

1. FOOD COMPONENTS

1. We get food from plants and animals.
2. Food supplies the energy to do work
3. The substances which are required for the growth and development of the body are called “Nutrients”
4. Nutrients can be divided into two types :-
 - I. Macro Nutrients : Carbohydrates, Proteins, Lipids/Fats.
 - II. Micro Nutrients : Vitamins and Minerals.
5. The procurement of Nutrients is called “Nutrition”
6. The nutrients which are requested in larger amounts for the body are called “Macro nutrients”
7. The Nutrients which are required in smaller amounts for the body are called “Micro nutrients”
8. The substance which are required for making foods are called “Ingredients”
9. Elaichi, lavang, dalchini, biryani leaves, pepper etc are called “Condiments” which gives taste and fragrance to the food
10. Cashew nuts, almonds, kismis and dates etc are called dry fruits.
11. There are five components in the food :
 1. Carbohydrates, 2. Proteins, 3. Lipids/Fats, 4. Vitamins, 5. Minerals.
12. Energy giving foods :- Carbohydrates and Lipids
13. Body building foods :- Proteins
14. Bulk forming foods :- Fibres

Roughages (or) Dietary Fibres :-

15. Roughages are a kind of carbohydrates.
16. They help in free bowel movement in the digestive tract
17. They can prevent “Constipation”
18. Bran, Wheat, Potato, Pumpkins, Palak, Apples, Banana, Papaya and Beans are the sources of “Roughges”
19. The peel of the fruits and vegetables contains fibres, which helps in digestion.
20. We must wash fruits and vegetables with salt water thoroughly before eating.
21. Foods taken adequately :- Cereals, Pulses, Milk etc
Used in plenty :- Fruits, leafy vegetables and vegetables.
Used moderately :- Oils and animal foods.
Used sparingly :- Vanaspathi, Ghee, Butter, Cheese.

Water :-

22. Water is also a type of food. We should drink sufficient water.
23. Water helps the food to move easily in the digestive tract.
24. It regulates the body's Temperature.
25. Water is necessary for all the biological activities.
26. Fruits contains water : Apples, Papaya and Melons etc.
27. Vegetables contains water : - Potato, Kheera, Tomato and Gourds etc.

Tests for food components : -**28. Test for starch/carbohydrates : -**

When we add some drops of dilute Iodine Solution to the given food sample, If the substance turns dark blue or black it contains starch.

29. Preparation of dilute Iodine solution : -

Take a beaker and add few drops of Iodine solution to it. Then add water till it becomes light yellow/brown

30. Test for Fats : -

Take a food sample, and rub it gently on a piece of white paper. If the paper turns translucent the substance contains fats.

Test for proteins : -

31. i. We should take the food sample in the form of powder or take some food powder in a test tube and add 10 drops of water to it and stir well.

ii. Take 10 drops of this solution in a clean test tube.

iii. Then add 2 drops of 2% copper sulphate solution and 10 drops of 10% sodium hydroxide solution to it, and shake well.

Change of colour to violet or purple confirms the presence of proteins.

Junk Foods : -

32. i. Junk means discarded or useless or little value.

ii. Junk food means, the food that is high in calories but low in nutritional values.

iii. Junk food examples : Pizza, Burger, Noodles and Tacos etc.

iv. Junk food causes damages to our digestive system.

Balanced diet : -

33. The food that contains all the nutrients required for the body is called “balanced diet”

34. Nutrients are lost by over cooking, Re-heating many times and washing vegetables after cutting into pieces.

35. Food habits of the people depends upon climatic conditions and culture of the particular place.

36. The way of cooking and eating food also reflects the cultural practice of the people

37. We eat rice as a daily food

38. North Indians eat chapathies as a daily food, because wheat is grown widely in that region.

39. The art of making designs with vegetables is called “Vegetable carving”

40. The art of making designs with fruits is called “Fruit carving”

41. We need energy while sleeping also because heart beats, breathing and blood circulation etc goes on even in sleeping

42. The founder of modern science of nutrition - “Lavoisier” (French)

43. “James Lind” discovered “Scurvy” disease could be cured by eating fresh fruits and vegetables in the year 1752.

44. In 19th century it was known that the body obtains three substances namely carbohydrates, proteins and fats from the food.

BITS

1. Which is not good to be healthy ()
1. Dry fruits 2. Junk foods 3. Fibres 4. Salads
2. Which can you take to prevent constipation ()
1. Junk food 2. Cake 3. Fibres 4. Oil foods
3. Which is used to test starch ()
1. Copper sulphate 2. Iodine 3. Water 4. Lime water
4. Find out add one ()
1. Apple 2. Sapota 3. Dates 4. Muskmelon
5. Find out correct ()
A. Water is also a type of food
B. Roughages prevent constipation
1. A 2. B 3. A and B 4. None
6. Paper translucent test can be confirm this ()
1. Carbohydrates 2. Proteins 3. Fats 4. Vitamins
7. The founder of modern science of nutrition ()
1. Lavoisier 2. James Lind 3. Aristotle 4. Helmont
8. Energy requested activities while sleeping ()
1. Heart beat 2. Respiration 3. Blood circulation 4. All
9. The component present in the foods like oils and ghee ()
1. Carbohydrates 2. Proteins 3. Fats 4. None
10. The chemicals used to test proteins ()
1. Sodium sulphate 2. Copper sulphate
3. Sodium hydroxide 4. 2 and 3
11. Find out add one ()
1. Chicken 2. Mutton 3. Carrot 4. Eggs
12. Food habits of the people depends on ()
1. Climate 2. Culture 3. Customs 4. All
13. Which is used to test proteins ()
A. 2% Copper sulphate B. 5% Sodium carbonate
C. 10% Sodium hydroxide
1. A and B 2. B and C 3. A and C 4. ABC
14. Junk foods causes damages to our System ()
1. Respiratory 2. Digestive 3. Nervous 4. Excretory
15. The disease could be cured by eating fresh fruits ()
1. Scurvy 2. Malaria 3. Dengue 4. Cold
16. The Scientist Lavoisier belongs to ()
1. America 2. India 3. French 4. Japan
17. Put a drop of me on a cut potato. It turns blue. Who am I ()
1. Iodine 2. Red Ink 3. Alcohol 4. None
18. Find odd one out ()
1. Carbohydrates 2. Proteins 3. Vitamins 4. Fats

19. The crop grown in larger in the North India ()
1. Wheat 2. Rice 3. Cotton 4. Sugar Cane
20. X - Oils and Animal foods should be used in plenty.
Y - body building foods are proteins. Find correct one ()
1. X 2. Y 3. X Y 4. None

KEY FOR FOOD COMPONENTS

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) 2 | 2) 3 | 3) 2 | 4) 3 | 5) 3 |
| 6) 3 | 7) 1 | 8) 4 | 9) 3 | 10) 4 |
| 11) 3 | 12) 4 | 13) 3 | 14) 2 | 15) 1 |
| 16) 3 | 17) 1 | 18) 3 | 19) 1 | 20) 2 |

2. ANIMAL FIBRE

1. We get fibres from plants and animals.
 2. **Plant fibres :** - Cotton, Jute, Aloe vera, Gongora and Coconut etc.
 3. **Animal fibres :** - Silk, Wool
 4. We get wool from sheep, Goat, Camel, Yak, Lama, Alpaca etc.
SILK :
 5. Silk moth look like a butterfly
 6. Generally silk moths are called as “Chilakalu”
 7. A female moth lays around 500 eggs in one go and dies
 8. Generally the eggs of silkmoth are called as “Seeds”
 9. These eggs are allowed to hatch over mats of chopped mulberry. Leaves to get small worms.
 10. We get silk worms (Larva) from the hatched eggs.
 11. Silkworms eat mulberry leaves day and night.
 12. Silkworms (Caterpillars) stops eating after 30 - 35 days
 13. When they grow bigger in size, transfer the worms into big sized cane frames called “Chandrikalu”
 14. Silk worm settles at a particular place in the cane frames.
 15. Then it moves its mouth from side to side and secretes fibre - like substance.
 16. The net is woven completely to cover the body of the caterpillar. This seems to be a closed sack. This is called cocoon (Pattukayalu)
 17. The larva of silkmoth undergoes changes in the cocoon to change into a moth, after 2 - 3 weeks, and come out of the cocoon and fly away. As a result thread will broken into small pieces.
 18. So, within 2 - 3 days of formation of cocoon, we start removing them from the cane frames.
 19. The killing of larva inside the cocoon by a process is called “Stiffling”, by boiling in hot water for about 10 - 15 minutes.
 20. Stiffling helps us to store the cocoons for a long time, and it become easy to remove thread from the cocoon.
 21. The process of obtaining silk fibre from cocoon is called “reeling”. It is done with special machines called as reelers and twistors.
 22. After reeling, the yarn is cleaned, bleached and coloured.
 23. Then the yarn is ready to be woven into a variety of clothes on looms. This is called as weaving or “Knitting”
- Order to make silk fabric : -**
24. Silkmoth - eggs - silkworms - mulberry leaves - chandrikalu - cocoon - stiffling - reeling - knitting.
 - i. We get 1000 - 3000 feet thread from a cocoon
 - ii. Nearly 2000 - 3000 cocoons are required to make 500 grams of silk.
(500 grams is equal to 1 pound)
 - iii. People those working in the silk industry, suffer from skin and respiratory problems.

25. The rearing of silk worms for obtaining silk is called "Sericulture"
26. Silk city of Andhra Pradesh : - Dharmavaram
27. Dharmavaram is famous for its wide border and rich butas.
28. **Types of Silk** : - Mulberry, Tasar, Mooga, Kosa and eri silk
29. **Types of Silk Fabrics** : - Banaras, Kanchipuram, Dharmavaram, Narayanpet, Kothakota, Pochampally, Venkatagiri, Mangalagiri etc.
30. **Reeling Centres** : - Nandikotkur, Hindupur, Dharmavaram, Madanapalli
31. The Selling centres of the silk products is called "Grinages". The famous grinages is located at "Horsely Hills" in Chittoor District.
32. Tasar silk is also known as "Desalipattu", which grow on oak tree. Mostly tribal people rear these kind of cocoons.
33. Silk fibre is made up of two types of proteins called Sirisine & Fibroin
34. Silk is used to make other products like satin and crepe by adding some chemicals to the silk.
35. **Life cycle of silkworm has 4 stages** : -
Egg - Larva - Pupa - Imago
36. In East India silk is called as "pat"
37. Venkatagiri and Dharmavaram pattu are famous types produced by our state (A.P)
38. Venkatagiri pattu is also called as "Tie and Die" or "Jamadani Pattu"
i. The scientific name of silkworm is "Bombyx Mori"
ii. **Story of Wool** : -
39. We get wool from the animals like Sheep, Goat, Yak, Lama, Camel, Alpaca etc.
40. The hair of animals is also called as wool or fleece or fur
41. The protein present in the wool is "Alpha Kerotene".
42. Good quality wool is obtained from Merino Sheep.
43. A Merino Sheep may yield about 5 - 18 Kg of wool per year.
44. Angora Goat, Merino Sheep have soft hair.
45. Camels have rough and coarse hair.
46. During spring season fleece of sheep is removed from its body by using razors. To prevent damage to skin "Grease" is used
47. The removal of hair or fleece from the skin of sheep is called "shearing"
48. The cleaning of fleece with a stream of water is called "Scouring"
49. The separation of unwanted materials from the fleece is called "Sorting" or "Wool Classing".
50. The removal of unwanted colors from the fleece is called "Bleaching"
51. The bleached fleece can be applied colours is called "Dyeing"
52. The combing of coloured fleece by using comb is called "Carding".
53. The making of thread by using wool is called "Spinning"
54. The process of making cloths by using woolen threads is called "Knitting"
55. Wool is used to make a varieties of cloths like sweateres, mufflers, hats, long coats, table covers etc.

56. The process obtaining wool fabric from the wool : -
 Shearing Note : Carding /Combing
 Scouring Sorting / Wool classing
 Sorting
 Bleaching Knitting / Weaving
 Dyeing
 Carding
 Spinning Knitting
57. Handlooms, and powerlooms are used to make woollen clothes
58. The “vertical” threads in the loom is called “Warp” threads.
59. The “Horizontal” threads in the loom is called “Weft” threads.
 i. A “Shuttle” like big needle takes the weft threads over and under warp threads.
60. The “Harness” lifts every warp thread so that the weft threads go over one and under the next.
61. Wool is a poor conductor of heat. It prevents the loss of heat from the body
62. Woollen clothes also helps to douse fire.
63. The leaders of wool production are Australia and china.
64. Cotton is made of a carbohydrate like “Cellulose”.
65. Silk is made of proteins “Sirisine & Fibroin”
66. Wool is made of a protein called “Alpha Carotene”

BITS

1. Find out correct order ()
 A. Imago B. Larva C. Egg D. Pupa
 1. C D B A 2. A B C D 3. D C B A 4. C B D A
2. The substances secreted by silk worm is made of ()
 1. Sorosome 2. Fibroin
 3. Sirisine & Fibroin 4. None
3. Clothes like satin and crepe are made with ()
 1. Woollen clothes 2. Cotton clothes
 3. Silk and chemicals 4. Only silkd
4. Find out incorrect ()
 1. Wool is a poor conductor of Heat 2. We wear woollen clothes in winter.
 3. We wear cotton clothes in summer 4. Wool is made up of cellulose.
5. The vertical threads in the loom are called ()
 1. Warp threads 2. Weft threads 3. Shuttle 4. Harness
6. The country that is used silk first ()
 1. India 2. Japan 3. Russia 4. China
7. Which is called as “Girijana Pattu” ()
 1. Mulberry 2. Tasar 3. Kosa 4. Mooga
8. Silk moths are also called as ()
 1. Butterfly 2. Chilakalu 3. Chandrikalu 4. None
9. Which is called as Jamadani Pattu ()
 1. Venkatagiri 2. Dharmavaram 3. Guntur 4. Mangalagiri

10. Find out correct order ()
 A. Cocoon B. Reeling C. Stiffling D. Knitting
 1. A B C D 2. A C B D 3. B A D C 4. C A B D
11. Find odd one out ()
 1. Cotton 2. Jute 3. Wool 4. Coconut
12. The process that helps to store cocoons long time ()
 1. Shearing 2. Stiffling 3. Reeling 4. Weaving
13. Which is not used for obtaining wool ()
 1. Sheep 2. Goat 3. Elephant 4. Alpaca
14. Find out first stage in wool production ()
 1. Sorting 2. Shearing 3. Heaching 4. Spinnign
15. Egg - Larva -? Imago ()
 1. Silkworm 2. Pupa 3. Ovum 4. Chilaka
16. The famous “Grinages” located in ()
 1. Kadapa 2. Kurnool 3. Chittor 4. Guntur
17. The sheep that gives good quality wool ()
 1. Merino 2. Angora 3. Mule 4. Madeena
18. The leaders of wool production ()
 1. Australia 2. China 3. 1 and 2 4. None
19. What we call the animal hair ()
 1. Wool 2. Fleece 3. Fur 4. All
20. The process of decolouration of wool is called ()
 1. Scovring 2. Bleaching 3. Carding 4. Sorting

KEY FOR ANIMAL FIBRE

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) 4 | 2) 3 | 3) 3 | 4) 4 | 5) 1 |
| 6) 4 | 7) 2 | 8) 2 | 9) 1 | 10) 2 |
| 11) 3 | 12) 2 | 13) 3 | 14) 2 | 15) 2 |
| 16) 3 | 17) 1 | 18) 3 | 19) 4 | 20) 2 |

3. WEATHER AND CLIMATE

1. The state of the atmosphere with respect to heat or cold, wetness or dryness, calm or storm, clearness or cloudiness is called as “Weather”
2. Weather concepts includes Temperature, Rainfall, Sky may be, Wind, Humidity, Sunrise and sunset.
3. Weather concepts can changes continuously
4. Weather changes always in a particular place.
5. The average weather pattern taken over a long period of time (25 Years) is called “climate” of that place.
6. **Weather affects our life** : we adjust to the climate to live comfortably .
7. The report that explains future conditions is called as “Weather forecast”
8. The report that explains about past conditions is called as “Weather report”
9. Maximum and Minimum thermometer (MMT) is used to measure highest and lowest temperatures of a place at once.
10. MMT is discovered by the scienist called - “SIX”
11. “Rain gauge” is used to measure Rain fall
 - i. Rain gauge is also called as udometer or pulvinometer of Ombrometer.
12. Rainfall is measured in centimeters or millimeters.
13. The moving air is called as wind
14. “Anemometer” is used to measure wind speed and wind direction
15. The quantity of water vapour (moisture) in air is “Humidity”
16. The water present in the seas and rivers turns into water vapour by sunlight
17. The weather is humid, near a river or in coastal regions during summer season.
18. Vijayawada is more humid than Madanapally
19. The Indian Meteoroligical Department (IMD) studies the climate of our country
20. Climate affects our daily life.
21. We wear cotton clothes in summer, woolen clothes in winter.
22. Farmers celebrate crop festivals like “Eruvaka” during rainy season.
23. Kurnool district is affected with floods in the year 2010.
24. Tsunami occured in Andaman Nicobar Islands in the year 2008.
25. **The natural indications about Tsunami : 2 types : -**
 - I. Water may recede from the sea coast
 - II. Birds make noise differently

26. **Weather symbols :**



Sunny Weather



Sunny Weather with cloud



Sky is cloudy



Rain fall



Heavy Rain Fall



Sky is cloudy with thunder

BITS

1. The moving air is called as ()
 1. Weather 2. Wind 3. Cyclon 4. Breeze
2. The water changes into water vapour is called as ()
 1. Evaporation 2. Condensation 3. Density 4. Solidification
3. Which is used to measure wind speed ()
 1. Thermometer 2. Anemometer 3. Parameter 4. Speedometer
4. The moisture present in the air is ()
 1. Ayanam 2. Temperature 3. Humidity 4. Pressure
5. An average weather pattern taken over a long period of time is ()
 1. Temperature 2. Environment 3. Density 4. Climate
6. Many areas of Kurnool were flooded in the year ()
 1. 2005 2. 2010 3. 2012 4. 2016
7. Which is used to measure rainfall ()
 1. Udometer 2. Pulvinometer 3. Ombrometer 4. All
8. Rain gauge is also called as ()
 1. Udometer 2. Pulvinometer 3. Ombrometer 4. All
9. Who discovered MMT ()
 1. Seven 2. Galileo 3. Six 4. None
10. Rainfall is expressed in ()
 1. Centimeter 2. Millimeter 3. 1 and 2 4. None
11. Who studies about the climate of our country ()
 1. MID 2. DMI 3. IMD 4. MDS

12. "An Asteroid is going to hit the Earth in the year 2024" the above sentence belongs to ()

1. Weather programme

2. Weather process

3. Weather Report

4. Weather forecast

KEY FOR WEATHER AND CLIMATE

1) 2

2) 1

3) 2

4) 3

5) 4

6) 2

7) 4

8) 4

9) 3

10) 3

11) 3

12) 4

4. NUTRITION IN PLANTS

Aristotle : -

1. plants could produce everything from what they took from the soil
2. We believed what Aristotle had said over 2000 Years ago.

Jan Batista Von Helmont : - (Belgium) : -

3. He did experiments on a willow tree for 5 years.
4. He conducted an experiment by using willow tree in the year 1648
5. He concluded that, the substances needed for the growth of a plant do not comes from the soil only, and it gets from the water also.

Stephen Hales : -

6. He described that, the leaves as the organs of transpiration
7. The loss of excess water from the plant body is called transpiration
8. He said that plants exchange gases with their surrounding air.
9. He was the first, to point out a possible role of light in plant nutrition

Priestley : -

10. What animals were doing to the air was being reversed by plants.
11. Animals were making the air impure, plants were making it pure

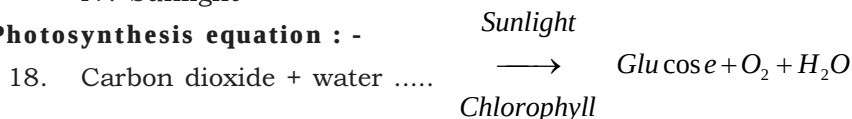
Ingenhouz : -

12. He found that only the green parts of plants when exposed to sunlight could carry photosynthesis and making the air pure.

Photosynthesis : -

13. The process making food materials like glucose, starch and others by the green plants, by using carbon dioxide from the atmosphere, and water from the soil is called photo synthesis.
14. Plants make their own food by the process of photo synthesis. Thats why plants are called as “Autotrophs”
15. The green substances in the leaves is called “Chlorophyll” which is essential for th photosynthesis.
16. Farmers sprinkle “Urea” in rice or wheat fields whenever the leaves turn yellow.
17. An essential factors for photosynthesis : - 4 types : -
 - I. Carbon dioxide (CO₂)
 - II. Water (H₂O)
 - III. Chlorophyll
 - IV. Sunlight

Photosynthesis equation : -



19. Note : - The substances needed for the growth of a plant do not come from the soil and water only, and it gets from the air also.

Exchange of air in plants : -

20. The leaves have tiny holes called stomata, through which the exchange of air takes place continuously
21. In some plants the exchange of air takes place through the “Lenticels” which are present on the bark of plant.
22. Plants get water from the soil through their roots.
23. Roots help the plant, to fix the plant to the soil.
24. Roots absorb water and minerals which are dissolved in water

Photosynthesis and light :-

25. We can prove that light is necessary for photosynthesis by doing “black paper experiment”
26. Chain rose or Mandarin plant is suitable for this experiment. Which having broader leaves.
27. To test starch in the leaves, first we must remove the chlorophyll from the leaves. For this leaves are boiled for some time in alcohol or hot water.
28. Iodine solution is used to test starch in the leaves.
29. When Iodine solution is put on a leaf, it should turn blue, if starch is present
30. Plants produce sugar first, which is converted to starch and then other compounds as well. But plants need other nutrient elements to do this.
31. The main nutrients needed are nitrogen, potassium and phosphorus, which are called as “Macro nutrients”
- Plants require many other nutrients, but in minute quantities. Hence they are called as “Micronutrients”

Other modes of nutrition in plants : -

32. Cuscuta plant has neither leaves nor chlorophyll. It can carry out photosynthesis and make its own food.
33. It twines around the stem, branches and leaves of the other trees by yellow thread like structures.
34. Cuscuta takes food from the plant on which it is climbing
35. This parasitic plant develops special roots called “Haustoria”
36. Haustoria penetrate into the tissues of the host plant and absorb food materials for them.
37. Cuscuta depends on other plants for food. This type of nutrition is called Heterotrophic nutrition, and the plant is called as parasitic plant.

Saprophytic plants : -

38. There is no chlorophyll in the saprophytes.
39. They grow on dead and decaying matter and absorb organic material.
- Ex : Fungi and mushrooms

40. Fungi grows on decaying foods like bread, pickles etc.
41. Mushrooms growing from the ground like umbrella after rains.

Insectivorous plants : -

42. These plants grow in areas deficient in nitrogen. Hence they meet their nitrogen requirements from insects.
43. These are also called as carnivorous plants. Ex : Drosera, Utricularia, Venusfly trap, and Nepenthes plant.
44. These plants manufacture their own food but also obtain a part of their nutrition from insects.

Symbiosis : -

45. The dal family (legume) plants have nodules in their roots.
Ex : black gram, green gram, Red gram and beans. etc
46. A type of bacteria called Rhizobium growing in these nodules.
47. The bacteria fixes nitrogen for the plant while the plant gives shelter to the bacteria.
48. Such an association is beneficial to both and called "Symbiosis"

Lichens : -

49. The Algae and fungi living together in a symbiotic manner. These colonies are known as lichens.
50. Algae provides food for the fungi
51. Fungi protects the algae from intense light and drying up.

Herbarium : -

52. The process of preservation of plant parts like leaves, flowers or whole plant is known as Herbarium. Plant scientists collect those plants where they are available and preserved.
53. The preserved plants are also helpful for the future studies.

BITS

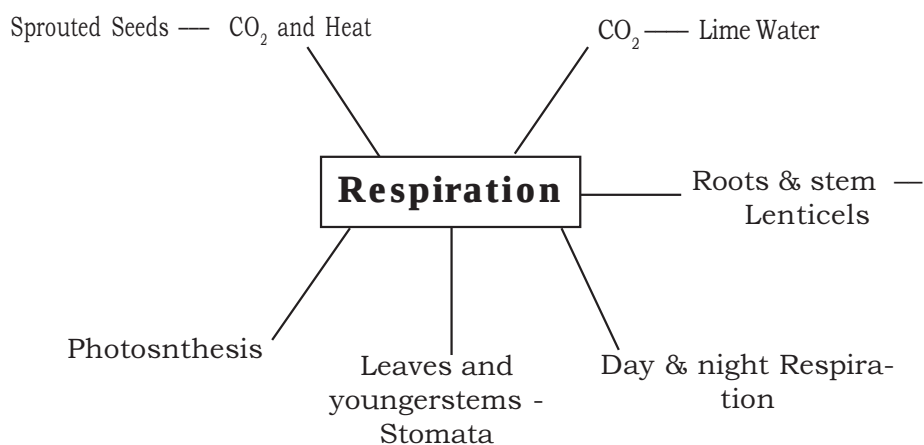
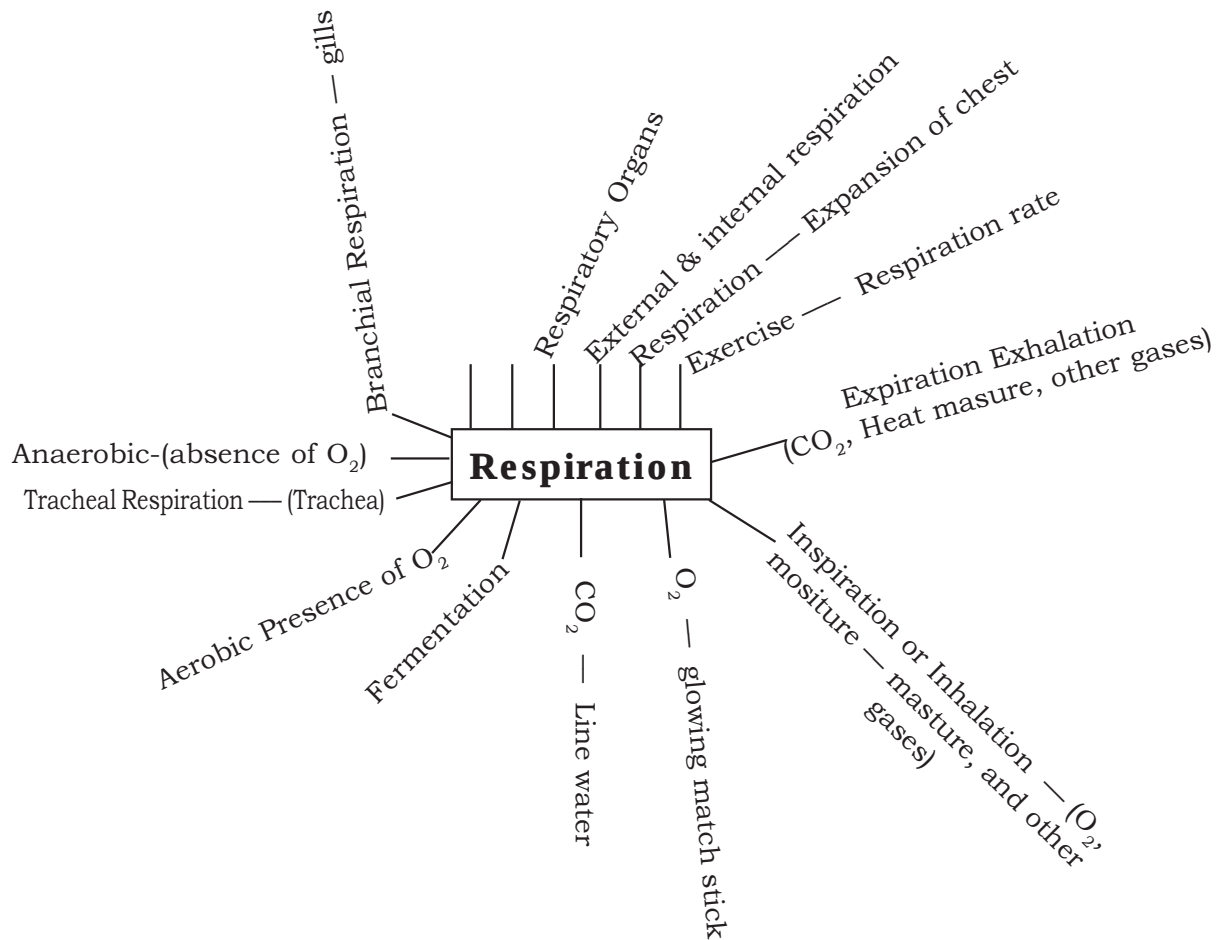
1. Find out incorrect pair ()
 1. Cuscuta - Saprophytic plant
 2. Drosera - Insectivorous plant
 3. Lichens - Symbiosis
 4. Legumes - Root nodules
2. An example for parasitic plant ()
 1. Tomato
 2. Beans
 3. Cuscuta
 4. None
3. Haustoria means ()
 1. Stem
 2. Root
 3. Leaf
 4. Bud
4. Why the mushrooms are called as plants, which having no chlorophyll ()
 - A. It has stem like structure
 - B. It has an umbrella like structure
 - C. It collects organic substance from the soil
 - D. It doesn't depend on others
 1. A and B
 2. C and D
 3. A and C
 4. A and D
5. Which is not necessary for photosynthesis ()
 1. Water
 2. Carbon dioxide
 3. Oxygen
 4. Sunlight

6. Find odd one out ()
1. Nepenthes 2. Utricularia 3. Drosera 4. Valisneria
7. The mode of nutrition in the lichens ()
1. Parasitic 2. Auto trophic 3. Symbiotic 4. None
8. Which of the following nutrient is provided to the plant by the bacteria present in the root nodules ()
1. Nitrogen 2. Potassium 3. Phosphorus 4. Iron
9. The fungi that is used as food ()
1. Aspergillus 2. Agaricus 3. Rhizopus 4. Penicillium
10. Who said "plants were making the air pure" ()
1. Helmont 2. Priestly 3. Aristotle 4. Stephen Hales
11. Which is called as "food factory" of the plant ()
1. Stem 2. Root 3. Leaf 4. Flower
12. Which does not belong to macro nutrient ()
1. Potassium 2. Nitrogen 3. Magnesium 4. Phosphorus
13. Which is used to remove the chlorophyll from the leaves ()
1. Hydrogen 2. Alcohol 3. Kerosene 4. Mercury
14. Lenticels present on which part of the plant ()
1. Stem 2. Root 3. Leaf 4. None
15. Who said, "Green plants" could make the air pure, when exposed to the sunlight only" ()
1. Priestly 2. Ingenhousz 3. Aristotle 4. Helmont
16. Who did experiments on the willow tree ()
1. Aristotle 2. Von Helmont 3. Newton 4. Addison
17. The water changes into water vapour through leaves is called ()
1. Transpiration 2. Evaporation 3. Preservation 4. Solidification
18. An example for saprophytic plants ()
1. Fungi 2. Mushrooms 3. 1 and 2 4. None
19. Whenever the leaves turn yellow, farmers use this for a crop ()
1. Ailanthus 2. Urea 3. Urine 4. Ammonium
20. The process of preservation of the plant parts is ()
1. Terrarium 2. Vivarium 3. Aquarium 4. Herbarium

KEY FOR FOOD NUTRITION IN PLANTS

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) 1 | 2) 3 | 3) 2 | 4) 2 | 5) 3 |
| 6) 4 | 7) 3 | 8) 1 | 9) 2 | 10) 2 |
| 11) 3 | 12) 3 | 13) 2 | 14) 1 | 15) 2 |
| 16) 2 | 17) 1 | 18) 3 | 19) 2 | 20) 4 |

5. RESPIRATION IN ORGANISMS



Respiratory organs	Type of Respiration	Animals
1 Lungs	Pulmonary	Mammals, Birds, Reptiles and Amphibians
2 Gills	Branchial	Fishes, Crabs, Tadpole Larva of Frog
3 Skin	Cutaneous	Earthworm, Leech, Amphibians
4 Trachea	Tracheal	Insects (Cockroach)

1. The process by which air goes in and out of our body is called Breathing.
2. The term Respiration derived from latin word respire meaning to breathe.
3. Food provide energy for all body activities only after breakdown through respiration.
4. The process of breathing in air is called Inspiration.
5. The process of breathing out air is called Expiration.
6. The number of times we breath in and out air in a minute is called respiration rate
7. We began to plant after running (or) exercising so do exercise and running affect the rate of breathe.
8. The air we breathe in fills our lungs and expansion the chest.
9. During inspiration the volume of thoracic cavity chest cavity increases so the volume of the lungs also increases and decreases the internal pressure in lungs as such air from out side enters the lungs.
10. During expiration the volume of thoracic cavity/chest cavity decreases. So the volume of the lungs also decreases and increases the internal pressure in lungs as such air from lungs goes out.
11. How much air in your breath is proved through measuring cylinder experiment
12. Exhale air from your nose is warm because respiration produced a some amount of energy in the form of heat.
13. The air from the syringe is cool because of syringe was a non-living does not take place Respiration.
14. Moisture in our breath can be proved through mirror experiment.
15. The body of the organisms are little warm because of Respiration.
16. The first step towards trying to find out what air contained was carried out by von Helment
17. The weight of ash to be much less as compared to charcoal. Von Helment concluded that decrease in mass was due to formation of an invisible substance which he named "gas"
18. In the year 1756 Joseph Black found that when lime stone is heated (or) reacted with acids it gives to a gas which he called fixed air.

19. In those days carbon dioxide was known as fixed air (or) chalky acid air.
20. Joseph Black observed that lime water turned milky white when CO_2 gas was passed through it.
21. Joseph Priestley published "Experiments and observations on different kinds of air"
22. Joseph Priestley first to prove the different qualities of the gases released by plants (O_2) and one's by animals Inhaled (O_2)
23. Priestley proved that a candle burned out in a closed container when he added a living sprig of mint to the container the candle would continue to burn. Because of candle burned CO_2 released and that air used by mint plant for photosynthesis and released O_2 for burning of candle.
24. Lavoisier called oxygen for the first time in plants released air and animals utilized air.
25. Oxygen is a Greek term that means acid former.
26. In atmosphere approximately CO_2 0.03%, O_2 21 % in atmosphere.
27. Oxygen is also called as vitiated air

S.No.	Gases	Inhaled air (ml)	Exhaled air (ml)
1	Oxygen	210	165
2	Carbon dioxide	0.4	40
3	Nitrogen and other gases	790	795

28. The air we Inhaled in does not contained only oxygen. It is a mixture of many gases.
29. The air we exhaled out does not contained only carbon dioxide. It is a mixture of many gases.
30. Larynx containing vocal cords. When air passes (exhaled) out of the lungs and over the vocal cords. It causes them to vibrate. This produces sounds on the basis of our speech, song etc.
31. The gaseous exchange takes place in between respiratory organ and blood is called as external respiration.
32. Which organ they help to respiration is called as respiratory organs.
33. Development of respiratory organs depends on habitats in which different they live, Body size. Availability of water and the type of their circulatory system.
34. Single celled organisms Amoeba obtain oxygen and expel carbon dioxide directly from the body by the process of diffusion.
35. Some aquatic animals like fishes have developed special organs for respiration which are known as gills (or) bronchiae. It absorbs the oxygen that is dissolved in water.
36. Gills also a respiratory organs in Tadpole Larva of frog.

37. Frogs have 3 types of respiratory organs. They are Gills in tadpole Larva stage of frog and respiratory organs like skin and lungs in both Land and water after tadpole Larva stage.
38. Frogs makes burrows in both summer months and winter months to survive. Frogs shows Aestivation / summer sleep and Hibernation/winter sleep.
39. Insects have adopted a different type of respiratory system called tracheal system.
40. Tracheal system has tube like tracheae which open out through spiracles.
41. Spiracles are pores on the sides of the body of cockroach.
42. Blood in several insects colourless because of lacking of haemoglobin. So insects have adopted a different type of tracheal system.
43. Tracheae which carry air directly to the cells in the tissues.
44. In earthworms skin is the only organ for respiration it belongs to Annelids.
45. In plant gaseous exchange take place with the help of stomata on surface of leaves and younger stems and lenticels present on the surface of roots and stems.
46. In plants day time shows both photosynthesis and respiration but photosynthesis is more in day time and respiration is more at night time. So generally do not sleep under plants during night time.
47. Compared to dry seeds with sprouted seeds shows more respiration and produced more heat and CO_2
48. Photosynthesis is an example of process of anabolic process.
49. Respiration is an example of catabolic process
50. Respiration take place within the cell is called as cellular respiration.
51. During cellular respiration mainly involed cell organelle is Mitochondria. It is also called as "Power house of the cell"

BITS

1. Which life process is involved in energy released from digested food ()
A. Digestive system B. Excretion C. Respiration D. Nerves system
2. Haemoglobin present in blood transport the ()
A. Food B. Oxygen C. Carbon dioxide D. B and C
3. Blood transports which type of substances ()
A. Food B. Oxygen C. Carbon dioxide D. B and C
4. Which of the following is a amphibians animal ()
A. Leech B. Earthworm C. Frog D. Cockroach
5. Which of the following organism shows a cutaneous respiration ()
A. Cockroach B. Salamanders C. Crabs D. Parrots
6. Heart is made up to three chambers and Respire through gills in larva stage and adult respire through both skin and lungs. ()
A. Leech B. Crabs C. Frog D. Earthworm

7. In refrigerator keeping vegetables are not spoiled early because of ()
 A. Respiratory enzymes are less worked in microorganisms.
 B. Enzymes are in active in cool atmosphere
 C. A and B
 D. None of the above
8. I have two chambers heart lives in water and what are my respiratory organ ()
 A. Trachea B. Lungs C. Gills D. Skin
9. What are the respiratory organ in Reptiles ()
 A. Skin B. Gills C. Lungs D. Trachee
10. In humans respiration through lungs is called as ()
 A. Pulmonary respiration B. Cutaneous respiration
 C. Branchial respiration D. Tracheal respiration
11. Development of respiratory organs depends on ()
 A. Body size B. Habitat and availbitlitive of water
 C. Circulatory system D. All the above
12. Assertion : cockroach trachea is a respiratory organ. ()
 Reason : lacking of haemoglobin in insects blood
 A. A and R are true and R is the correct explanation of A
 B. A and R are true and R is not the correct explanation of A
 C. A is true R is false
 D. A is false R is true.
13. What are the end products of respiration ()
 A. Energy B. Heat C. Carbon dioxide
 D. All the above
14. Assertion : Photosynthesis and Respiration both are inter depend ()
 Reason : CO_2 is released from respiration and it is utilized for photosynthesis and O_2 is released from photosynthesis and it is utilized for respiration.
 A. A and R are true and R is the correct explantaion of A
 B. A and R are true and R is not the correct explanation of A
 C. A is true R is false
 D. A is false R is true
15. During respiration which life process is used for transport of gases ()
 A. Digestive system B. Photosynthesis
 C. Circulatory system D. Excretion
16. Which gas can be changed in a little during inhalation and exhalation ()
 A. O_2 B. CO_2 C. N_2 D. All the above
17. In which of the following respiration does not occurs ()
 A. All plants B. All animals C. Bocteria D. Non-living organisms
18. What is the respiratory organ in frog at burrows ()
 A. Lungs B. Skin C. Both aandb D. None of the above

19. Who write "Experiments and observations on different kinds of air" ()
 A. Joseph Black B. Von Helment
 C. Joseph priestly D. Lavoiser

20. Matching

Group - A

- A. Yeast ()
 B. Diaphragm ()
 C. Skin ()
 D. Leaves ()
 E. Fishes ()
 F. Frogs ()

Group - B

1. Earth worm
 2. Gills
 3. Alcohol
 4. Chest cavity
 5. Stomata
 6. Lungs and skin
 7. Trachea

1. A - 1 B - 3 C - 7 D - 5 E - 6 F - 2 2. A - 2 B - 6 C - 7 D - 4 E - 5 F - 1
 3. A - 3 B - 7 C - 1 D - 2 E - 4 F - 5 4. A - 3 B - 4 C - 1 D - 5 E - 2 F - 6

21. Matching

Group - A

1. Von Helment ()
 2. Joseph Black ()
 3. Joseph Priestly ()
 4. Lavoiser ()

Group - B

- A. Naming of oxygen
 B. CO₂
 C. Fixed air
 D. Oxygen

1. 1 - A 2 - C 3 - B 4 - D 2. 1 - B 2 - D 3 - A 4 - D
 3. 1 - C 2 - A 3 - B 4 - D 4. 1 - B 2 - C 3 - D 4 - A

22. Matching

Group - A

1. Fishes ()
 2. Frog ()
 3. Earthworm ()
 4. Insects ()
 5. Monkey ()

Group - B

- A. Lungs
 B. Skin
 C. Skin and Lungs
 D. Trachea
 E. Gills
 F. Blood

1. 1 - A 2 - C 3 - B 4 - D 5 - E 2. 1 - C 2 - D 3 - B 4 - C 5 - A
 3. 1 - D 2 - A 3 - B 4 - C 5 - E 4. 1 - E 2 - C 3 - B 4 - D 5 - A

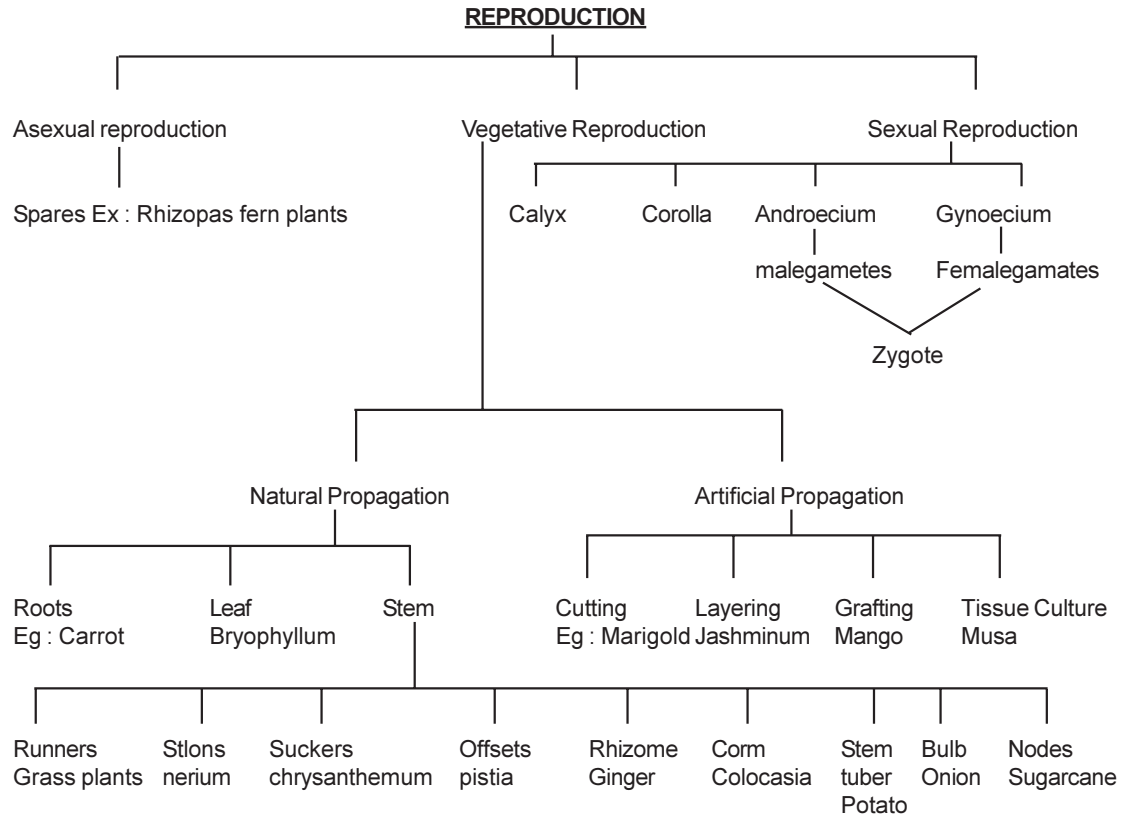
23. Which of the following is different from others ()
 A. Gills B. Trachea C. Skin D. Lenticel
 24. Which of the following is different from others ()
 A. Root hairs B. Lenticels C. Stomata D. Lungs
 25. Terrestrial organisms Lungs : Aquatic organisms ()
 A. Trachea B. Skin C. Gills D. Lenticels

26. The breakdown of Glucose and released energy. This process is called as ()
 A. Digestion B. Photosynthesis
 C. Circulatory system D. Respiration
27. Gaseous exchange take place in humans ()
 A. Between alveolus and blood capillaries
 B. Broches and Broochioles
 C. Pharynx and Larynx D. Nostrils and nasal cavity
28. The structural and functional unit of lungs are called as ()
 A. Borches B. Brochioles C. Alveolus D. None of the above
29. Why after strenous exercise we feel pain in legs ()
 A. CO₂ B. Lactic acid C. Alcohol D. Water
30. In humans blood transport ()
 A. Oxygen B. Wastes C. Food D. All the above

KEY FOR RESPIRATION IN ORGANISMS

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) C | 2) D | 3) D | 4) C | 5) B |
| 6) C | 7) C | 8) C | 9) C | 10) A |
| 11) D | 12) A | 13) D | 14) A | 15) C |
| 16) C | 17) D | 18) B | 19) C | 20) 4 |
| 21) 4 | 22) 4 | 23) D | 24) D | 25) C |
| 26) D | 27) A | 28) C | 29) B | 30) D |

6. REPRODUCTION IN PLANTS



NATURAL VEGETATIVE PROPAGATION

S.No.	Vegetative Part	Examples
1.	Root	Dahlia, Raphanus, Carrot, Turnip, Sweet Potato
2.	Stem Runners	Grassplant, Hydrocotyle
3.	Stolons	Nerium, Jasminum, Rose
4.	Suckers	Chrysanthemum, Mentha, Strawberry
5.	Offsets	Pistia, Eichornia
6.	Rhizome	Ginger, Musa, Turmeric
7.	Corn	Amarphophallus, Colocasia
8.	Stem tuber	Potato
9.	Bulb	onion, Garlic, Lilies, Gladioli
10.	Leaf Leaves	Bryophyllum, Scilla begonia

ARTIFICIAL VEGETATIVE PROPAGATION

S.No.	Vegetative Method	Examples
1.	Cutting	Marigold, Rose, Hibiscus
2.	Layering	Jasminum, Nerium
3.	Grafting (Stock, Scion)	Mango, Citrus, Apple, Rose
4.	Tissue culture	Plant tissues (musa)

PARTS OF FLOWER

S.No.	Flower Part	Function
1.	Calyx	It is the first whorl of the flower and protection to the flower during bud condition.
2.	Corolla	It is a second whorl of the flower and coloured and attractive the attracting insects for pollination.
3.	Androecium	It is the third whorl of the flower. It is male reproduction organ.
4.	Gynoecium/Pistil	Fourth whorl of the flower. It is the female reproduction organ.

Main Points :

- * Flower is a sexual reproduction part in plants.
- * Flower is a modified and condensed shoot.
- * Flower is attached to the stem with the help of pedicel (or) stalk of the flower.
- * Stalk (or) pedicel slightly swollen head it is called as Thalamus/Torus.
- * Thalamus is the seat on which the parts of a flower are present.
- * In general floral leaves are arranged in four whorls.

- * Calyx is the first and outermost whorl of the flower and is made of sepals. Normally sepals are green coloured.
- * They provide protection to the flower during bud condition.
- * Corolla is the second whorl of the flower and consists of petals. Petals are coloured and attractive. They help in cross pollination indirectly by attracting the insects.
- * Calyx and corolla are called as non-essential organs.
- * Calyx and corolla are also together known as the perianth.
- * Androecium is the third whorl of the flower and outer whorl of the essential organs. It containing stamens.
- * The stamens are male reproductive organs. They are also called microsporangia.
- * Each stamen has two main parts 1. Filament and 2. Anther
- * Pollen grains are produced from Anther.
- * Pollen grains develops into male gametophyte and produced male gametes for sexual reproduction.
- * Pollen grains are haploid(n) unicellular and uninucleate. So developing male gametes also in haploid (n) state.
- * All the stamens presents in the flower together called as Androecium.
- * The study of pollen grains/microspores are called as palynology.
- * Gynoecium (or) pistil is the fourth and inner most whorl of the flower. It is the female reproductive organ and it composed of carpels.
- * Gynoecium consists of three parts such as the basal swollen portion called the ovary, a middle elongated portion called the style, and apical portion known as stigma.
- * Stigma receives pollen grains at the time of pollination. The pollen grains germinate on the stigma with the help of sugar like substances.
- * The pollen tube moves through the style and reaches the ovule.
- * Ovules develop in the ovary.
- * Androecium and gynoecium are called as “Essential organs” because, they are means for reproduction.
- * Haploid (n) megaspores develop inside the ovule and it develops the haploid female gametophyte (or) embryo sac.
- * A flower that has four (or) more whorls at least one each of calyx, corolla, androecium and gynoecium is called as a complete flower. Eg : Datura, Hibiscus, Ipomoea.
- * A flower in which any of these four whorls is missing is called a Incomplete flower. Eg : Cucumber, papaya,
- * No different between calyx and corolla both are in similar colour. They are called as perianth eg : Lilies onion, Aloe.

- * In Tridax, Marigold, Sunflower flowers are looks like a single flower. But it is actually abunch of flowers.
- * The small flowers in the bunch are called florets. florets are two types :- 1. Disc florets, 2. Ray florets.
- * The florets in the centre are called disc florests. disc florets are bisexual flowes.
- * The flowers along the rim are called ray florets, ray florets are unisexual female flowers.
- * All the complete flowers are bisexual flowers.
- * But all bisexual flowers are not a complete flowers.
- * A flower which has either stamens (Androecium) or pistil (gyneocium) is called unisexual flower.
- * Androecium containing flowers are called as male flowers/staminate flowers.
- * Gynoecium containing flowers are called as female flowers/pistilate flower.
- * Both male and female flowers are borne on single plant or two separate plants.
- * When male and female flowers are borne on the same plant /single plant. The condition is called as monoecious.
eg : Cocos, maize, cucumber, bottle gourd, bitter gourd.
- * When male and female flowers are borne on different plants. This condition is called as Dioecious. Eg : Borassus, Papaya, Vallsneria
- * All the unisexual flowers are incomplete flowers.
- * All incomplete flowers are not a unisexual flowers. Eg : Euphoria and poinsettia.
- * A flower that has both stamens and pistil called as a Bisexual flowers. Eg : Datura, Hibiscus, Ipomoea
- * A ball like structures are present in ovary is called as ovules.
- * Ovules develops from a cushion like part of the ovary is called placenta.
- * After fertilization ovules are converted into seeds and ovary converted into the fruit.
- * Ovules and ovary converted into seeds and fruit. It is necessary required for pollination and fusion of male and female gametes.
- * The transfer of pollen grains from the Anthers to Stigma of the same flower (or) Stigma of the another flower is called as pollination.
- * Pollination is calssified into two types.
1. Self pollination/autogamy 2. Cross pollination/ allogamy
- * The transfer of pollen grains from the anthers to stigma of the same flower is called self pollination (or) autogamy.
- * The transfer of pollen grains from the anthers of the one flower to the stigma of another flower of the same species it is called as cross pollination or allogamy.
- * Pollen grains of one flower fall on the stigma of another flower present on the same plant it is called as Geitogamy.

- * Pollen grains of one flower reach the stigma of another flower of another plant belonging to the same species it is called as xerogamy.
- * Who carry the pollen grains from another to stigma is called as pollinating agents.
- * Air, water, animals, insects, humans act as agents of pollination.
- * The enormous use of pesticides kills the natural pollinating insects. It effects on pollination and reduced crop yield.
- * The fusion of male and female gametes is called as fertilization and forms a diploid zygote (2n)
- * Formation of male and female gametes and fusion to forms zygote is called as sexual reproduction.
- * Seeds formed through sexual reproduction and it transfer from one place to another with the help of water air, birds, humans.
- * Production of new plants from vegetative parts of plants like root, stem and leaf is known as vegetative reproduction.
- * Production of new plants without formation of gametes and fusion and zygote formation is called as asexual reproduction.
- * Vegetative propagation helps to maintain fixed qualities and characteristic features of the parent plant.
- * Vegetative propagation is to produce a large scale of plants in a short time.
- * Roots contains root buds/Radicle buds and leaf contains epiphyllous buds and stem contains apical and Axillary buds. They helped in vegetative propagation.
- * Yeast is a type of plant (fungi) it grows with the help of a small bulb like out growth which increases in size and breaks off from the parent plant to live independently this process of reproduction in yeast is called as budding.
- * Rhizopus (bread mould) is a example of fungi and it produced a large number of spores is a type of Asexual reproduction and also it shows fragmentation.
- * Pencillin is produced from a mould (fungi) and it can destroy many kinds of diseases causing bacteria. So it is a best example of antibiotic.

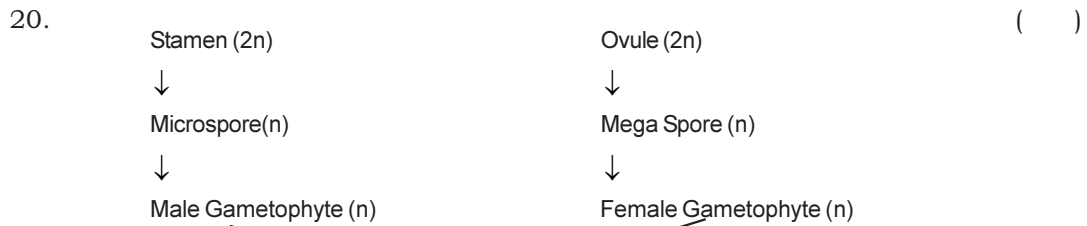
BITS

1. The first cell formed from the fusion of male and female gametes is known as ()
a. pollengrain b. embryo c. ovule d. zygote
2. The result of sexual reproduction cannot show the following ()
a. Re combination of genetic material b. Production of new character in the offspring
c. Production of identical offspring
d. Occurance of reduction division before gamete formation.
3. Which of the following plant cannot be vegetatively reproduced through a stem ()
a. Ginger b. Turmeric c. Carrot d. Potato

4. Farmers are pollinating sunflowers by rubbing with clothes. What is the reason for this ()
 a. Excess using of chemical manures b. Excess using of organic manures
 c. Excess using of pesticides d. Excess wetting of soil
5. Which of the following is correct order ? ()
 a. Fertilization → Pollination → Zygote → seed
 b. Pollination → fertilization → seed → Zygote
 c. Pollination → Fertilization → zygote → seed
 d. Zygote → Pollination → seed → fertilization
6. Which of the following statement is not correct ()
 a. complete flowers contain four whorls
 b. Unisexual flowers are incomplete flowers
 c. Cucumber flower is a complete flower
 d. China rose is a complete flower
7. In which flowers floral parts are arranged in three whorls ()
 a. male flower b. female flower c. Bisexual flower d. A and B
8. which of the following is a example of bulbs ()
 a. onion b. Garlic c. Lillies d. All the above
9. In which of the following floral whorls floral parts are arranged in a single ()
 a. 1st whorl b. 2nd whorl c. 3rd whorl d. 4th whorl
10. In which of the following plants stem creeps/suckers along the ground and stripes
 a. Mint b. Strawberry ()
 c. Chrysanthemum d. All the above
11. A. Vegetative reproduction is equal to asexual reproduction ()
 R. Involved single parent and no fusion of gametes
 1. A and R are true and R is the correct explanation to A
 2. A and R are true and R is the not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true
12. A. The flower is a modified reproductive shoot ()
 R. Floral leafs produced from nodes and internodes of the flower
 1. A and R are true and R is the correct explanation to A
 2. A and R are true and R is the not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true
13. Which of the following plants produced spores asexually ()
 a. Rose b. Fungi c. Fern plant d. Both B and C
14. What are the edible part in apple ()
 a. Ovule b. Ovary c. Thalamus d. None of the above

MATCHING

15. 1. Cutting () a. Jasminum
 2. Layering () b. Mango
 3. Grafting () c. Hibiscus
 4. Vegetative propagation () d. Potato
 1. 1-a, 2-c, 3-b, 4-d 2. 1-b, 2-a, 3-c, 4-d
 3. 1-c, 2-b, 3-a, 4-d 4. 1-c, 2-a, 3-b, 4-d
16. 1. Potato () a. spores
 2. Bryophyllum () b. Budding
 3. Yeast () c. Epiphyllous buds
 4. Breadmould () d. Eyes
 1. 1-a, 2-b, 3-d, 4-c 2. 1-b, 2-a, 3-c, 4-d
 3. 1-d, 2-c, 3-b, 4-a 4. 1-c, 2-d, 3-a, 4-b
17. After fertilization ovules : seeds, Ovary :..... ()
 a. Falldown b. No change c. Fruit d. All the above
18. 1. Pollination () a. Fusion of male and female gametes
 2. Self Pollination () b. Transfer of pollen grain to stigma.
 3. Cross Pollination () c. Transfer of pollen grains to stigma
 of same flower
 4. Fertilization () d. Transfer of pollengrains to stigma
 of another flower
 A. 1-a, 2-b, 3-c, 4-d 2. 1-b, 2-c, 3-d, 4-a
 3. 1-c, 2-d, 3-a, 4-b 4. 1-d, 2-a, 3-b, 4-c
19. 1. Unisexual flowers () a. Androecium
 2. Bisexual flowers () b. Gynoecium
 3. Incomplete flowers () c. Four whorls
 4. Complete flowers () d. Three whorls
 5. Male flowers () e. Both and roecium and gynoecium
 6. Female flower () f. Androecium (or) Gynoecium
 A. 1-a, 2-c, 3-b, 4-d, 5-f, 6-e 2. 1-b, 2-a, 3-c, 4-d, 5-e, 6-f
 3. 1-f, 2-e, 3-d, 4-c, 5-a, 6-b 4. 1-c, 2-d, 3-a, 4-b, 5-c, 6-f



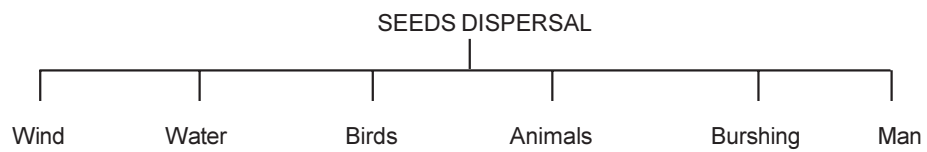
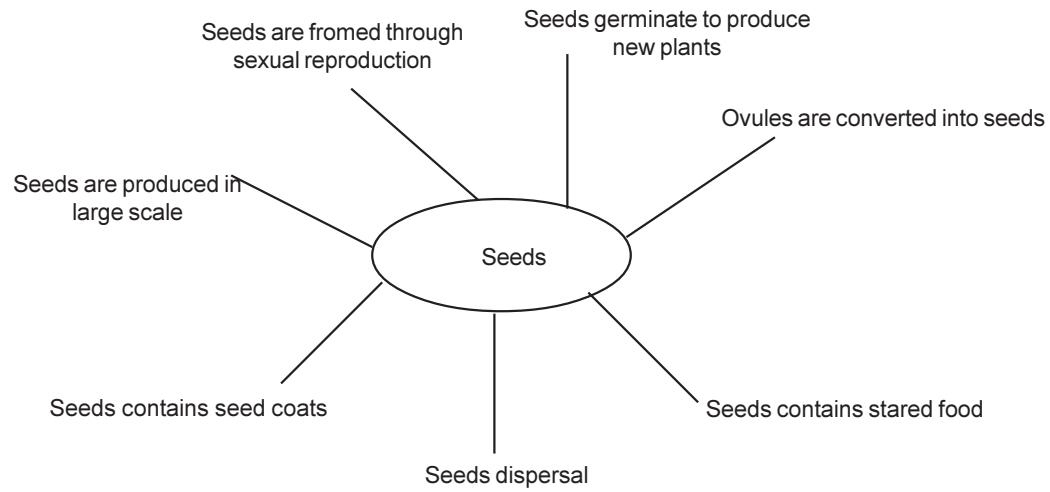
- a. zygote, 2n b. Mitosis ? c. Meiosis d. None of the above
21. Which one of the following is different from others ()
a. Eyes b. Spores c. Gametes d. Buds
22. Which of the following is different from others ()
a. Onion b. Garlic c. Betroot d. Potato
23. Which of the following is different from others ()
a. Hibiscus b. Datura c. Ipomea d. Bottle gourd
24. Which of the following is different from others ()
a. Marigold b. Chrysanthemum c. Sunflower d. Hibiscus
25. Single flower pollination is.. ()
a. Autogamy b. Allogamy c. Geitonogamy d. Xenogamy
26. Pollination take place in between two different plants of same species is called as ()
a. Geitonogamy b. Xenogamy c. Cleistogamy d. Chasmogamy
27. Geitonogamy does not take place in ()
a. Borassus b. Maize c. Cucumber d. Bitter gourd
28. In a flower the modified leaves are ()
a. Calyx and corolla b. Stamens
c. Carples d. All the above
29. A. Members of the third and fourth whorls of a complete flower are called “Essentail organs” ()
R. They are meant for reproduction
1. A and R are true and R is the correct explanation to A
 2. A and R are true and R is the not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true
30. Which of the following statement is not correct ()
a. Gametes are formed in sexual reproduction
b. Gametes are not formed in sexual reproduction
c. Asexually reproduction plants cannot shows sexual reproduction
e. Involving single parent in Asexual reproduction

31. Which of the following is a root modification ()
a. Carrot b. Raphanus c. Turnip d. All the above

KEY FOR REPRODUCTION IN PLANTS

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) D | 2) C | 3) C | 4) C | 5) C |
| 6) D | 7) D | 8) D | 9) D | 10) A |
| 11) A | 12) D | 13) C | 14) D | 15) D |
| 16) C | 17) C | 18) B | 19) C | 20) A |
| 21) C | 22) C | 23) D | 24) D | 25) A |
| 26) B | 27) A | 28) D | 29) A | 30) C |
| 31) D | | | | |

7. SEEDS DISPERSAL



Type of seed dispersed	Characters	Examples
1. Through wind	seeds are usually light small wings, some hairy structures (or) Feather like structure minutewith inflated covering	Calotropis or chids seeds milk weeds, Dandelion, maple, tridax, drumstick (moringa)
2. Through animals	Hooks, Thorns, hairy parts	Grass plants, tribulus Telukondi kaya (martinia)
3. Through water	usually light, outer covering of the seed has empty spaces filled with air and some are fibrous with airspaces	coconut, lotus, pistia eichhornia, Vallisneria
4. Through birds	Fleshy fruits, warm like structure in nature	Neem, Castar, (Rcinus) Ficus benghalensis Ficus Religiosa, Fig fruits
5. Through humans	Attractive coloured ornamental plants, useful fruits, vegetables Imports and exports	Tomato, Cauliflower, guava, pear, cucumber, watermelon sugarcane, wheat, maize, paddy, pulses
6. Through bursting	Capsule (or) pod dry fruits	Bhendi mustard, pea, green Gram, red gram, black gram, beans, Kankambaram, gin gelly, Gurvinda (abrus)

Key Points :

- * After fertilization ovules are turns into seeds.
- * Seeds are carried from one place to another so that they get suitable conditions to grow, this is called “Seed dispersal”.
- * Seeds get sufficient amount of light, water, space through seed dispersal.
- * Seed dispersal is essential for survival of plants. The process of dispersal various from plant to plant.
- * Seeds are different shapes and sizes and structres that help in easy dispersal
- * Special mechanism for seed dispersal to avoid competition with the mother plant for air, water and minerals plants disperse their seeds to different distances.
- * Characters of seeds and fruits to decide the type of seed (or) fruit dispersal.
- * The seeds dispersal throguh winds are usually light small with hairy (or) Feather like structures eg : Calotropis Dandelion.
- * Seeds are winged in drumstick & maple they help in wind seed dispersal.
- * Hairy parachute like structures developed in Tridox and calotropis.

- * In sunflowers family calyx form a papus and help in fruit dispersal.
- * Some plants like orchids seeds are minute with inflated covering.
- * The seeds dispersed through water are usually light, and outer covering of the seed has empty spaces with air.
- * Plants like coconut fibrous with air spaces that enclose the whole seed (or) fruit.
- * Seeds that are heavy usually fall to the bottom of water sources and get carried by the flow of water. Ex : Lotus
- * Seeds get dispersed through animal excretion in many fleshy fruits eating animals. Eg : Cucumber, Tomato, neem.
- * In some dry fruits with specialized structures like hook thorns, hairy parts get stuck to the bodies of animals and get carried to distant places ex : grassplants.
- * Some seeds are sticky and get stuck to beaks of birds and in course of flight they fall down at distant places.
- * Birds like bulbuls, Mynahs, crows eat fruits and the outer fleshy part gets digested in the food canal and the seed coat of them become tender and seed germinated easily after dispersed.
- * Some have forgetfulness and also useful in seed dispersed. Ex : Squirrel.
- * Man collects different type of plants from various regions and grow them to meet his necessities.
- * European travellers introduced a tomato, cauliflower, guava, pear in India.
- * Sugarcane is native to India and it is worldwide distributed.
- * Seeds also travel by aeroplanes and ships during Import and export and useful to seed dispersal.
- * In capsule (or) pods drying explodes releasing the seeds with great force in surroundings. Ex : Bhendi
- * In generally fleshy fruits have many seeds. Ex : Watermelons, Cucumber, Tomato.
- * In generally dry fruits have low number of seeds Eg : Dates, Cashewnut, Plums, Raisins.
- * Mustard plant produces more than 10,000 seeds in its life time
- * All seeds do not germinate some seeds never germinate to produce new plants. Some seeds germinate but plants die before maturation to overcome these problems plants produce a large number of seeds.

BITS

1. What are the losses when all the seeds germinate in one place only ()
 - a. The place is not sufficient to grow b. Plants do not get sufficient sunlight
 - c. Plants grow healthy d. Plants grow tall
 - A. a and b B. b and C C. c and d D. D and b
2. Characters of the seeds dispersed by hair ()
 - a. Lightweight b. Heavy weight c. Contain hairs d. contain thorns

3. Which of the following plants has different seed dispersal mechanism ()
a. Bean b. Rib guard c. Green gram d. red gram
4. Which is not the character of the seeds dispersed by water ()
a. light weight b. contain fibre c. contain airspace d. Contain thorns
5. The method of dispersal of seeds contain wings like structures in castor ()
a. wind b. water c. birds d. Animals
6. The reason for taking of germinating seeds as food ()
a. Metabolic rate is more in germinating seeds
b. Enzymes are active in germinating seeds
c. More vitamins are present in germinating seeds
d. Germinating seeds do not digest
A. a,b,c B. b,c,d C. c,d,a D. d,b,a
7. The factor which is not helpful for seed dispersal ()
a. Air b. Water c. Temperature d. salinity
8. Which of the following seeds are not dispersed by bursting ()
a. Kanakambaram b. Bhendi
c. Pea d. Cucumber
9. In which methods orchid seeds disperse ? ()
a. Wind b. Water c. Birds d. Animals
10. Which of the following is different from others ()
a. Tomato b. Guava c. Pear d. Sugar cane
11. Which of the following is different from others ()
a. Redgram b. Green gram c. pea d. Grapes
12. Which of the following is different from others ()
a. Calotropis b. Dandelion c. Tridax d. Lotus
13. Which of the following plants shows parachute like seed dispersal ()
a. Calotropis b. Sunflower c. Orchids d. 1 and 2
14. A. Plants show seed dispersal ()
R. To avoid competition with the mother plant for air, water, minerals and space
1. A and R are true and R is the correct explanation to A
2. A and R are true and R is the not correct explanation of A
3. A is true and R is false
4. A is false, R is true
15. A. In fleshy fruits seed dispersion through bursting is not possible ()
R. Capsule (or) pod type of dry fruits shows bursting type of seed
1. A and R are true and R is the correct explanation to A
2. A and R are true and R is the not correct explanation of A
3. A is true and R is false 4. A is false, R is true

16. Seed (or) fruits contains hooks, thorns, they show what type of seed dispersal ()
 a. wind b. water c. bursting d. animals
17. Which of the following is different from other ()
 a. Mango b. Guava c. Watermelon d. Cucumber

MATCHING

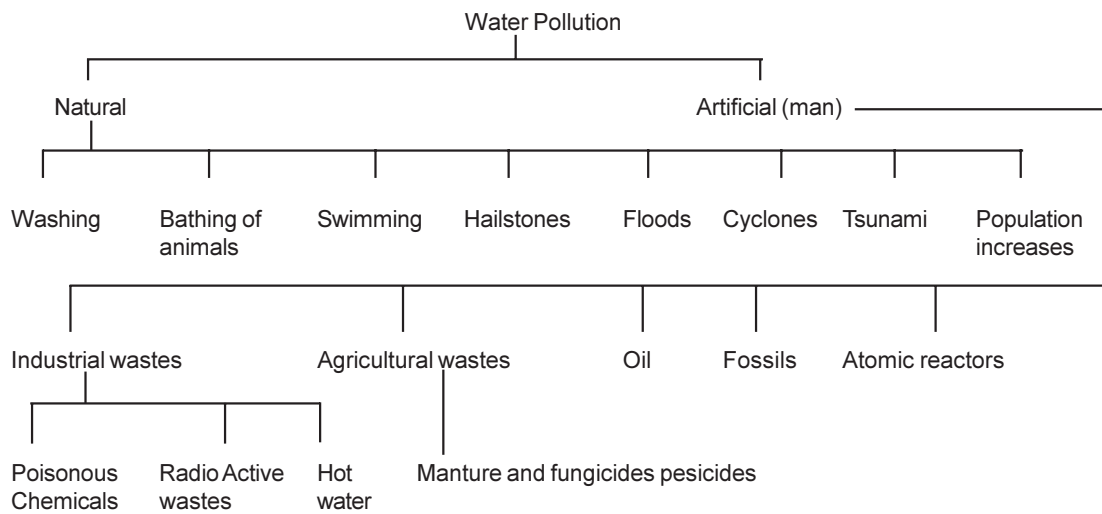
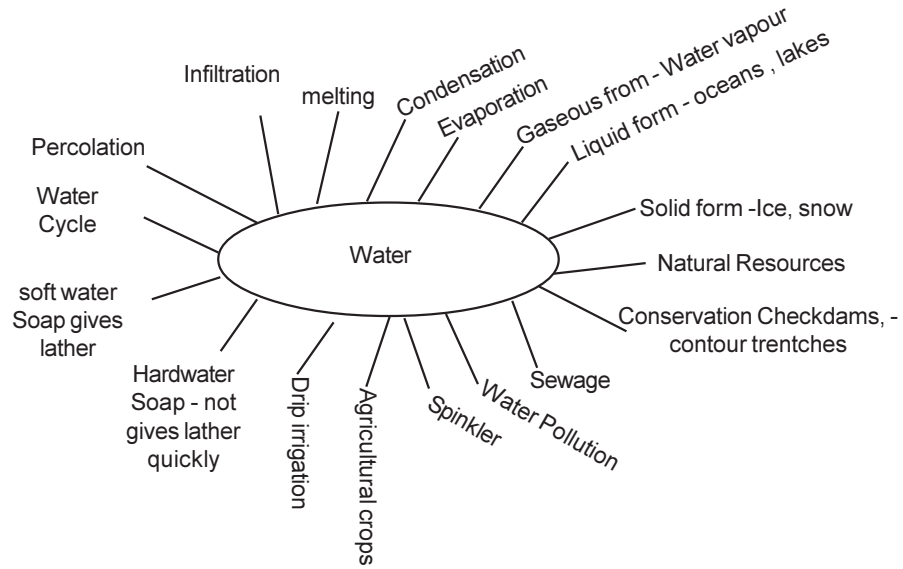
18. 1. Light and small () a. birds
 2. Fibrous containing () b. water
 3. Fleshy () c. Animals
 4. Hooks containing () d. wind
 5. Dry capsule () d. Bursting
 1. 1-a, 2-b,3-c,4-d, 5-e 2. 1-d, 2-b, 3-a, 4-c, 5-e
 3. 1-b,2-c,3-d,4-a, 5-e 4. 1-e,2-a,3-b,4-c,5-d
19. 1. Maple plant () a. Bursting
 2. Vallisneria () b. Animals
 3. Xanthium () c. Water
 4. Bhendi () d. wind
 1. 1-b, 2-a,3-c,4-d 2. 1-a, 2-b, 3-c, 4-d
 3. 1-d,2-c,3-b,4-a 4. 1-c,2-d,3-a,4-b
20. After fertilization ovule : Seed, Integuments ... ()
 a. fruit b. pericarp
 c. Ovule membrane d. Seed coat
21. What happens if seed dispersal does not take place ()
 a. They compete with mother plant b. They compete with each other
 c. They do not get sufficient sunlight, water, space
 d. All the above
22. What happens if seed dispersal does not take place ()
 a. Plants distributed throughout the world
 b. Plants restricted to particular area only
 c. nothing happens d. none of the above
23. How do plants overcome seed dispersal and seed germination ()
 a. through seed dispersal b. germination
 c. production of large number of ovules d. Formation of fruit
24. Which of the following is not a part of seed ()
 a. Plumule b. stigma c. seed coats d. storage food
25. In plants that do not have a honey bee in that type of plant what type of pollination occurs ()
 a. Through insects b. Through animals
 c. Through birds d. through wind

26. Roots and stem of a plant develops from which parts of the seeds ()
a. seed coats b. fruit walls
c. Radicle and plumyle d. None of these
27. Fruit walls are develops from ()
a. Thalamus b. pedical c. Ovary walls d. Ovules
28. Watermelons have a many number of seeds because of ()
a. number of calyx and cordla are high
b. number of stamens are high c. number of anthers are high
d. number of ovules are present in ovary are high
29. How fleshy fruits dispersal ()
a. Bursting b. water c. Animals d. None of the above
30. Elephant eating fruits ()
a. ficus fruit b. fig fruit c. Velagapandu d. Neem

KEY FOR

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) C | 2) B | 3) B | 4) D | 5) C |
| 6) A | 7) D | 8) D | 9) A | 10) D |
| 11) D | 12) D | 13) D | 14) A | 15) A |
| 16) D | 17) A | 18) B | 19) C | 20) D |
| 21) D | 22) B | 23) C | 24) B | 25) D |
| 26) C | 27) C | 28) D | 29) C | 30) C |

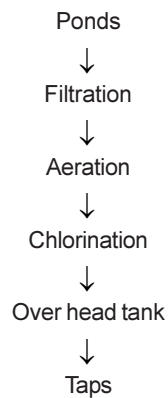
8. WATER TOO LITTLE TO WASTE



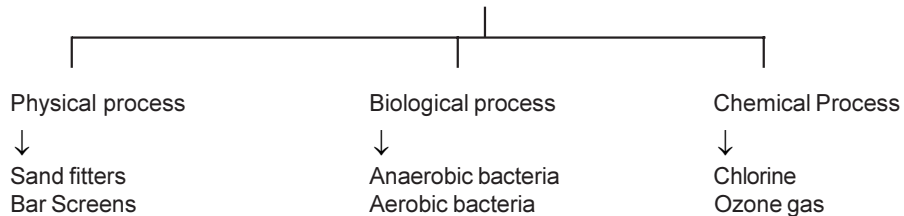
STAGES IN WATER TREATMENT

- Stage -1 : Barscreens → Large objects like rags, sticks, cans, plastic packets, leaves etc. are removed.
- Stage-2 : Grit and sand removed tank → Solid wastes like sand, grit, pebbles are removed.
- Stage-3 : Sloped tank → Bottomsolids → scraper → sludge
Oil & grease → Skinner → clarified water
- Stage-4: Anaerobic baterial chamber → Decompressed of sludge and biogas produced.
- Stage-5 : Aeration (or) Aerobic baterial chamber → Decomposed of Human waste, Food waste, and soaps in remaining clarified water
- Stage-6: Activated sludge → Microbes settle at bottom and water is removed from top.
- Stage-7: Filtration → Removed remaining wastes from activated sludge.
- Stage-8: Chemcial treatment → The water for eradication of bacteria by utilizing chemals like chlorine and ozone.

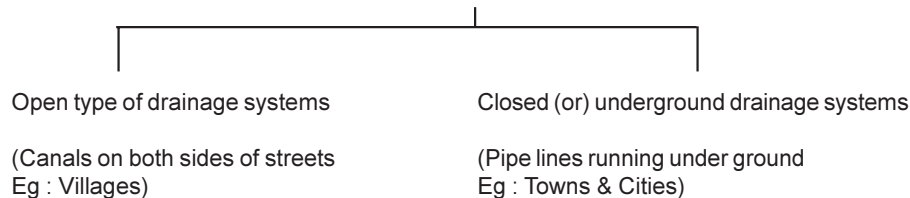
STAGES OF PURIFYING WATER



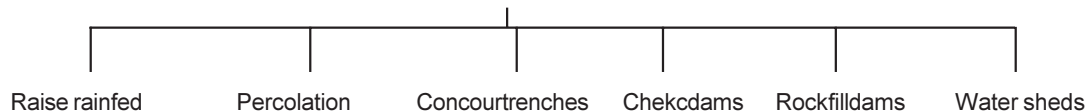
WATER TREATMENT PROCESS



DRAINAGE SYSTEMS



WATER CONSERVATION METHODS



Main Points :

- * Water is a one of the vital natural resources and it contains Hydrogen and oxygen in the ratio 2 : 1 by Volume (H_2O)
 - * Little is the quantity of water available for our use that we have to use it very carefully.
 - * Earth is covered by a 70% of water in the form of Seas, Rivers, Ponds, lakes, water vapour in the atmosphere.
 - * 97% of water present in seas and oceans in the form of salt water.
 - * 3% of water available in form of freshwater in this 2% of in Glaciers and poles as ice and Remaining of Ground water, Water in ponds, lakes River.
 - * If 10 litres of water on the surface of earth then out of this 1 ml is available as fresh water for our needs and well as plants and animals needs.
 - * Water is universal solvent and it is helpful in Transport of solutes and minerals in plants.
 - * Oxygen is liberated from water (H_2O) during photosynthesis.
 - * Heavy rains causing the floods and least rainfall causing the droughts.
 - * We get water from water resources like ponds fruits and vegetables, fruits like, melons, orange, and vegetables like cucumber, gourds contains large amount of water.
 - * In total body height 70% is in the form of water.
 - * We depends on rains for water.
 - * Water is available in nature in three forms
 1. Solid form (Ice)
 2. Liquid form (Water in ponds, lakes)
 3. Gaseous form (Water vapours)
- Heated Heated
- * Ice $\longleftrightarrow$ water $\longleftrightarrow$ water vapour.
- cooled cooled
- * The process of water changing into water vapour is called “Evaporation”.
 - * The process of conversion of water vapour in to water is called “Condensation”.
 - * The size of the water drops increases further it becomes difficult for the clouds to hold them and water drops begins to fall. This is called rain.
 - * Some times big drops of water solidify into ice and fall as pieces of ice known as hailstones.
 - * The circulation of water into water vapour by evaporation water vapour to clouds and clouds to rain by condensation is known as “Water cycle”.
 - * Deforestation and pollution from factories are now causing global warming (or) green house effect. So it is not favourable for clouds to get cooled. Consequents decrease in rain fall and disturbs the water cycle and causes either floods (or) droughts.
-

- * 22nd March is celebrated as the world water day from 2005.
- * The period 2005 - 2015 was declared as the “International water decade” for action on “Water for life”.
- * 80% of rain fall occurs in seas.
- * In India the water table has fallen more than 300 meters.
- * Degrades the a quality and quantity of natural fresh water by Human through construction of dams and poor farming practice and deforestation and industries.
- * The two of three people will be living with water shortage by 2025.
- * The waste water released by home industries hospitals, offices and other users are collectively called “sewage”. It is a liquid wastes.
- * Impurities present in the water is called as “Contaminants”
- * Contaminants are 3 types
 - 1) Organic impurities :

It Human faeces, animal waste, oil, urea, pesticides, herbicides, fruit and vegetable waste etc.,
 - 2) In Organic Impurities : Eg : Nitrates, Phosphates, metals etc.,
 - 3) Bacteria and other microbes :

Ex : Cholera, Typhoid, dysentery Causing microbes.
- * Treatment of waste water involves physical, bioogical, chemical processes.
- * Stage - I - Bar Screens : Large object like rags, sticks, cans, plastic packets etc., are removed by this Bar Screens stage.
- * Stage-2 : grit and sand removal tank. The speed of the incoming waste water is decreased to allow sand, grit and pebbles to settle down.
- * Stage - 3 - sloped tanks : Solid like faeces settle at the bottom and are removed with a scraper. This is the sludge.
- * A skimmer removes the floatable solids like oil and grease water called as clarified water.
- * Stage - 4 - Anaerobic bacterial room : - Clarified water containing wastes are decomposed by Anaerobic bacteria and biogas produced in this process are used as fuel electricity.
- * Stage - 5 - Aerobic bacteria :- The removing waste in clarified water decomposed by aerobic bacteria.
- * Stage - 6 - Activated Sludge :- The waste water after (aerobic) aeration several hours the suspended microbes settled at bottom of the tank, and water is then removed from the top. This contains 97% water.
- * Stage - 7 - filtration :- The activated sludge by sand drying beds (or) machines to removes the wastes. Sludge is used as manure.
- * Stage-8-Chemical treatment :- After filtration add some chemicals like chlorine and Ozone and its kills the remaining microbes.

- * This treated waste water releasing into the distributed system i.e. river ground water etc.,
- * The rainfall measured with the help of “Rain gauge”. It is also called udometer (or) pulviometer (or) ontrometer.
- * 80% water can be reutilized.

Steps for prevention of water pollution :

- * Proper use of composts
- * To purify the wastes before emptying then into lakes and rivers.
- * Proper use of drainage.
- * Industrial plants may be installed in the out skirts the town/city.
- * Use mechnery to purify the Industrial wastes.

BITS

1. Assertion (A) :- We have to use water very carefully ()
Reason (R) :- A little quantity of water available for our uses.
 1. A and R are true and R is the correct explanation of A
 2. A and R are true and R is not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true
2. How humans degrades the quality and quantity of natural fresh water ()
 a. construction of dams after the natural flow of rivers b. Deforestation
 c. chemicals released from industries
 d. All the above
3. Water must be conserved by ()
 a. Villages b. Small villages c. Towns D. none of the above
4. Water must be conserved by ()
 a. Individual efforts b. Efforts made by the comunity
 c. Both A nd B d. None of the above
5. Assertion (A) :- 97% of water present in seas but do not use for drinking ()
Reason(R) : - Sea water contains a large amount of salts
 1. A and R are true and R is the correct explanation to A
 2. A and R are true and R is the not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true
6. What type of drainage system seen in metro towns ()
 a. Open type of drainage system b. closed type of drainage system
 c. Underground type of drainage system d. Both B and C

7. Micro organisms decays waste materials fastly in aeration this method is called as ? ()
a. Physical process b. chemical process
c. Biological process d. Mixed process
8. The chemicals used to kill micro organisms ()
a. chlorine b. Hydrogen C. Argon d. Ozone
1. A and B 2. B and C 3. A and D 4. C and D
9. Which type of bacteria produced biogas in water treatment process ()
a. Aerobic bacteria b. Anaerobic bacteria
c. both A and B d. None of the above
10. Anerobic bacteria, Aerobic bacteria, Biological process barscreens, sand filters... ()
a. chemical process b. Biological process
c. Physical process d. All the above
11. Solids like feacus settle at the bottom removed with scraper floatable solids like oil and grease removed with .. ()
a. Bar screens b. Aeration c. Skimmer d. mechanical stirres
12. Identify the correct order in water treatments ()
a. Bar screens → Sand, grit tank → filtration → sloped tank → Anerobic bacterial tank → aeration → chlorination.
b. Barscreen → sand and goit → sloped tank → Anerobic Bacterial room → Aerobic → filtration → chlorination
c. Barscreen → slope tank → sand grit tank → filteration → Anerobic bacterial → aerobic → chlorination
d. Chlorination → filtration → Aeration → Anaerobvic bacterial tank → slope tank → sand grit → barscreens.
13. Which of the following statement is not correct ()
a. only 3% of water is available for us
b. the percentage of water in rivers and lakes is 11%
c. the percentage of water in glacier and poles as ice is 3%
d. the percentage of water in sea is 97%
14. The period of water decade ? ()
a. 2015-2025 b. 2005-2015 c. 2035-2045 d. 2045-2055
15. Water is a ()
a. Natural resource b. solute
c. solvent d. both A and C
16. Water passing down enough the soil particles is called as ()
a. transpiration b. percolation c. crystallization d. sublimation
17. How many forms of water available in nature ()
a. one form b. two forms c. three forms d. four forms
18. Which of the following is a main resource for both surface water and under-ground water ()
a. Rivers b. rainfalls c. ponds d. seeds

19. In which of the following is a pure form of water ()
 - a. Rivers water
 - b. rain water
 - c. underground water
 - d. sea water
20. 90% of dyaria disease prevented due to ()
 - a. through vaccine
 - b. through awareness of dyaria
 - c. through good drinking water and sanitation
 - d. None of the above
21. Which of the following is not a biodegradeble waste ()
 - a. peels of vegetables
 - b. cloths
 - c. polythene bags
 - d. remaining food
22. In which of the following method is best for waste management ()
 - a. collecting of waste
 - b. Burning of waste
 - c. Dumping of wastes
 - d. using of waste for compost
23. A. Rain water tretment is faster than the sea water treatment ()
R. Rainwater doest not contains microbes
 1. A and R are true and R is the correct explanation to A
 2. A and R are true and R is the not crroect explanationof A
 3. A is true and R is false
 4. A is false, R is true

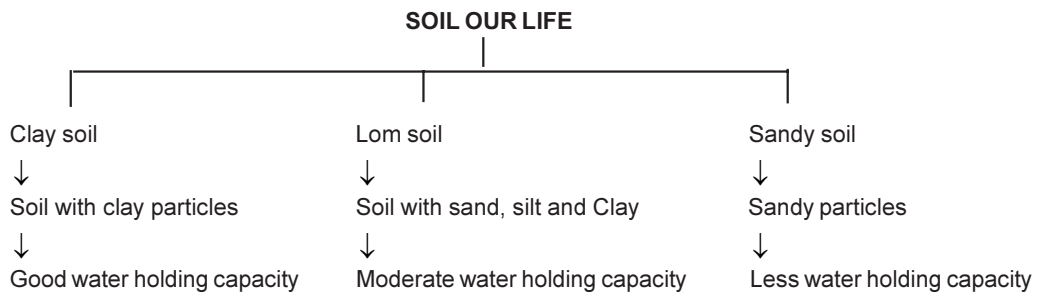
26. Impurities in the liquid wastes is called as ()
a. sewage b. chemicals c. contaminants d. All the above
27. Water percentage in activated sludge ()
a. 5% b. 90% c. 97% d. 100%

28. Which of the following methods are useful to conservation of water ()
a. Check dams b. contour trenches c. Rock fill dams d. All the above
29. Which of the following process can be used in waste water treatment ()
a. Physical process b. Chemical process
c. Biological process e. All the above
30. Water which gives readily lather with soap is ()
A. hardwater b. Soft water c. Hot water d. Cold water

KEY FOR

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) A | 2) D | 3) C | 4) C | 5) A |
| 6) D | 7) C | 8) C | 9) B | 10) C |
| 11) C | 12) B | 13) C | 14) B | 15) D |
| 16) B | 17) C | 18) B | 19) B | 20) C |
| 21) C | 22) D | 23) A | 24) D | 25) B |
| 26) C | 27) C | 28) D | 29) D | 30) B |

9. SOIL OUR LIFE



Horigens of soil

- | | | |
|-----------|---|--|
| O Horizon | - | Top, organic layer |
| | - | Madeup of leaf litter and humus (decomposed organic matter) |
| A Horizon | - | Top soil |
| | - | Below O, above E |
| | - | Seeds germinate |
| | - | Plant roots grown |
| | - | madeup of humus mixed with mineral particles. |
| E Horizon | - | Eluviation (leaching) layer |
| | - | Light in colour |
| | - | below A, above B |
| | - | Made up of sand and silt |
| | - | Water drips through this soil |
| B Horizon | - | Sub soil |
| | - | between E and C |
| | - | Contains clay and mineral deposits
(Iron, aluminium oxides, calcium carbonates) |
| C Horizon | - | Regolith |
| | - | Between B and R |
| | - | Slightly broken up bed rock |

- plant roots do not penetrate here
- Very little organic material
- R Horizon - Un weathered rock (Bedrock)
- Beneath all the other layers
- Different layers of soil are called “Soil profile”
- Soil profile used in soil technologies in order to grow suitable crop in the fields.
- Engineer test the soil profile before constructing multistored buildings, bridges and dams.
- Horizons
- O (Surface litter)
- ↓
- A (Topsoil)
- ↓
- E (leaching layer)
- ↓
- B (Sub soil)
- ↓
- C (Regolith)
- ↓
- R (Bedrock)
- (Orange, Apple earns black cash rarely)
- Soil is the uppermost layer of earth’s crust.
- Rock particles + organic matter = humas
- Soil is a good habitat of organisms.
- Water passing down through the soil particles is called percolation.
- Amount of water that passes through gives us percolation rate. It is highest in the sandy soil and least in the clayey soil
- Clay and loam are Suitable for growing wheat, gram and paddy. cotton is grown in sandy loam or balck soil.
- Seasonal rainfall and fertility of soil also influence crop production
- A paddy crop grows best in a field that remaing filled with water for a long time.

- Removal of top soil by wind, water or any other means is known as soil erosion.
- Farmers cultivate pulses after completion of paddy.
- Rotation of crops retains soil fertility and productivity.

Agronomist :- An expert in soil management and field -crop production.

Agronomy:- The science of soil management and crop production.

Edaphology :- Study of influence of soil on organisms, especially on plants is called edaphology.

Humus:- The portion of the soil formed by the decomposition of organic matter

Pedology :- Study of, formation, chemistry, morphology, and classification of soil is called pedology.

Silviculture :- The care and cultivation of forest trees, forestry.

Soil profile:- A vertical section of soil from the ground surface to the parent rock.

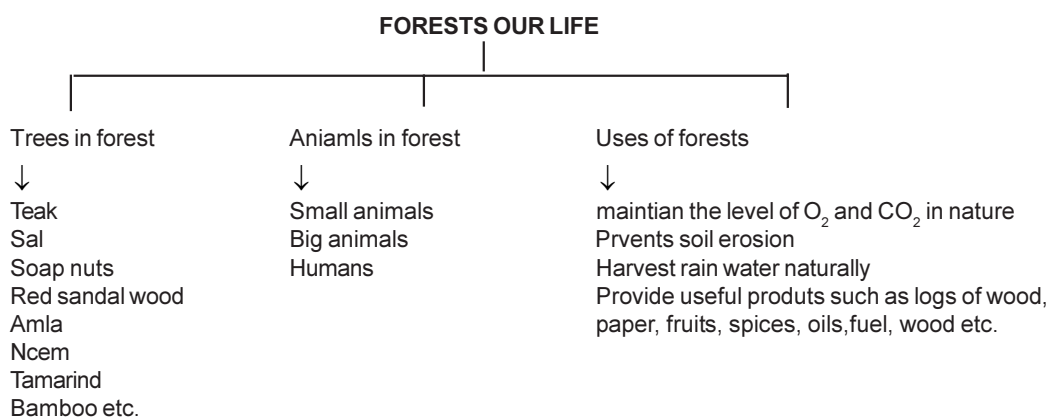
BITS

- Study of difference of soil on organisms, especially on plants is called ()
a. pedagogy b. pedology c. edaphology d. None of these
- Which of the following has highest water percolation rate? ()
a. clayey soil b. sandy soil c. Both A & B d. None of these
- Continuous cultivation of same agricultural crops ()
a. Increase the soil fertility b. Reduce the soil fertility
c. Does not change the soil fertility d. None of above
- Rotation of crops helps to retain ()
a. Productivity b. both A & B c. soil pollution d. Both A & B
- Clay and loam are suitable for growing ()
a. paddy b. gram c. wheat d. All the above
- Humus formed of.. ()
a. Organic matter b. Rock particles c. Both A & B d. None of these
- Cotton is grown in... ()
a. Black soil b. sandy soil c. Both A & B d. None of above
- Least percolation rate containing soil is ()
a. sandy soil b. clayey soil c. Both A & B d. Rocky soil
- The soil that retards plant growth is ()
a. Normal soil b. Highly acidic soil c. Low acidic soil d. clay soil
- Which of the following has slightly broken up bedrock ? ()
a. C Horizon b. E Horizon c. B Horizon d. R Horizon

KEY

- | | | | | |
|------|------|------|------|-------|
| 1) C | 2) A | 3) B | 4) D | 5) D |
| 6) C | 7) A | 8) D | 9) B | 10) D |

10. FOREST OUR LIFE



- There are forests only on 19.3% of the geographical area of our country now.
- Forests are renewable Natural resources,
- Forests are the lungs of our earth
- Chunchus (adivasis) are the only people living in the company of tigers and wild animals.
- Kondamallipudi vana Samrakshna samithi, is located at the foothills of Ananthagiri forest alongside the Srungavarapukota “Koya’ tribe lives here.
- Koya’s are zoom farmer’s.
- In 1730 AD about 350 BISHONOIS led by AMRITA DEVI sacrificed their lives to protect sacred green KEJARI trees by hugging them from a king who wanted to cut.
- Later this BISHONOIS, hugging trees led to chipko movement in the hisotry.
- Later chipko movement carry forward by people like sunder lal Bahuguna
- Social forestry could help overcome deforestation.
- Destroying forests poses threat to life of animals and plants living there as well our own survival.
- Biodiversity : having a variety of plants and animals in a particular place or area.
- Bunds : Platforms of soil to stop water
- conservation : Preservation of exhistig conditions (plants, animals, natural re-sources etc.)
- Ecological balance : A stable enviornment in which different forms of life affect-ing each other.
- Fauna. : - Total No. of animal species present in a region.
- Flora :-All the plant species present in a region.

- Orchard : An area of land planted with fruit trees.
- Soil erosion: - washing away the top soil (fertile soil) by water or wind.

BITS

1. Chipko movement was first started by ()
 - a. Amrita Devi
 - b. Sarojini Devi
 - c. Sunderlal Bahuguna
 - d. None of these
2. The percentage of forest area of our country is.. ()
 - a. 19%
 - b. 19.5%
 - c. 19.3%
 - d. 20%
3. Which of the following animals are hunted by chenchu us? ()
 - a. Rabbits
 - b. Lizards
 - c. Both A & B
 - d. None of these
4. Konda mallipdi vana Samrakshana samithi is located at the foot hills of ()
 - a. Koya forest
 - b. Equitorial forest
 - c. Ananthagiri forest
 - d. Alpine

KEY

- 1) A 2) C 3) C 4) C