Review Form 1.6

Journal Name:	**Chemical Science International Journal**
Manuscript Number:	**Ms_CSIJ_88917**
Title of the Manuscript:	**Chemical composition, bioactive potential, and thermal behavior of Cyperus Scariosus essential oil**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**Title:** ***Cyperus Scariosus*** – Scientific name of plant must be written as per binomial nomenclature rules. **Materials and Method:** ➢ Clarus GC-MS 600C system with GsBP-5MS capillary column (Helium) of 30 m length, 0.25 mm internal diameter, and 0.25 µm film thickness. **– Complete the statement.** ➢ The GC-MS technique is used operates in electron impact mode with an ionisation energy of 70 eV. **- Correct grammatical errors in the sentence formation.** ➢ Under the given conditions, the infrared absorption spectra of the oil sample were obtained in the spectral regions 4000–700 cm^{-1}. **– Check the wavelength range of spectral region.** ➢ Later, the essential oil was dissolved in a combination of 5% DMSO, 0.1% of polysorbate-80 (1 mg/mL), and then in order to reach the desired concentrations, it was added to a Luria-Bertani medium (100 µL) possessing a bacterial inoculum of 1.0 × 10^4 CFU/mL.**- Check and correct the number of CFU/mL.** ➢ A solvent system consisting of Toluene: Ethyl acetate in a ratio of 9.7: 0.3, was utilized for identification and separation of the essential oil was extracted from *Cyperus scariosus* by HPTLC. 50 µL of sample solution was administered in 1 mL solvent (methanol) were applied as 8 mm wide bands (delivery speed 150 nL/s).**- Correct grammatical errors in the statements.** **Results and Discussion:** ➢ **Unit of MIC representing antimicrobial activity of essential oil has been mentioned different in result table and interpretation. Unit of essential oil concentration must be written as µg/mL instead of mg/mL in the interpretation of data analysis.** **Conclusion:** ➢ Essential oils have seen a surge in popularity in recent years. There has been an increase in the biological and pharmacological properties of essential oils and their constituents. **– Reformulate the statements to improve meaningfulness of sentences.**	
Minor REVISION comments	NIL	
Optional/General comments	❖ Manuscript is '**Strongly Recommended for Publication**' in the **"Chemical Science International Journal"** due to extensive research analysis on "Chemical composition, bioactive potential and thermal behavior of essential oil extracted from *Cyperus scariosus*". ❖ Current *research work* has explored complete chemical characterization of essential oil extracted from medicinal plant *Cyperus scariosus* using modern analytical techniques comprising of GC-MS, FTIR and HPTLC. Present study has also documented stability criteria of essential oil analysed using Thermogravity technique and Differential Scanning Calorimetry. The study has also investigated antibacterial, antifungal, anti-malarial and antioxidant activities of Nagarmotha essential oil revealing its potential applications in pharmaceutical industry. ❖ 'Abstract' section of the research article has been formulated very precisely emphasizing major aim of the study for depicting chemical composition and therapeutic potential of essential oil extracted from *Cyperus scariosus*. ❖ 'Introduction' section of the research article has been represented very elaborately revealing historical background and pharmacological properties of the essential oils. ❖ 'Methodology' section has been documented very impressively revealing standard scientific study design necessary for reproduction of results. ❖ 'Result' section has been compiled appropriately revealing necessary result tables supplemented with graphical representation of	

	the study data. ❖ 'Discussion' section of the research article has been represented with extensive scientific justifications supplemented with relevant citations and precisely described result tables accumulated from vigorous literature survey. ❖ 'Conclusion' section of the research article has been represented quite precisely emphasizing significance of the presented research analysis in development of natural biopharmaceuticals formulated using biological extract of *Cyperus scariosus* containing novel chemicals in its essential oil that can aid in clinical management of various ailments due to its antibacterial, antifungal, anti-malarial and antioxidant properties. ❖ 'Reference' section supplemented with relevant citations is appropriate for the publication of review article in the international journal.	

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

Reviewer Details:

Name:	**Flora Shah**
Department, University & Country	**Indian Institute of Teacher Education (IITE) University, India**