BIOLOGY

BOOKS - NAVNEET PUBLICATION

CLASSIFICATION OF PLANTS

Examples

1. How living organisms have been classified?

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2. Which are the special cell organelles that differentiate plant cells from animal cells?

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3. Observe garden plants like Cycas, christmas tree, hibiscus, Lilly, etc. and compare them. Note the similarities and differences between them. Which differences did you notice between gymnosperms and angiosperms?

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Exercise

1. Complete the sentences and explain them:

(Angiosperms, gymnosperms, spores, bryophyta, thallophyta, zygote)

.....Plants have soft and fiber like body.

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2. Complete the sentences and explain them:

(Angiosperms, gymnosperms, spores,

bryophyta, thallophyta, zygote)

.....is called the 'amphibian' of the plant kingdom.

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3. Complete the sentences and explain them:

(Angiosperms, gymnosperms, spores, bryophyta, thallophyta, zygote)

In pteridophytes, asexual reproduction occurs by .....formation and sextual reproduction occurs by .....formation.

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4. Complete the sentences and explain them:

(Angiosperms, gymnosperms, spores, bryophyta, thallophyta, zygote)

Male and female flowers of .....are borne on different sporophylls of the same plant.

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5. Choose the correct alternative and write it along with its allotted alphabet:

Five kingdom classification was proposed by ..... .

A. Robert Whittaker

B. Eichler

C. Aristotle

D. Darwin

Answer: A

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6. Choose the correct alternative and write it along with its allotted alphabet:

Spirally arranged green thread like chloroplasts are characteristic feature Of ..... .

A. Funaria

B. Anthoceros

C. Spirogyra

D. Seloginella

Answer: C

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7. Choose the correct alternative and write it along with its allotted alphabet:

The following plant does not have specific tissues for conduction of food and water.

A. Maize

B. Pinus

C. Lycopodium

D. Marchantia

Answer: D

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8. Choose the correct alternative and write it along with its allotted alphabet:

Which of the following does not belong to Pteridophyta?

A. Nephrolepis

B. Anthoceros

C. Lycopodium

D. Selaginella

Answer: B

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9. Choose the correct alternative and write it along with its allotted alphabet:

Which one of the following does not have chlorophyll?

A. Yeasts and moulds

B. Algae and Pteridophyta

C. Gymnosperms and angiosperms

D. Dicots and monocots

Answer: A

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10. Choose the correct alternative and write it along with its allotted alphabet:

Thallophyta, Bryophyta and Pteridophyta and together called .....

A. Phanerogams

B. Cryptogams

C. Vascular plants

D. Angiosperms

Answer: B

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11. Choose the correct alternative and write it along with its allotted alphabet:

Dicotyledonous plants have ..... venation.

A. Parallel

B. Reticulate

C. Both Parallel and reticulate

D. None of the above

Answer: B

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12. Choose the correct alternative and write it along with its allotted alphabet:

Trimerous flowers are seen in ..... plants.

A. Gymnosperm

B. Pteridophyes

C. Dicotyledonous

D. Monocotyledonous

Answer: D

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13. State whether the following statements are true or false:

For studying the living organisms, Robert

whittaker has proposed two kingdom classification.

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14. State whether the following statements are true or false:

Autotrophic living organisms having eukaryotic cells with cell walls are known as plants.

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15. State whether the following statements are true or false:

Plants belonging to the group Thallophyta are known as amphibious plants.

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16. State whether the following statements are true or false:

The number of cotyledons is taken into consideration in classifying the Angiosperm plants.

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17. State whether the following statements are true or false:

In filaments of Spirogyra there are green spiral shaped mitochonderia.

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18. Match the proper terms from columns A and C with the description in Column B:

A	B	C
(1) Thallophyta	Seeds are formed in fruits	Fern
(2) Bryophyta	No natural covering on seeds	Cycas
(3) Pteridophyta	These plants mainly grow in water	Tamarind
(4) Gymnosperms	These plants need water for reproduction	Moss
(5) Angiosperms	Tissues are present for conduction of water and food	Algae

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19. Distinguish between the following:

Thallphyta and Bryophyta.

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20. Distinguish between the following:

Gymnosperms and Angiosperms.

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21. Distinguish between the following:

Monocot and Dicot.

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22. classify the following plants into Thallophyta, Bryophyta, Pteridophyta, Gymnosperm, Monocotyledons and Dicotyledons (HOTS):

Maize, Mustard, Christmas tree, Riccia, Nephrolepis, Spirogyra, Moss (Funaria), Cycas, Ulva, Pteris, Anthoceros, Adiantum, Thuja, Bean, Marsilea, Tamarind, Equisetum, Coconut, Pinus, Sargassum, Wheat. Selaginella, Marchantia, Ulothrix, Lycopodium, Mango.

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23. Find the odd one out and give reason:

Riccia, Marsilea, Funaria, Marchantia.

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24. Find the odd one out and give reason:

Pteris, Adiantum, Sargassum, Equisetum.

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25. Find the odd one out and give reason:

Bamboo, Banana, Onion, Bean.

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26. Find the correlation between the first. given pair and rewrite the answer :

Kingdom 'Plantae : Autotrophic : : Kingdom Fungi : .....

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27. Find the correlation between the first. given pair and rewrite the answer :

Protista : Eukaryotic : : Monera : .....

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28. Find the correlation between the first. given pair and rewrite the answer :

Asexual reproduction in ferns: Spore formation : : Sexual reproduction in ferns : .....

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29. Find the correlation between the first. given pair and rewrite the answer :

Spore formation : Cryptogams : : Seed formation : .....

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30. Find the correlation between the first. given pair and rewrite the answer :

Dicotyledonous plants : Pentamerous flower : :

Monocotyledonous plants : .....

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31. Complete the paragraph by choosing the words given in the bracket :

(rhizoids, spore, water, thalloid, amphibians, conduction)

Bryophyta is the group of plants known as‘.....' of the plant kingdom because they grow in moist soil but need ..... for

reproduction. These plants are ..... multicellular and autotrophic. They reproduce by ..... formation. The structure of the plant body of bryophytes is flat, ribbon-like long. They have stem-like or leaf-like parts and root-like vases They do not have specific tissues for ..... of food and water.

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32. Give scientific reasons:

Flowers are called reproductive organs.

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33. Give scientific reasons:

Maize is called monocotyledonous plant.

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34. Which criteria are used for classification of organisms ?

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35. Answer the following questions:

Sketch , label and describe Spirogyra.

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36. Answer the following questions:

Write the characteristics of the plants belonging to the division Bryophyta.

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37. Answer the following questions:

Write the paragraph in your own words about the ornamental plants called ferns.

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38. Answer the following questions:

Write the characteristics of subkingdom phanerogams.

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39. Differentiate between monocots and dicots.

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40. Answer the following questions:

Sketch and label the figures of the following and explain them in brief.

Marchantia

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41. Answer the following questions:

Sketch and label the figures of the following and explain them in brief.

Funaria

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42. Answer the following questions:

Sketch and label the figures of the following and explain them in brief.

Fern

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43. Answer the following questions:

Sketch , label and describe Spirogyra.

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44. Answer the following questions:

What is the similarity between the plants of the groups, Thallophyta, Bryophyta and Pteridophyta irrespective of differences in their body structure. (Use your brain power)

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45. Paragraph based questions :

Read the following paragraph and answer, the questions based on it.

The presence or absence of organs is the first criterion for classification of plants. The presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification. Do the plants bear seeds? If they do then, whether the seeds are enclosed in a fruit or

not is also an important criterion for classification. Finally, plants are grouped depending upon the number of cotyledons in the seeds. In 1883, Eichler, a botanist, classified the Kingdom Plantae into two sub-kingdoms. As a result, two sub-kingdoms, cryptogams and phanerogams were considered for plant classification.

Which criteria are taken into account while classifying the lower groups of the plants?

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46. Paragraph based questions :

Read the following paragraph and answer, the questions based on it.

The presence or absence of organs is the first, criterion for classification of plants. The presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification. Do the plants bear seeds? If they do then, whether the seeds are enclosed in a fruit or not is also an important criterion for classification. Finally, plants are grouped depending upon the number of cotyledons in

the seeds. In 1883, Eichler, a botanist, classified the Kingdom Plantae into two sub-kingdoms. As a result, two sub-kingdoms, cryptogams and phanerogams were considered for plant classification.

What are the groups of plants classified according to the number of cotyledons?

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47. Paragraph based questions :

Read the following paragraph and answer, the

questions based on it.

The presence or absence of organs is the first, criterion for classification of plants. The presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification. Do the plants bear seeds? If they do then, whether the seeds are enclosed in a fruit or not is also an important criterion for classification. Finally, plants are grouped depending upon the number of cotyledons in the seeds. In 1883, Eichler, a botanist, classified the Kingdom Plantae into two sub-kingdoms.

As a result, two sub-kingdoms, cryptogams and phanerogams were considered for plant classification.

What are the two groups based on the criteria of whether the seeds are enclosed in a fruit or not?

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48. Paragraph based questions :

Read the following paragraph and answer, the questions based on it.

The presence or absence of organs is the first, criterion for classification of plants. The presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification. Do the plants bear seeds? If they do then, whether the seeds are enclosed in a fruit or not is also an important criterion for classification. Finally, plants are grouped depending upon the number of cotyledons in the seeds. In 1883, Eichler, a botanist, classified the Kingdom Plantae into two sub-kingdoms. As a result, two sub-kingdoms, cryptogams

and phanerogams were considered for plant classification.

Who classified the plants? In what groups did he classify the plant kingdom?

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49. Paragraph based questions :

Read the following paragraph and answer, the questions based on it.

The presence or absence of organs is the first, criterion for classification of plants. The

presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification. Do the plants bear seeds? If they do then, whether the seeds are enclosed in a fruit or not is also an important criterion for classification. Finally, plants are grouped depending upon the number of cotyledons in the seeds. In 1883, Eichler, a botanist, classified the Kingdom Plantae into two sub-kingdoms. As a result, two sub-kingdoms, cryptogams and phanerogams were considered for plant classification.

What are the two groups based on the criteria of whether the seeds are enclosed in a fruit or not?

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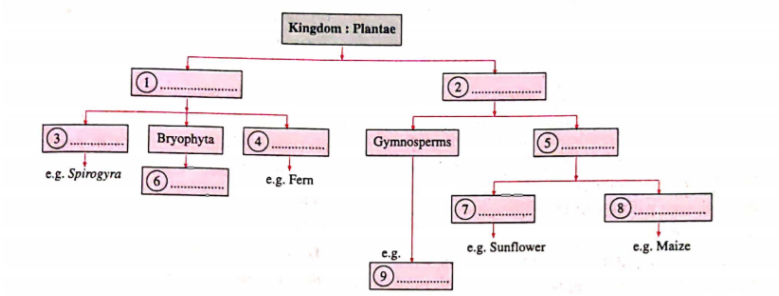
50. Complete the following flow chart:



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51. Draw a conceptual diagram about 5 kingdom classification system given by Robert Whittaker:

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