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Abstract

The medicinal properties shown by different medicinal plants are due to the phytochemicals present in the plant. These phytochemicals are the most vital sources for the treatment of destructive diseases. Different phytochemicals have an extensive range of activities, which helps to enhance the immune system and give resistance against long term disease to protect the body from harmful pathogens. To examine and investigate the phytochemicals present in the selected medicinal plants commonly used in Gujrat was the main purpose of this study. The medicinal importance

on the human body. Flavoniods, tannin, phenolic compounds and alkaloids are the most important bioactive components of plants. The names of plants are *Calotropis procera (Ait.) R.Br. (Asclepiadaceae),) Lantana camara (Linn.) Var. (Verbenaceae)* and *Mangifera indica Linn. (Anacardiaceae)*. Standard procedures were used to test the

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phytochemicals. ey give organoleptic properties and color to the plant. In many places, as a dietary accessory they are comfortably approachable but dormant health advantages of phytochemicals are only reachable from the utilization of whole plant.

Phytochemicals are benecial to boost up immunolatory responses and also provide immunity against many diseases. Some phytochemicals are known to reveal medicinal and physiological activities which are phenols, tannins, avonoids, saponins, carbohydrates, alkaloids, phytosterols etc [1-3] erapeutic or curing activities of plants were conventionally proclaimed to have medicinal properties by small researchers. In worldwide medicinal plants the presence of phytochemicals checked in recent researches. Anti-inammatory and anti-nociceptic activities of *Calotropis procera* are the signi cant properties of conventional medicinal plants against many pathogens. So because of the presence of bioactive constituents medicinal plants show these medicinal properties [4-7].

Since time immemorial, people in Gujrat have been using medicinal plant to tackle di erent livestock and human diseases. In the processing of novel plant based drugs, the rst step is the screening of phytochemicals [8]. To pinpoint the secondary bioactive constituents endow in the medicinal plants which are mostly used in Gujrat is the main purpose of this study.

Material and Method

Plant collection and identi cation

In this study, the plants were collected from Gujrat District of kharian and its surroundings. en washed leaves of the plants with tap water about 2-3 times. For evaporating the water content the washed plants leaves were kept in for drying. A er drying, sample was grounded to get ne powder with the help of mechanical blender. en for the future use with proper labeling, the powder stored in air tight plastic container.

Extraction technique

Prom medicinally active part of plant tissue constituent, the separation of inactive part of plant tissue is called as extraction by using standard extraction procedure. Men strum is a selective solvent which is used to reduce the inert material and to get the curative part by treatment is the main objective of this procedure.

Method of Plant Extraction (Figure 1)

Solvent extraction

By using soxhlet extraction method, crude plant extract was prepared. In a thimble 20 gram of powdered plant material was loaded and 250 ml solvents were also extracted independently. As a solvent

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1. Test for alkaloid: In 1% v/v HCL the plant extract is mixed, warmed and ltered. Now this ltered is used for following test.
   a. Mayer's test: With Mayer's reagent (Mercuric chloride + Potassium iodide in water) the ltrate is treated. e presence of alkaloids specify by the formation of yellow colored precipitates.
2. Test for carbohydrates: In 5 ml distilled water, the plant extract is dissolved and ltered. By using this ltrate, the presence of carbohydrates can be tested
3. Molisch's test: Two drops of alcoholic ά- naphthol solution is treated with ltrate in a test tube. Carefully, using a dropper along with side of test tube, disposed tubes and pour drop wise conc. Sulphuric acid. At junction or interface of two liquids, the presence of carbohydrates indicates by the formation of violet color.
4. Test for glycosides: Glycosides are also of great importance and following test indicates its presence.
   a. Froth test for saponins glycosides: By using distilled water the plant extract is diluted and this was shaken for 15 minutes in graduated cylinder. e presence of saponins was indicated by the formation of 1 cm layer of foam.
5. Test for phytosterols: Its presence indicates by the following test.
   a. Salkowski's test: With chloroform and ltered the plant extract was mixed. 5-6 drops of conc. Sulphuric acid is treated with ltrate and shaken gently and allowed to stand carefully. e presence of triterpens (phytosterol) indicates by the appearance of golden yellow color.
6. Test for avonoids: Following test indicates its presence.
   a. Alkaline reagent test: e plant extract is treated with 2-3 drops of sodium hydroxide solution. Acute yellow color formation, that indicates presence of the avonoids, by the addition of some drops of sulphuric acid that changed to colorless.
   b. Test for phenols and tannin: Took 20 ml of distilled water in a test tube, the powdered sample of leaves is boiled and then ltered. e addition of 3-4 drops of 0.1% v/v Ferric chloride to the ltered sample changed the color to brownish green or blue, it indicates presences of phenols or the tannins.

Quantitative analysis of phytochemicals

1. Alkaloids: 5 g of plants sample are grabbing in a beaker and then solution of C_2H_5OH and 10% of CH_3CO_2H of 200 ml is included to plant sample. Encrusted the mixture and allowed it to stand for 4 hours then ltered. In a water bath until it reaches 1/4 of the native volume, extract was enabled to become concentrated then added conc. NH_4OH until the precipitation completed. Resolved the whole solution then collect precipitate and wiped with dilute NH_4OH and nally ltered. en dried and weighed the alkaloid which is sublimate.
2. Flavonoids: 10 g of plant sample is frequently separated with 100 ml of 80% aqueous methanol at room temperature. rough lter paper the whole solution is ltered then the ltrate is relocated into a water bath and solution is evaporated into dryness. Weighed the sample until a constant weigh.
3. Tannins: Quantity of tannins is deliberated by operating the spectrophotometer method. 0.5 g of plant sample is weighed into a 50 ml plastic bottle. 50 ml of distilled is included and agitated

Phytochemicals	Test procedure	Observation
Alkaloids	Filtrate + Mayer's reagent	Yellow coloured precipitate
Carbohydrates	Filtrate + Naphthol + Sulphuric acid	Violet colour
Glycosides	5 ml extract + 5 ml water shake	Foam produced
Phytosterols	2 ml extract + 2 ml $CHCl_3$+2 ml H2S04	Golden yellow colour
Flavonoids	2 ml extract + few drops of NaOH	Yellow color that clear on adding dil. HCL
Phenol and Tannins	Extract + 4 drops of $FeCl_3$	Blue-black coloration

Table 1: Phytochemical analysis procedures.

for 1 hr. e sample is ltered into a 50 ml volumetric ask and