

Seat No.: _____

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GUJARAT TECHNOLOGICAL UNIVERSITY

PGDIPR – SEMESTER I • EXAMINATION – SUMMER • 2015

Subject code: 495101

Date: 05-04-2015

Subject Name: IPR & Patent Prosecution in India

Time: 2.30 pm - 05:30 pm

Total Marks: 100

Instructions:

1. Make suitable assumptions wherever necessary.
2. Figures to the right indicate full marks.
3. For Que. 1 only you can use your laptop for online Patent Search.
4. Write Patent Search report and its strategy in answer book provided to you.

QUESTION PAPER II

Part A

Que. 1 Prepare a search strategy and do a patent search using various free patent databases and prepare Patent search report in the desired format. (Any ONE) [30]

1.1 Case 1

Conduct a search on topic “Use of Botox in the treatment of migraine headaches”. The scope of search is to find out any patent/NPL/Web-source mentioning the use of Botox or its derivative for the treatment of migraine.

1.2 Case 2

Conduct a search on nutraceutical compositions derived from the *Opuntia elatior* in the form of different food product such as fruit drinks, freeze dried powder of drinks, jelly, jam, ice cream, traditional Indian sweets and as a natural food color. The scope of search is to find out any patent/NPL/Web-source mentioning Herbal Health Drink from fruits of *Opuntia elatior*.

Que. 2 Case study for Patent Drafting (Any ONE)

[30]

Write appropriate title, abstract and claims for any ONE case study. Draft at least 1 independent claim and 5 dependant claim.

2.1: Invention disclosure with drawings

The present subject matter discloses an amphibious bicycle comprises a conventional bicycle modified with two extra attachments. The first attachment consists of four rectangular air floats (rectangular with pointed front end), which support the bicycle, while moving in water. These floats are attached to both sides of the bicycle. It may also have other attachment comprises the fan blades attached in a radial manner on the spokes of the rear wheel.

Propeller having eight blades mounted over a shaft, which can be driven from the existing pedalling arrangement of bicycle. The design is so simple, which enables easy manoeuvring and provides reliable amphibious bicycle, which can be easily converted into normal bicycle, whenever desired.

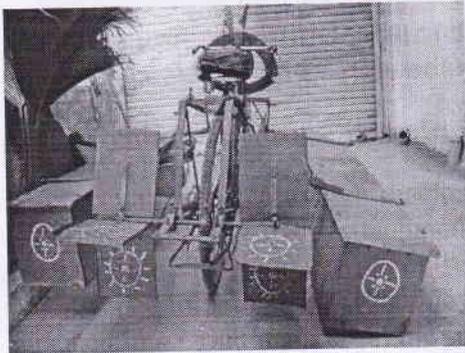
Drawings

FIG. 1



FIG. 2

2.2: Invention disclosure with drawings

The present subject matter relates to nutraceutical compositions derived from the *Opuntia elatior* in the form of different food product such as fruit drinks, freeze dried powder of drinks, jelly, jam, ice cream, traditional Indian sweets and as a natural food color.

In one of the preferred embodiment of the present invention, *Opuntia elatior* are collected spines and thorns are removed and cleaned in a hygienic way. The peel of the fruit removed and made into paste without water. The paste is sieved with clean cheese cloth and the seeds are removed. The cactus fruit paste is boiled with other fruits such as *Vitis vinifera*, *Citrus sinensis*, *Syzygium cumini*, *Citrus Limonum* and herbs such as *Zingiber officinale*, *Cymbopogon citratus* for 10-15 minutes and is and made into a concentrate form.

The present invention provides nutraceutical compounds, vitamins and minerals for making fruit drinks, freeze dried powder of drinks, jelly, jam, traditional Indian sweets and as a natural food color for many food products such as noodles.”

Plant description: Morphology

Out of the 200 odd species of *Opuntia* (cactus) found in the world, this *Opuntia elatior* (commonly known as *Nag Phani* in India and *Findla* in Gujarat) is found in desert areas and owes its origin to regions of the Caribbean, Central America to northern South America.¹ It is shrubby and grows up to 15 feet tall (4.5 m), with pads up to 16 inches long (40 cm). The flowers are yellow with rose coloured stripes. There are varieties with red flowers too. The fruit is ovoid in shape and reddish in colour when mature. The fruiting period of this plant lasts for 4-5 months.

In India, it is found in abundance in Rajasthan, Gujarat and also found in some tracts in the southern states of Tamil Nadu and Andhra Pradesh. For it to grow, it hardly requires any proper production skills or natural endowments (rainfall etc.). The fruit of the plant has a large portion which can be extracted as pulp – almost 90% of the weight of the fruit is used as pulp.³

Figure 1 and 2 below show the fruit and plant of *Opuntia Elatior*.



Fig 1: Fruit of Prickly pear

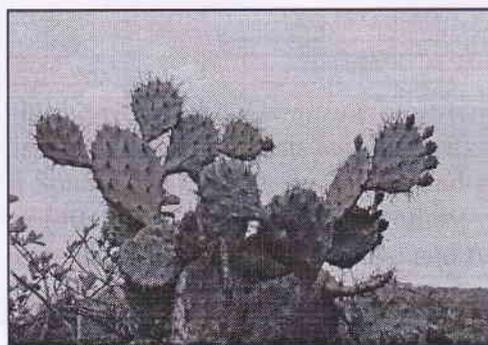


Fig 2: The plant - *Opuntia eliator* Mill

Methodology to prepare drink

De-spine: the spines on the outer part of the fruit are removed in a very crude way by either rolling the fruit in sand directly or after drying it slightly on fire and then rolling the fruit in cloth.⁴

De-skinning: the skin is removed from the fruits manually.

Crushing: the fruit is crushed to a paste using local appliances viz. mortar- pestle without using any water. This paste is then sieved with cheese-cloth and the seeds are removed. The chemical constituents of the mucilaginous paste are given in Exhibit 1.

Concentrate making: the paste obtained is mixed with sugar and some other fruit extracts (ginger, lime, grapes etc.) and boiled for 15-30 minutes to get a pink colored concentrate. This concentrate can now be mixed with water and served as a healthy and refreshing drink.

Example: Chemical composition of Cactus Fruit

Constituent	Presence
Total soluble solids (TSS)	10.8%
Acidity	6.36%
Sugars	5.41%

Tannin	0.11%
Pectin	0.24%
Protein	0.45 g (per 100 g edible fruit)
Calcium	0.242g (per 100 g edible fruit)
Phosphorus	0.025g (per 100 g edible fruit)
Magnesium	0.288g (per 100 g edible fruit)
Iron	0.007g (per 100 g edible fruit)
Potassium	0.458g (per 100 g edible fruit)

Other examples: Some combinations of this drink which have been made are:

Citrus and Ginger based

- 95% *Opuntia elatior*, 4% *Citrus limonum*, 1% *Zinziber officinale*

Grape, Jamun based

- 70% *Opuntia elatior*, 14% *Vitis vinifera*, 14% *Syzugium cumini*, 2% *Zinziber officinale*

Citrus, jamun and ginger based

- 60% *Opuntia elatior*, 18% *Citrus sinensis*, 18% *Syzugium cumini*, 3% *Citrus limonum*, 1% *Zinziber officinale*

Citrus, Lemon, Ginger and Lemon grass based

- 95% *Opuntia elatior*, 3% *Citrus Limonum*, 1% *Zingiber officinale*, 1% *Cymbopogon citratus*

Part B

Que. 3 Viva voice

[40]
