Padasalai's Telegram Groups!

(தலைப்புக் காட்டு கலவை விளக்கத்திற்கு திருச்சங்க திறமைத் தெரியும்!)

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Unit-X: Economic Botany
Chapter-10. Economically Useful Plants and Entrepreneurial Botany

Back Answers

1. Consider the following statements and choose the right option.
   a) Cereals are members of grass family.
   b) Most of the food grains come from monocotyledon.
   a) (i) is correct and (ii) is wrong    b) Both (i) and (ii) are correct
   c) (i) is wrong and (ii) is correct    d) Both (i) and (ii) are wrong

2. Assertion: Vegetables are an important part of healthy eating.
   Reason: Vegetables are succulent structures of plants with pleasant aroma and flavours.
   a) Assertion is correct, Reason is wrong    b) Assertion is incorrect, Reason is correct
   c) Both are correct and reason is the correct explanation for assertion.
   d) Both are correct and reason is not the correct explanation for assertion.

3. Groundnut is native of
   a) Philippines    b) India    c) North America    d) Brazil

4. Statement A: Coffee contains caffeine
   Statement B: Drinking coffee enhances cancer
   a) A is correct, B is incorrect
   b) A and B – Both are correct
   c) A is incorrect, B is correct
   d) A and B – Both are incorrect

5. *Tectona grandis* is coming under family
   a) Lamiaceae    b) Fabaceae    c) Dipterocarpacete    d) Ebenaceae

6. *Tamarindus indica* is indigenous to
   a) Tropical African region    b) South India, Sri Lanka    c) South America, Greece    d) India alone

7. New world species of cotton
   a) Gossypium arboretum    b) G. herbaceum    c) Both a and b    d) G. barbadense

8. Assertion: Turmeric fights various kinds of cancer
   Reason: Curcumin is an anti-oxidant present in turmeric
   a) Assertion is correct, Reason is incorrect
   b) Assertion is incorrect, Reason is correct
   c) Both are correct
   d) Both are incorrect

9. Find out the correctly matched pairs.
   a) Rubber – *Shorea robusta*    b) Dye – *Lawsonia inermis*    c) Timber – *Cyperus papyrus*    d) Pulp – *Hevea brasiliensis*

10. Observe the following statements and pick out the right option from the following:
    Statement I – Perfumes are manufactured from essential oils.
    Statement II – Essential oils are formed at different parts of the plants.
    a) Statement I is correct    b) Statement II is correct
    c) Both statements are correct
    d) Both statements are incorrect

11. Observe the following statements and pick out the right option from the following:
    Statement I: The drug sources of Siddha include plants, animal parts, ores and minerals.
    Statement II: Minerals are used for preparing drugs with long shelf-life.
    a) Statement I is correct    b) Statement II is correct
    c) Both statements are correct
    d) Both statements are incorrect

12. The active principle *trans-tetra hydro canabilial* is present in
    a) Opium    b) Curcuma    c) Marijuana    d) Andrographis

13. Which one of the following matches is correct?
    a) Palmyra - Native of Brazil    b) Saccharun - Abundant in Kanyakumari
    c) Steveocide - Natural sweetener    d) Palmyra sap - Fermented to give ethanol

14. The only cereal that has originated and domesticated from the New world.
    a) *Oryza sativa*    b) *Triticum Asetum*    c) *Triticum durum*    d) *Zea mays*
II. Two, Three, Five Mark Questions:-
15. Write the cosmetic uses of Aloe.
   1. Used as a skin tonic
   2. Used for cream, lotion, shampoo preparation
   3. It is an antibacterial, antifungal, antioxidant, and antiseptic.
16. What is pseudo cereal? Give an example.
   (i) The term pseudo-cereal is used to describe foods that are prepared and eaten as a whole grain (except grass Family plants)
   (ii) Example: Chenopodium quinoa.
17. Discuss which wood is better for making furniture.
   1. Teak (Tectona grandis) is the one of the best timber in the world.
   2. It possesses durability against termites and fungi.
   3. This wood does not split and crack so it is a carpenter friendly wood.
   4. It is used in railway wagon, bridge and ship construction work.
   5. So, Teak is the best wood for furniture making.
18. A person got irritation while applying chemical dye. What would be your suggestion for alternative?
   1. Chemical dyes are causes skin allergy and skin diseases.
   2. Henna is a natural dye extracted from Lawsonia inermis (Lawsonia inermis)
   3. It is harmless and no irritation to the skin. So, it is a good alternate source for chemical dyes.
19. Name the humors that are responsible for the health of human beings.
   The following three humors are responsible for the health of human beings. Such as...
   1. Vatam (వటం)
   2. Pittam (పిటం)
   3. Kapam (కపాం)
20. Give definitions for organic farming?
   1. The main concept of the organic farming is Back to the Nature.
   2. It is an alternative agricultural system in which plants and crops are cultivated in natural ways.
   3. By using biological inputs to maintain the soil fertility.
21. Which is called as the “King of Bitters”? Mention their medicinal importance.
   1. Nilavembu (నిలావంబు) is called as The King of Bitters (Andrographis paniculata).
   2. It is used to treat liver disorders
   3. It is effectively used to treat malaria and dengue fever.
22. Differentiate bio-medicines and botanical medicines.
   Bio-Medicines:
   Medically useful molecules obtained from plants that are marketed as drugs are called Biomedicines.
   Botanical Medicines:
   Medicinal plants which are marketed as powders or in other modified forms are known as Botanical medicines.
23. Write the origin and area of cultivation of green gram and red gram.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Red gram or Pigeon Pea (किरण मटर)</td>
<td>Cajanus cajan</td>
<td>South India</td>
<td>Andhra, Karnataka, Maharashtra</td>
<td>1. Used in Sambar Preparation. 2. Used as a Snacks</td>
</tr>
<tr>
<td>2. Green Gram (सोयाबीन)</td>
<td>Vigna radiata</td>
<td>India</td>
<td>Tamil Nadu, Karnataka, Madhya Pradesh</td>
<td>1. Used in Pongal Preparation. 2. Used as a Snacks 3. Used as a Cosmetics</td>
</tr>
</tbody>
</table>

24. What are Millets? What are its types? Give example for each type.
   1. It is a variety of very small seeds originally cultivated by ancient peoples of Africa and Asia.
   2. Types and examples of Millets: Finger Millet - Ragi, Foxtail Millet - Thinai, Kodo Millet - Varagu.
25. If a person drinks a cup of coffee daily it will help him for his health. Is this correct?
   If it is correct, list out the benefits.
   (i) Yes, it is correct. Caffeine enhances release of acetylcholine in brain. Which is turn enhances efficiency.
   (ii) It may reduce the risk of liver diseases, cancer and type 2 diabetes.
   So, drinking a cup of coffee in our daily life it will be helpful for our health.

26. Enumerate the uses of turmeric.
   1. Turmeric is used in colouring agent in food industry and pharmacy.
   2. It is important constituent of curry powders.
   3. It is also used for dyeing leather, fibre, paper and toys.
   4. Curcumin is extracted from turmeric. It is a anti-bacterial, anti-fungal and anti-viral medicine.
   5. It is a very good anti-oxidant which help to fight various kinds of cancer.

27. What is TSM? How does it classified and what does it focuses on?
   Meaning of TSM:
   TSM means Traditional system of Medicines. India has a rich medicinal heritage.

   Classification of TSM:
   In India TSM is classified into two types such as…
   (i) Institutionalized or Documented method
   (ii) Non-institutionalized or Oral method

   Focus of TSM:
   The TSM focus on healthy life style and healthy diet for maintaining good health and disease reversal.

28. Write the uses of nuts you have studied.
   1. Cashews nuts are commonly used in sweets and curries.
   2. Roasted and raw kernels are used as snacks.

29. Give an account on the role of Jasminum in perfuming.
   1. Jasmine flowers have been used since ancient times in India for worship.
   2. It is a fumigant as well as making perfumed hair oils, cosmetics and soaps.
   3. It has anti-depression qualities.
   4. It is popular in air freshener.
   5. It is used in talcum powders, shampoo and deodorants.

30. Give an account of active principle and medicinal values of any two plants you have studied.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Active principle</th>
<th>Medicinal value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Nilavembu (நீலவேம்பு)</td>
<td>Andrographis paniculata</td>
<td>Acanthaceae</td>
<td>Andrographolides</td>
<td>1. Used to treat liver disorders 2. Used to treat malaria and dengue fever</td>
</tr>
</tbody>
</table>

31. Write the economic importance of rice.
   1. Rice is the easily digestible and calorie rich food.
   2. Rice is a staple food in Southern and North East India.
   3. Various rice product such as flaked rice (Aval), puffed rice (Pori) are used as a breakfast in India.
   4. Rice bran oil is used in various industries.
   5. Husks are used as a fuel and good source for making cattle feed and fertilizer.

32. Which TSM is widely practiced and culturally accepted in Tamil Nadu? - explain.
   Siddha is the most popular, widely practiced and culturally accepted system in Tamil Nadu.

   Siddha system of medicine:
   1. It is based on the texts written by 18 Siddhars.
   2. Siddha is principally based on Panchabudha (பஞ்சபுத்தம்) philosophy.
   3. This system working based on Vatam, Pittam and Kapam (வடம், பிட்டம், கபம்).
   4. The drug sources of Siddha is Plants and Animal parts.
   5. 5800 different herbs are used as a drug for this system.
33. What are psychoactive drugs? Add a note Marijuana and Opium.

Some of the plants alter and individual’s perceptions of mind by producing hallucination are know as psychoactive drugs.

<table>
<thead>
<tr>
<th>Psychoactive Drugs</th>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
|                     | 1.    | Opium poppy       | Papaver somniferum   | Papaveraceae | South Eastern Europe,  | Madhya Pradesh, Uttar Pradesh          | 1. Pain killer
2. Used in Surgery |
|                     |       | (Morphine)        | (Morphine)           |             |                         |                                        |                                                                      |
|                     | 2.    | Cannabis or Marijuana | Cannabis sativa     | Cannabaceae | China                   | Madhya Pradesh, Uttar Pradesh          | 1. Reduce hypertension
2. Treating in Glucoma and Chemotherapy |
|                     |       | (Trans-tetrahydrocannabinol –THC) |        |             |                                        |                                        |                                                                      |

34. What are the King and Queen of spices? Explain about them and their uses.

<table>
<thead>
<tr>
<th>Spices</th>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
|        | 1.    | Black Pepper      | Piper nigrum         | Piperaceae   | Western Ghats, Kerala,  | Kerala, Karnataka, Tamil Nadu,        | 1. Used in Sauces and Soup preparation
2. Pickle and Curry powder manufacturing |
|        |       | (King of Spices and Black Gold of India) | (King of Spices and Black Gold of India) | Western Ghats | Kerala, Karnataka, Tamil Nadu, | Kerala, Karnataka, Tamil Nadu, |                                                                      |
|        |       | (कपास चटा)       | (कपास चटा)           |             |                         |                                        |                                                                      |
|        | 2.    | Cardamom          | Elettaria cardamomum | Zingiberaceae| Western Ghats           | Western Ghats                        | 1. Bakery and Beverage industry
2. Mouth freshener |
|        |       | (Queen of Spices) | (Queen of Spices)    |             |                         |                                        |                                                                      |
|        |       | (गोल्क्स चटा)       | (गोल्क्स चटा)          |             |                         |                                        |                                                                      |

35. How will you prepare an organic pesticide for your home garden with the vegetables available from Your kitchen?

Preparation of organic pesticide:

- Hot chilles 120 gm and Garlic/Onion 110 gm
- Blend the Vegetables together to form a thick paste
- Add vegetable paste with 500 warm water
- Pour the solution into a glass container
- Leave it undisturbed for 24 hours
- Pour the Pesticide into spray bottle
- Spary the pesticide into infected plants for every 4 to 5 days
- After 3 to 4 treatments pest will be eliminated.
**One Mark Answers:**

1. b) Both (i) and (ii) are correct
2. a) Assertion is correct, Reason is wrong
3. d) Brazil
4. a) A is correct, B is wrong
5. a) Lamiaceae
6. a) Tropical African region
7. d) G.barbadense
8. c) Both are correct
9. b) Dye - *Lawsonia inermis*
10. c) Both statements are correct
11. c) Both statements are correct
12. c) Marijuana
13. c) Stevocene - Natural sweetener
14. d) *Zea mays*

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<table>
<thead>
<tr>
<th>S.No.</th>
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<th>Origin</th>
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<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Rice or Paddy (நெய்) | Oryza sativa   | South East Asia    | China, India, Thailand | 1.Flaked rice (Aval)  
|       |                      |                |                    |                     | 2.Puffed or Parched rice (Pori)  
|       |                      |                |                    |                     | 3.Rice bran oil  
|       |                      |                |                    |                     | 4.Husks                               |
| 2.    | Wheat (செம்பனை)     | Triticum aestivum | Fertile Crescent Region | Punjab, Haryana, Rajasthan | 1.Bakery Products  
|       |                      |                |                    |                     | 2.Parota  
|       |                      |                |                    |                     | 3.Alcoholic Beverages                  |

**2. Millets (Siru Thaniyangal)**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Origin</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Finger Millet – Ragi (ராகி) | Elusine coracana | East Africa | 1.Staple food  
|       |                      |                |        | 2.Nutrient drink  
|       |                      |                |        | 3.Fermented beverages          |
| 2.    | Sorghum (சோர்க்கு)   | Sorghum vulgare | Africa | 1.Birds, Pigs, Cattle Feed  
|       |                      |                |        | 2.Alcoholic Beverages                  |

**3. Minor Millets**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Origin</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Foxtail Millet (சோற்கை) | Setaria italica | China | 1.Strengthening of Heart  
|       |                      |                |        | 2.Improves eye sight            |
| 2.    | Kodo Millet (கோடோ)    | Paspalum scrobiculatum | West Africa | 1.Reduce obesity  
|       |                      |                |        | 2.Reduce Blood sugar and Blood Pressure. |
### 4. Pulses

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Black gram (கொக்கும்) | Vigna mungo    | India              | Karnataka, Uttar Pradesh, Chattisgarh             | 1. Used as a Food  
2. Flour used in Indian curries |
| 2.    | Red gram or Pigeon Pea (கொக்கும்) | Cajanus cajan  | South India        | Andhra, Karnataka, Maharashtra                   | 1. Used in Sambar Preparation.  
2. Used as a Snacks |
| 3.    | Green Gram (பாதფாக்கும்)      | Vigna radiata  | India              | Tamil Nadu, Karnataka, Madhya Pradesh            | 1. Used in Pongal Preparation.  
2. Used as a Snacks  
3. Used as a Cosmetics |

### 5. Vegetables

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lady’s finger or Okra (அல்லமண்டி)</td>
<td>Abelmoschus esculentus</td>
<td>Malvaceae</td>
<td>Africa</td>
<td>Vellore, Coimbatore, Dharmapuri</td>
<td>Used as a Vegetable</td>
</tr>
</tbody>
</table>

### 6. Fruits

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Mango (மாங்கங்கா) (National fruit of India) | Mangifera indica | Anacardiaceae | Southern Asia | Salem, Krishnagiri, Dharmapuri | 1. Edible Fruit  
2. Soft drink  
3. Pickle |

### 7. Nuts

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Cashew nut (புதல்தி) | Anacardium occidentale | Anacardiaceae | Brazil | Kerala, Karnataka, Tamil Nadu | 1. Sweet and Currie Preparation  
2. Snacks |

### 8. Sugars

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
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<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Sugarcane (கோக்கும்) | Saccharum officinarum (S.spontaneum – India) | Poaceae | New Guinea, India | All the districts except Kanyakumari and Nilgiris | 1. White sugar  
2. Ethanol Preparation |
| 2.    | Palmyra (பால்மிரா) (state tree of Tamil Nadu) | Borassus flabellifer | Areceae | Asia, Africa | Tamil Nadu | 1. Palm sugar  
2. Health drink  
3. Toddy |
## 9. Oil Seeds

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>

## 10. Beverages

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Coffee (அப்பால்)</td>
<td>Coffea arabica</td>
<td>Rubiaceae</td>
<td>Ethiopia</td>
<td>Karnataka, Tamil Nadu, Kerala</td>
<td>1. Cure liver diseases 2. Reduce the risk of type 2 diabetes</td>
</tr>
</tbody>
</table>

## 11. Spices

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Black Pepper (King of Spices and Black Gold of India) (கிராம்புற்று)</td>
<td>Piper nigrum</td>
<td>Piperaceae</td>
<td>Western Ghats</td>
<td>Kerala, Karnataka, Tamil Nadu,</td>
<td>1. Used in Sauces and Soup preparation 2. Pickle and Curry powder manufacturing</td>
</tr>
<tr>
<td>3.</td>
<td>Turmeric (மர்மம்)</td>
<td>Curcuma longa</td>
<td>Zingiberaceae</td>
<td>Southern Asia</td>
<td>Tamil Nadu (Erode)</td>
<td>1. Cosmetics, Curry powder manufacturing 2. Anti-fungal, Bacterial, Viral activities</td>
</tr>
</tbody>
</table>
### 12. Condiment

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tamarind (ஆய்க்) (Dates of India)</td>
<td>Tamarindus indica</td>
<td>Fabaceae</td>
<td>Tropical Africa</td>
<td>India, Myanmar</td>
<td>1. Sauces, Curry powder manufacturing 2. Edible fruit</td>
</tr>
</tbody>
</table>

### 13. Fibres

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Jute (செல்ல)</td>
<td>Corchorus spp</td>
<td>Malvaceae</td>
<td>Africa</td>
<td>India, Bangladesh</td>
<td>1. Textile fibre 2. Used in sacks and bag manufacturing</td>
</tr>
</tbody>
</table>

### 14. Timber

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
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<th>Family</th>
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<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Teak (தைமா)</td>
<td>Tectona grandis</td>
<td>Lamiaceae</td>
<td>South East Asia</td>
<td>Kerala, Assam, Tamil Nadu</td>
<td>1. Timber 2. Used in Door, Ship, Boat, Toy’s manufacturing</td>
</tr>
</tbody>
</table>

### 15. Latex

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
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<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rubber (ச்சீர்)</td>
<td>Hevea brasiliensis</td>
<td>Euphorbiaceae</td>
<td>Brazil</td>
<td>Kerala, Tamil Nadu</td>
<td>1. Eraser, Belt, Rubber-band manufacturing 2. Tyre and Footwear Production.</td>
</tr>
</tbody>
</table>

### 16. Pulp Wood

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pulp (இல்லையைதல்) (Melia azadirachta, Neolamarckia chinensis, Casuarina spp, Eucalyptus spp)</td>
<td>Cyperus papyrus</td>
<td>Cyperaceae</td>
<td>Egypt</td>
<td>China (Discovered the Paper)</td>
<td>Paper and Cardboard manufacturing</td>
</tr>
</tbody>
</table>
## 17. Dyes

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
2. Dye used for skin, hair, nail colouring. |

## 18. Cosmetics

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Aloe (அலை)       | Aloe vera            | Asphodelaceae | Sudan                        | Tamil Nadu, Andhra, Gujarat, Rajasthan      | 1. Skin tonic  
2. Cream, lotion, shampoo preparation |

## 19. Perfumes

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Jasmine (சுந்தரம்) | Jasminum grandiflorum | Oleaceae | North-Western Himalayas   | Madurai, Thovalai (Kanyakumari district)    | 1. Fumigant  
2. Hair oil, cosmetics, and soap manufacturing |

## 20. Medicinal Plants

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Keezhanelli (செய்தநீல்) | Phyllanthus amarus (Phyllanthin) | Phyllanthaceae | Tropical America | India                                        | 1. Cure Jaundice  
2. Effective against Hepatitis B virus |
| 2.    | Nilavembu (King of Bitters) (நிலவேம்பு) | Andrographis paniculata (Andrographolides) | Acanthaceae | India, Sri Lanka | India                                        | 1. Used to treat liver disorders  
2. Used to treat malaria and dengue fever. |
### 21. Psychoactive Drugs

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Origin</th>
<th>Area of Cultivation</th>
<th>Uses</th>
</tr>
</thead>
</table>
| 1.    | Opium poppy (அபியின்/arpin) | Papaver somniferum (Morphine) | Papaveraceae | South Eastern Europe | Madhya Pradesh, Uttar Pradesh | 1. Pain killer  
2. Used in Surgery |
| 2.    | Cannabis or Marijuana (காந்திகள்) | Cannabis sativa (Trans-tetrahydrocanabinol –THC) | Cannabaceae | China                  | Madhya Pradesh, Uttar Pradesh | 1. Reduce hypertension  
2. Treating in Glaucoma and Chemotherapy |

### 22. Other Common Medicinal Plants

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Common Name</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Plant part used</th>
<th>Uses</th>
</tr>
</thead>
</table>
2. Used in bronchitis  
3. Used in Malarial fever |
| 2.    | Indian gooseberry (வெல்லை) | Phyllanthus emblica | Phyllanthaceae | Fruit | 1. Reduce fever and cough  
2. Anti-aging properties  
3. Rejuvenator |
| 3.    | Indian Acalypha (யார்க்கன்ஷன்) | Acalypha indica | Euphorbiaceae | Leaves | 1. Cure skin diseases  
2. Cure infected wounds and bedsores |
| 4.    | Vilmam (வெல்லைமலை) | Aegle marmelos | Rutaceae | Fruit | 1. Kill intestinal Parasites  
2. Unripe fruit used to treat stomach indigestion |
| 5.    | Veldt grape (மலைமலை) | Cissus quadrangularis | Vitaceae | Stem, Root | 1. Used to treat Bone fracture  
2. Cure asthma and stomach trouble |

### Additional questions:

1. **Ayurveda system of medicine:**
   1. Ayurveda supposed to have originated from Brahma (பொம்பா).  
   2. It is documented by Charaka, Sushruta, Vagbhata.  
   3. This system also working based on Vatam, Pittam and Kapam (வேட்டம், பிட்டம், கபாம்).  
   4. This system uses more herbs and few animal parts as a drug.  
   5. Himalayan plants are used as a plant source and 500 different herbs are used as a drug for this system.

2. **Folk system of medicine:**
   1. It is a oral traditional system of Medicine.  
   2. It is practiced by Rural and Tribal people of India.  
   3. This system is used by ethnic communities. 8000 Plant species have been documented.  
   4. The drug plants are documented by Research project on Ethnobiolog.  
   5. Irulas, Malayalis, Kurumbas, Paliyans and Kaanis these tribal communities of Tamil Nadu practiced folk system of medicine.

3. **Entrepreneurial Botany:**
   1. Entrepreneurial Botany is a study of how new businesses are created using plant resources.  
   2. Entrepreneurship is now a popular topic for higher secondary students.  
   3. Vast opportunities are there for the Botany students.  
   4. Converting botanical knowledge into a business idea.  
   5. Mushroom cultivation, Single cell protein (SCP), Orgainc farming, Medicinal and aromatic plant cultivation are the few examples of entrepreneurial.

C. KISHORE KUMAR, M.Sc., M.Phil., M.Ed., M.Phil., M.Sc (YOGA), B.A (HINDI), PG ASST IN BOTANY, GOVT.HR.SEC.SCHOOL, THATTAPPARAI, GUDIYATTAM, VELLORE DISTRICT. CELL : 9894807882.
4. Organic farming:
1. The main concept of the organic farming is Back to the Nature.
2. It is an alternative agricultural system in which plants and crops are cultivated in natural ways by using biological inputs to maintain the soil fertility.
3. Before green revolution Indian farmers are practiced organic farming.
4. Organic farming is the good source for the sustainable agriculture.
5. Biofertilizers and micro-organisms are used for organic farming.

I. Organic Pesticide:
1. Pest like aphids, spider and mites can cause serious damage to flowers, fruits and vegetables.
2. These creatures attack the garden in swarms and drain the life of the crop.
3. Many chemical pesticides prove unsafe for human and the environment.
4. It turns fruits and vegetables are unsafe for consumption.
5. There are many homemade, organic options to turn to war against pests.

II. Bio-pest repellent:
Pest repellent and insecticides are made from leaves of Azadirachta indica (Neem-Neem).

Preparation of Bio-pest repellant:

1. Neem leaves
2. Chop the leaves
3. Put in a 50 liter container
4. Fill half of the water
5. Close the container
6. Leave it for 3 days to brew
7. Filter and remove the leaves
8. Add 100 ml of cooking oil and same amount of soap water
9. Filtrate can be sprayed on the plants to repel pests.

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