a species. [2009]

27. What is the effect of DNA copying which is not perfectly accurate on the reproduction process? [2008]

28. What decides that humans give rise to humans? (Imp.)

29. What are hereditary characteristics?

30. Are the variations created by sexual reproduction heritable or non-heritable? (Imp.)

31. What are the components of a chromosome? (Imp.)

32. What is a retrovirus?

33. What is a sex chromosome?

34. How many chromosomes are there in a human ovum?

35. Who coined the term 'factor'? (Imp.)

36. Give the monohybrid ratio.

37. Write the dihybrid ratio.

38. Define the term 'speciation'.

39. What is a factor?

40. Name the most accepted theory of evolution.

41. Define the term 'evolution'.

42. Whose theory influenced Darwin? What did Darwin fail to explain? (Imp.)

43. Define 'recessive characteristic'.

44. What is the basis of sex determination in most plants and animals? **(Imp.)**

45. What are fossils? What do they tell about the process of evolution? [2008]

46. What do you understand by the term heredity? [2008]

47. What constitutes the link between one generation and the next? [2008]

48. "The sex of the children is determined by the what they inherit from their father and not from the mother." Justify. [2008]

49. Explain the terms analogous and homologous organs with one example of each. [2008]

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50. A man with blood group A marries a woman with blood group O and their daughter has blood group O. Is this information enough to tell you which of the traits "blood group A or O' is dominant? Why? [2008]

51. Define variation in relation to a species. Why is variation beneficial to the species? [2008]

52. Describe briefly four ways in which individuals with a particular trait may increase in a population. [2008]

53. What are acquired characteristics? (Imp.)

54. What is variation?

55. Why is variation less common in asexually reproducing organisms?

56. Clarify the term heredity and variation. (Imp.)

57. Define variation in relation to a species. Why is variation beneficial to the species? (Imp.)

58. What are autosomes?

59. What is the reason that a male is called 'heterogametic'? (Imp.)

60. What was the basic study material of Mendel? How did he bring in the term 'factor'?

61. Why are the traits acquired during lifetime of an individual not inherited? **[2009]**

62. How is the sex of a newborn determined in humans?

63. Do genetic combination of mothers play a significant role in determining the sex of a new born?

64. Mention three important features of fossils which help in the study of evolution.

65. Why do all the gametes formed in human females have an X chromosome?

66. In human beings, the statistical probability of getting either a male or female child is 50 : 50. Give a suitable explanation.

67. A very small population of a species faces a greater threat of extinction than a larger population. Provide a suitable genetic explanation.

68. What are homologous structures? Give an example. Is it necessary that homologous structures always have a common ancestor?

69. Does the occurrence of diversity of animals on earth suggest their diverse ancestry also? Discuss this point in the light of evolution.

70. Give the pair of contrasting traits of the following characters in pea plant and mention which is dominant and recessive (i) yellow seed (ii) round seed

71. Why did Mendel choose pea plant for his experiments?

72. A woman has only daughters. Analyse the situation genetically and provide a suitable explanation.

73. Does geographical isolation of individuals of a species lead to formation of a new species? Provide a suitable explanation.

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74. Bacteria have a simpler body plan when compared with human beings. Does it mean that human beings are more evolved than bacteria? Provide a suitable explanation.

75. All the human races like Africans, Asians, Europeans, Americans and others might have evolved from a common ancestor. Provide a few evidences in support of this view.

76. Differentiate between inherited and acquired characters. Give one example for each type.

77. Give reasons why acquired characters are not inherited.

78. Evolution has exhibited a greater stability of molecular structure when compared with morphological structures. Comment on the statement and justify your opinion.

79. Give the basic features of the mechanism of inheritance.

80. Give reasons for the appearance of new combinations of characters in the F2 progeny.

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ASSIGNMENT QUESTIONS SET – 1
CHAPTER – 15
OUR ENVIRONMENT

1. What percentage of sunlight is captured by plants to convert it into food energy?

(a) 1%

(b) 10%

(c) 50%

(d) more than 50%

2. Flow of energy in an ecosystem is always

(a) unidirectional

(b) bidirectional

(c) multidirectional

(d) none of these

3. Which of the following is non-biodegradable?

(a) Tea leaves

(b) Nylon

(c) remains of animals

(d) fleece of sheep

4. The structural and functional unit of the environment is known as:

(a) ecosystem

(b) biosphere

(c) food chain

(d) food web

5. Depletion of ozone layer is mainly due to

(a) Methane

(b) Carbon Dioxide

(c) ChloroFloroCarbons

(d) Nitrogen

6. First order consumers are:

(a) Carnivores

(b) Herbivores

(c) Decomposers

(d) Omnivores

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7. A detritus food chain begins with

(a) Carnivores

(b) Herbivores

(c) Omnivores

(d) Decomposers

8. In an ecosystem, the 10% of energy disposable for transfer from one trophic lcvel to next is in the form of

(a) heat energy

(b) chemical energy

(c) mechanical energy

(d) light energy

9. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as

(a) eutrophication

(b) pollution

(c) biomagnification

(d) accumulation

10. Which of the following is an abiotic component

(a) plants

(b) animals

(c) soil

(d) microorganisms

11. Which of the statement is incorrect?

(a) All green plants and blue green algae are producers

(b) Green plants get their food from organic compounds

(c) Producers prepare their own food from inorganic compounds

(d) Plants convert solar energy into chemical energy

12. Edaphic factors are included in

(a) Abiotic components

(b) Biotic components

(c) Producers

(d) Consumers

13. Only ____ % of the energy can be transferred from one trophic level to the next trophic level.

a) 1

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b) 5

c) 10

d) 20

14. Accumulation of non- biodegradable pesticides in different trophic levels is called

a) Biological degradation

b) Biological magnification

c) Biological concentration

d) Biological deposition

15. The UV radiation from the sun is likely to cause _____ in human.

a) Skin cancer

b) Lung cancer

c) Liver Cancer

d) Brain Cancer

16. World Environment day is celebrated on

a) July 1

b) July 5

c) June 1

d) June 5

17. Which one of the following is a non- biodegradable substance

a) DDT

b) Manure

c) paper

d) Cotton cloth

18. In a terrestrial ecosystem the biomass of _____ should be the most

a) Herbivore

b) Carnivore

c) Producer

d) Any one of the above

19. Identify the proper food chain

a) Grass ----- frog ---- insect ----- snake

b) Grass---- insect ----- frog ------ snake

c) Insect --- frog ---- grass ---- snake

d) Grass --- frog ---- snake ----- insect

20. Food web is

a) Food served through websites

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b) Display of different food items

c) Interlinked food chains

d) Using food items for a fashion dress

21. The best way to dispose waste is by

a) Making a paste of all domestic waste and putting them in a river

b) Separating biodegradable and nonbiodegradable waste before disposing in bins

c) Throw the waste on road side

d) Dumping all domestic waste in litter bin

22. Which of the following organism is likely to have maximum concentration of DDT : Algae, fish, water flea, frog, bird

23. What is the role of bacteria and fungi in an ecosystem?

24. What are trophic levels?

25. How much energy is transferred to the next trophic level in a food chain?

26. Which trophic level has the highest concentration of toxic substances in a food chain?

27. Mention some sources of CFC‘s.

28. Distinguish between a food chain & a food web

29. What would happen if there are no decomposers on earth?

30. What is a food chain? Write a five step food chain found in grass land with frog as one of the members. What will happen to organisms at different trophic levels if all the frogs are removed?

31. The number of malaria patients increased tremendously when a large number of frogs were exported from the village .What could be the cause for it? Explain with the help of a food chain.

32. What are the problems caused by the non-biodegradable wastes that we generate?

33. Food chains generally consist of only 3 or 4 trophic levels. Why is it so?

34. Observe the food chain Plant (1000 kJ) --- >Goat ---> Lion (a) If autographs occupying the first trophic level are called producers what are herbivores Called as? (b) How much energy does the lion get in the above food chain?

35. Vegetarian or non vegetarian food habit help us in getting more energy. Why?

36. How is ozone formed in the upper atmosphere? Why is the damage of ozone layer a cause of concern to us? State cause of this damage.

37. What is environment?

38. What happens when we add our waste to the environment or throw?

39. What are the different types of waste materials?

40. What happens after we throw waste away them away?

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41. Why are some substances biodegradable and some non-biodegradable?

42. What are the harmful effects of biodegradable substance?

43. What are the harmful effects of non- biodegradable substance?

44. Name some of the biodegradable plastics.

45. What are the differences between biodegradable and non-biodegradable wastes. What is Ecosystem? What are the different types of Ecosystem?

46. Why does aquarium have to be cleaned once in a while?

47. Do we have to clean ponds or lakes in the same manner of aquarium? Why or why not?

48. What are the different components of echo system?

49. What are trophic levels? Give an example of a food chain and state the different trophic levels in its.

50. What is the role of decomposers in the ecosystem?

51. What are the importances of decomposers?

52. What is a food chain?

53. What is food web?

54. Define the term 'biome'.

55. What are the significances of food Chains?

56. How do flows of energy occur in tropic level?

57. What are the characteristics of energy transfer in the biosphere?

58. Why is energy flow considered as undirectional?

59. What is biomass?

60. Define biomagnifications.

61. How does a food web an important factor of our environment? Describe its four benefits.

62. What is 10% Law?

63. How much energy will be available to hawks in the food chain comprising hawk, snake, paddy and mice, if 1,000 J of energy is available to wheat plants from the sun?

64. Differentiate between food chain and food web?

65. Why is damage to the ozone layer a cause of concern? What steps are being taken to limit this damage?

66. Which compounds are responsible for the depletion of ozone layer?

67. Which disease is caused in human being due to depletion of ozone layer in the atmosphere?

68. Why is ozone layer getting depleted at higher levels of the atmosphere?

69. How is ozone formed in the upper atmosphere? Which compounds are responsible for the depletion of ozone layer?

70. When is World Ozone Layer Preservation Day celebrated?

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71. What is green house effect?

72. Suggest activities in our daily life which are eco friendly.

73. How can you help in reducing the problem of waste disposal? Give any two methods.

74. What is the importance of phytoplankton?

75. Which pollutants are contributed by airplanes?

76. How is ozone layer formed in the atmosphere? What is the function of this layer?

77. Name any two biodegradable wastes.

78. Name any two non-biodegradable wastes.

79. Name two aquatic ecosystems.

80. Name two terrestial ecosystems.

81. Give two examples of Artificial ecosystems.

82. Which is the ultimate source of the energy for an ecosystem?

83. Name the category of organism which feed the energy into the ecosystems.

84. Give the scientific term for organisms which feed directly on plants.

85. How much of organic matter is available at each trophic level to reach the next level?

86. Name the type of organisms that occupy (i) the first trophic level and (ii) the second trophic level.

87. Define Biomagnification.

88. Expand UNEP.

89. Name the chemical mainly responsible for the damage of ozone layer.

90. Where are CFCs used?

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ASSIGNMENT QUESTIONS SET – 2
CHAPTER – 15
OUR ENVIRONMENT

1. Which one of the following is an artificial ecosystem?

(a) Pond

(b) Crop field

(c) Lake

(d) Forest

2. In a food chain, the third trophic level is always occupied by

(a) carnivores

(b) herbivores

(c) decomposers

(d) producers

3. An ecosystem includes

(a) all living organisms

(b) non-living objects

(c) both living organisms and non-living objects

(d) sometimes living organisms and sometimes non-living objects

4. In the given food chain, suppose the amount of energy at fourth trophic level is 5 kJ, what will be the energy available at the producer level?

Grass →□Grasshopper →□Frog →□Snake →□Hawk

(a) 5 k J

(b) 50 k J

(c) 500 k J

(d) 5000 k J

5. Accumulation of non-biodegradable pesticides in the food chain in increasing amount at each higher trophic level is known as

(a) eutrophication

(b) pollution

(c) biomagnification

(d) accumulation

6. Depletion of ozone is mainly due to

(a) chlorofluorocarbon compounds

(b) carbon monoxide

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(c) methane

(d) pesticides

7. Organisms which synthesise carbohydrates from inorganic compounds using radiant energy are called

(a) decomposers (b) producers

(c) herbivores (d) carnivores

8. In an ecosystem, the 10% of energy available for transfer from one trophic level to the next is in the form of

(a) heat energy (b) light energy

(c) chemical energy (d) mechanical energy

9. Organisms of a higher trophic level which feed on several types of organisms belonging to a lower trophic level constitute the

(a) food web (b) ecological pyramid

(c) ecosystem (d) food chain

10. Flow of energy in an ecosystem is always

(a) unidirectional (b) bidirectional

(c) multi directional (d) no specific direction

11. Excessive exposure of humans to U V-rays results in

(i) damage to immune system

(ii) damage to lungs

(iii) skin cancer

(iv) peptic ulcers

(a) (i) and (ii) (b) (ii) and (iv)

(c) (i) and (iii) (d) (iii) and (iv)

12. In the following groups of materials, which group (s) contains only non-biodegradable items?

(i) Wood, paper, leather

(ii) Polythene, detergent, PVC

(iii) Plastic, detergent, grass

(iv) Plastic, bakelite, DDT

(a) (iii) (b) (iv)

(c) (i) and (iii) (d) (ii) and (iv)

13. Which of the following limits the number of trophic levels in a food chain?

(a) Decrease in energy at higher trophic levels

(b) Dufficient food supply

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(c) Polluted air

(d) Water

14. Which of the statement is incorrect?

(a) All green plants and blue green algae are producers

(b) Green plants get their food from organic compounds

(c) Producers prepare their own food from inorganic compounds

(d) Plants convert solar energy into chemical energy

15. Which group of organisms are not constituents of a food chain?

(i) Grass, lion, rabbit, wolf

(ii) Plankton, man, fish, grasshopper

(iii) Wolf, grass, snake, tiger

(iv) Frog, snake, eagle, grass, grasshopper

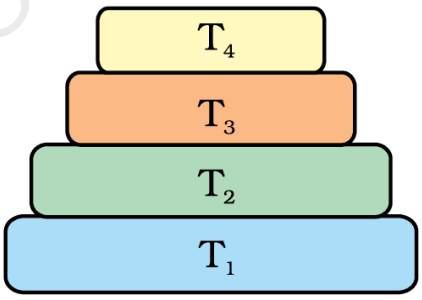
(a) (i) and (iii) (b) (iii) and (iv)

(c) (ii) and (iii) (d) (i) and (iv)

16. The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about

(a) 1 % (b) 5 % (c) 8 % (d) 10 %

17. In the given below Figure the various trophic levels are shown in a pyramid. At which trophic level is maximum energy available?



(a) T_4

(b) T_2

(c) T_1

(d) T_3

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18. What will happen if deer is missing in the food chain given below?

Grass → Deer → Tiger

(a) The population of tiger increases

(b) The population of grass decreases

(c) Tiger will start eating grass

(d) The population of tiger decreases and the population of grass increases

19. The decomposers in an ecosystem

(a) convert inorganic material, to simpler forms

(b) convert organic material to inorganic forms

(c) convert inorganic materials into organic compounds

(d) do not breakdown organic compounds

20. If a grass hopper is eaten by a frog, then the energy transfer will be from

(a) producer to decomposer

(b) producer to primary consumer

(c) primary consumer to secondary consumer

(d) secondary consumer to primary consumer

21. Disposable plastic plates should not be used because

(a) they are made of materials with light weight

(b) they are made of toxic materials

(c) they are made of biodegradable materials

(d) they are made of non-biodegradable materials

22. Why is improper disposal of waste a curse to environment?

23. Write the common food chain of a pond ecosystem.

24. What are the advantages of cloth bags over plastic bags during shopping?

25. Why are crop fields known as artificial ecosystems?

26. Differentiate between biodegradable and non-biodegradable substances. Cite examples.

27. Suggest one word for each of the following statements/ definitions

(a) The physical and biological world where we live in

(b) Each level of food chain where transfer of energy takes place

(c) The physical factors like temperature, rainfall, wind and soil of an ecosystem

(d) Organisms which depend on the producers either directly or indirectly for food

28. Explain the role of decomposers in the environment?

29. We do not clean ponds or lakes, but an aquarium needs to be cleaned. Why?

30. Indicate the flow of energy in an ecosystem. Why is it unidirectional? Justify.

31. What are decomposers? What will be the consequence of their absence in an ecosystem?

32. Suggest any four activities in daily life which are eco-friendly.

33. Give two differences between food chain and food web.

34. Name the wastes which are generated in your house daily. What measures would you take for their disposal?

35. Suggest suitable mechanism (s) for waste management in fertiliser industries.

36. What are the by-products of fertiliser industries? How do they affect the environment?

37. Explain some harmful effects of agricultural practices on the environment.

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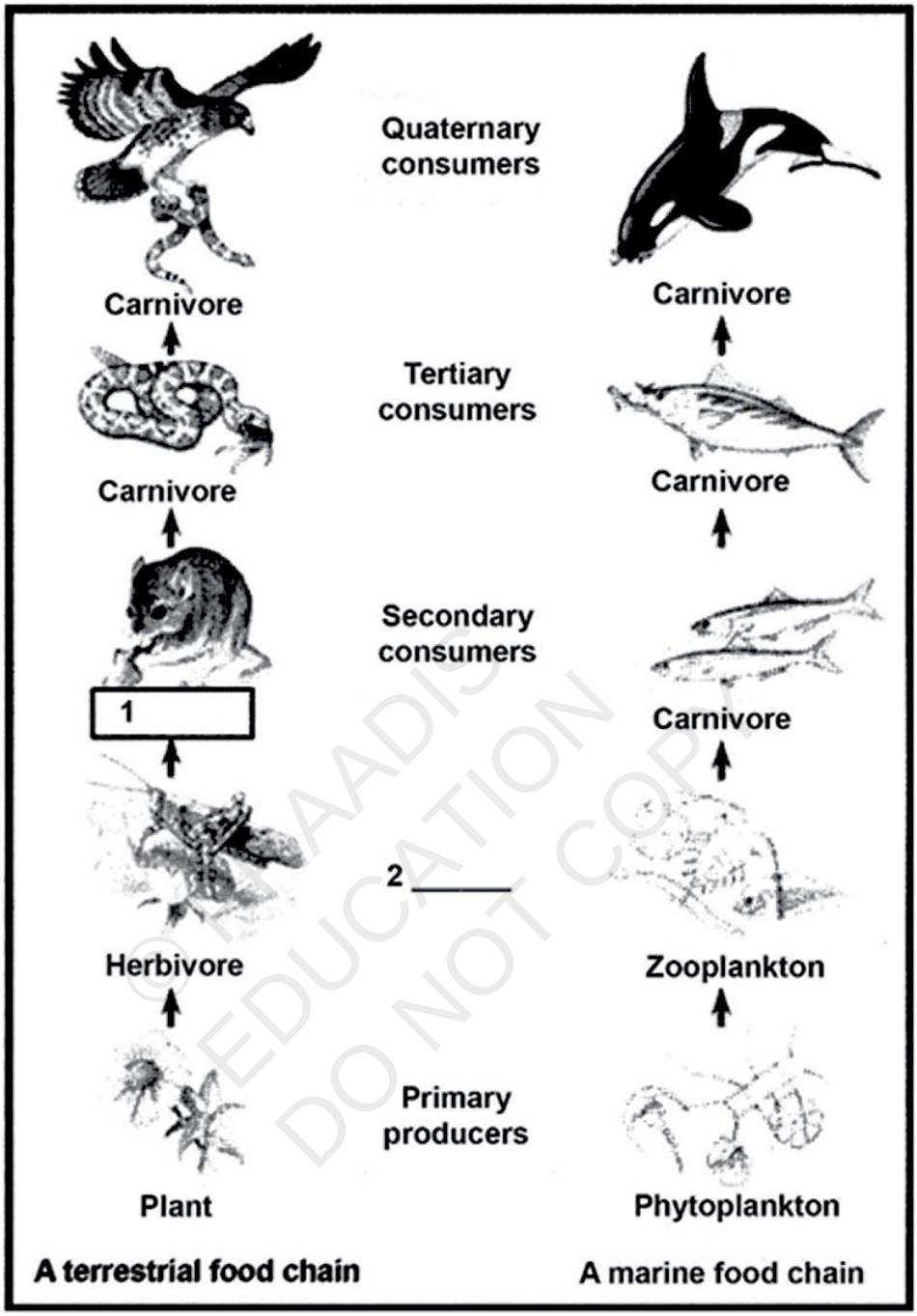
38. ACTIVITY BASED QUESTION: Given below is the pictorial representation of a terrestrial food chain and a marine chain. Observe them carefully and answer the questions given in the worksheet.



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- ☞ Fill in the blank in the terrestrial food chain (Blank no. 1). Why is the rat given this term?
- ☞ Can the rat come at a lower position in the terrestrial food chain? Give reasons for your answer.
- ☞ Fill up the blank no. 2. Write one common feature of all organisms that are placed at this level in a food chain.
- ☞ What will be the fate of this terrestrial food chain if all the rats were removed?

☞ Will the food chains be affected if the animals at the top carnivore level were removed? Give reasons for your answer.

39. Name four biotic and four abiotic components observed in this area.

40. Will this place be called a natural ecosystem or an artificial ecosystem? Give reasons for your answer.

41. List four producers and four consumers present in this area.

42. Construct one food chain that operates in this area. Identify the producers, primary consumers, secondary consumers and tertiary consumers (if any) in the food chain.

43. Write any two points of environmental concern that have arisen in the area due to human intervention.

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