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Study of Ethno-medicines among Some Tribes of Nandurbar District of Maharashtra

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Abstract: ***The study on Ethno-medicinal Plant Survey in Nandurbar District, Maharashtra (2019-2021)" documented the traditional knowledge of ethnomedicinal plant species within the Bhil Pawara, Tadvi Gavit, Mavchi, Vasave, Dhanka, and Barela tribes of the Satpuda ranges in Nandurbar district, Maharashtra. The research focused on identifying and recording 31 plant species that are utilized by these tribes for ethnomedicinal purposes. In addition to detailing the therapeutic applications of these plants for various ailments, the study also captured their cultural significance in activities, customs, beliefs, as well as their roles in providing food, fodder, fiber, and shelter. The findings of this investigation contribute to enhancing the existing understanding of ethno-botanical practices in the Nandurbar district.***
Keywords: Ethnomedicines, Tribal communities, Nandurbar district

I. INTRODUCTION

Nandurbar is located in North western side of Maharashtra State. The District Head Quarter of Nandurbar District is Nandurbar. The district is bounded to the South and South-East by Dhule district, to the West and North is the state of Gujarat, to the North and North-East is the State of Madhya Pradesh. The northern boundary of the district is defined by the great Narmada river (M. B. Patil and P. A. Khan, 2017). Nandurbar district extends between 210 0' to 220 030 North latitude and 730 47' to 740 47' East longitude ((2–4). Nandurbar District was created with bifurcation of Dhule District on 1st July 1998. The district comprises 6 talukas - Akkalkuwa, Akrani Mahal (also called Dhadgaon), Taloda, Shahada, Nandurbar and Navapur. Nandurbar District with a geographical area of 5034.23 sq. kms. Nandurbar district has total population of 13, 11,709 with 65.5 % of scheduled tribe population. Dhadgaon Tahsil ranks first with 94.95 % tribal population then Navapur, Akkalkuwa, Taloda, Shahada and Nandurbar (2001 Census) (Patil and Khan, n.d.) (Figure -1). Studies on medicinal plants of the area are lacking except few sporadic references (Anonymous, 1994; Badgujar,et al, 2008; Duke JA., 1996; Jagtap et al, 2008; Jain, S.K ,1981; Kirtikar, K. R. and Basu B, D., 1999; Marie D'Souza, 1993; Maheshwari, J. K. ,1996 and Patil, M. B. and P.V. Ramaiah, 2005).

II. STUDY AREA

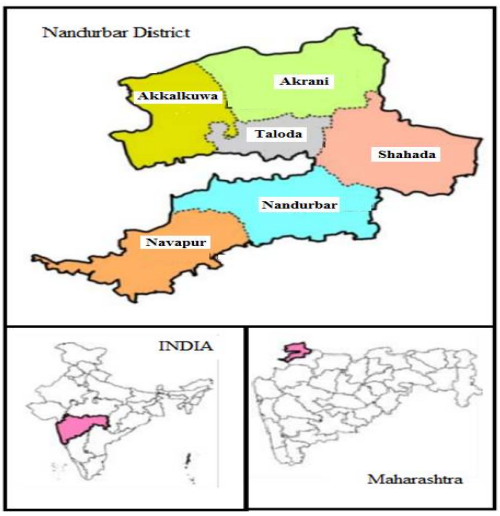

Figure -1 Map of study area

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A. Tribal Life Of Nandurbar District

The tribal population of the district is mainly located in the valleys of Satpuras and stretches from the northern side of Tapi. This hilly tract is spread over 6 ranges - Taloda, Akkalkuwa (E & W), Kathi, Molgi & Manibeli. (Working Plan, Dhule circle, for Period 2019-2022. All these tracts are the tribal pockets. The Villages are called as Padav. The main tribes of the district are Bhil Pawara, Tadvi Gavit, Mavchi and Vasave. The Tadvi are the native of Satpura ranges. They are basically groups, of Bhils but consider themselves superior to Bhils. The Bhils, Vasave and Padvi are together referred to as 'Nayare'. They speak Bhil & adivasi pawri dialects. The Bhil pawaras are located in areas surrounding Shahada, Toranmal & Akrani. This is the dominating tribe of the district. They speak Bhilori & Pawara dialects (Khairnar et al., 2018; Khan and Patil, 2016; M. B. Patil and P. A. Khan, 2017; Tanveer. A. Khan et al., 2020).

III. METHODOLOGY

Extensive and intensive ethnobotanical surveys were conducted in different tribal region localities of Jalgaon district from June 2019- July 2021. The interview method was adopted for gathering knowledge of tribal's, Local medicinemens (Bhagats, Witch doctors, and maharaj) and mouth to mouth discussion about therapeutic uses of local plants in the treatment of various diseases were noted carefully. A simple questionnaire was prepared to gather data regarding the medicinal information purpose. Voucher specimens were collected from the field. The collected specimens were identified correctly by using Flora and other pertinent literature (Patil D. A, 2003, (Khan and Patil, 2016; P. A. Khan, 2014; Patil and Khan, 2017a, 2016; Tanveer. A. Khan et al., 2020)). The herbarium prepared by standard method (Jain and Rao, 1977) has been deposited in the department of botany, Arts, Science and com, college, Chopda. Simple Questionnaire (Jain and Bose 1993) used for data collection is like Occurrence of Plant, Respondents age, sex & education, community. (Archana et al., 2023; Jeba Sonia J et al., 2023; M. B. Patil et al., 2018; Patil and Khan, 2017b)

IV. RESULT

A. Systematic Enumeration and Observations

The given plant species are enumerated alphabetically with their botanical names, family, local names and folklore claims.

1) Abrus precatorius (Gunja) - Family: Fabaceae
Uses: Root paste mixed with mustard oil is applied externally daily for thirty days to cure body swellings. This plant is also known for its distinctive red and black seeds which have been historically used for making jewelry and ornaments.

2) Aloe vera (Korphad) - Family: Liliaceae
Uses: Fresh leaf gel is taken orally for piles and stomach issues. Aloe vera is known for its soothing properties and is commonly used in skincare products due to its moisturizing and healing effects on the skin.

3) Annona squamosa (Sitaphal) - Family: Annonaceae
Uses: Leaf paste is applied externally on hair for three days to remove lice. The fruit of Annona squamosa, known as custard apple or sugar apple, is also consumed for its sweet and custard-like flavor.

4) Aristida adscensionis (Bhuti) - Family: Poaceae
Uses: Ash prepared from the whole plant is applied externally on itching and ringworms. Aristida adscensionis is a type of grass commonly found in grasslands and savannas.

5) Balanites aegyptica (Hinganbet) - Family: Balanitaceae
Uses: Fruit paste is used externally after menstruation to prevent conception. The fruit of Balanites aegyptica is edible and has been used for its nutritional benefits.

6) Butea monosperma (Palas) - Family: Fabaceae
Uses: Bark paste is applied externally on fractured parts. Butea monosperma, also known as flame of the forest, is famous for its vibrant red or orange flowers.

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7) Calotropis gigantea (Rui) - Family: Asclepidiaceae
Uses: Root paste is taken orally twice a day for jaundice up to seven days. Calotropis gigantea, commonly known as crown flower, is also used in traditional medicine for various ailments.

*8) Calotropis procera (*Ruchkin) - Family: Asclepidiaceae
Uses: Dried flower powder is taken orally for asthma. This plant is known for its latex, which has been used for various medicinal purposes.

9) Celosia argentea (Kiradu) - Family: Amaranthaceae
Uses: Seed powder mixed with water is taken orally to stop kidney troubles for seven days. Celosia argentea, also known as cockscomb, is cultivated for its ornamental flowers.

10) Cissus quadrangularis (Kandwel) - Family: Vitaceae
Uses: Fresh stem paste is used externally on fractures. Cissus quadrangularis is used in traditional medicine for its potential benefits in bone health.

11) Datura inoxia (Kaladhotra) - Family: Solanaceae
Uses: Ash prepared from roots is smoked during asthmatic attacks. Datura inoxia, also known as devil's trumpet, contains alkaloids with potential psychoactive properties and has been used in traditional practices for certain conditions.

12) Diospyros melanoxylon (Tembhurni) - Family: Ebenaceae
Uses: The ripened or unripe but matured fruit pulp is mixed with milk and given for dysentery. Diospyros melanoxylon, commonly known as ebony wood, is also valued for its hard and durable timber.

13) Echinops echinatus (Udkata) - Family: Asteraceae
Uses: Root powder is taken with water orally twice a day for headache. Echinops echinatus is a spiny herbaceous plant known for its distinctive spherical flower heads.

14) Gloriosa superba (Khadyanag) - Family: Liliaceae
Uses: Root paste is made into water and used to kill fishes. Gloriosa superba, also known as flame lily or climbing lily, is renowned for its striking and colorful flowers.

15) Holarrhena antidysenterica (Kuda) - Family: Apocynaceae
Uses: Roots paste, mixed with fruit pulp of Punica granatum and salt, is given orally for controlling diarrhea. Holarrhena antidysenterica, also known as kurchi, has been used traditionally for treating gastrointestinal issues.

16) Merremia emerginata (Undirkani) - Family: Convolvulaceae
Uses: Leaf juice made into water is applied externally to kill lice. Merremia emerginata, commonly known as morning glory, is a climbing plant with attractive flowers.

17) Tylophora fasciculata - Family: Asclepidiaceae
Uses: Dried powder is made from the whole plant and used internally for menstruation problems. Tylophora fasciculata is a climbing plant with potential medicinal properties.

18) Triumfetta rhomboidea (Zila) - Family: Tiliaceae
Uses: Root extract is made into water with a pinch of sugar and applied orally for vomiting. Triumfetta rhomboidea, commonly known as burr bush, has been used traditionally for various ailments.

19) Nyctanthes arbor-tristis (Parijatak) - Family: Oleaceae
Uses: Various parts of the plant are used in treating chronic fever, intestinal worms, and rheumatism. Nyctanthes arbor-tristis, also known as night-flowering jasmine, is revered for its fragrant flowers.

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20) Oxalis carnosa (Tipani) - Family: Oxalidaceae
Uses: The plant paste is externally applied on boils and forehead during headache. Oxalis carnosa, commonly known as wood sorrel, is a flowering plant with sour-tasting leaves.

21) Ougenia oogenensis (Tiwas) - Family: Fabaceae
Uses: Leaf paste is applied externally for wound healing. Ougenia oogenensis, commonly known as Indian almond tree, produces edible nuts and has been used for its various medicinal properties.

22) Parkinsonia aculeata (Babhul) - Family: Caesalpinaceae
Uses: Leaf infusion is orally given to treat anemia. Parkinsonia aculeata, also known as Jerusalem thorn, is a spiny tree with feathery leaves and yellow flowers.

23) Pergularia daemia (Utran-vel) - Family: Asclepiadaceae
Uses: Tender leaves fried with ghee are eaten to stop bleeding from piles. Pergularia daemia, commonly known as milkweed, has been used traditionally for its potential medicinal benefits.

24) Phyllanthus amarus (Bhui amla) - Family: Euphorbiaceae
Uses: Dried powder of the whole plant is given with water to cure jaundice. Phyllanthus amarus is known for its use in various traditional medicine systems for liver and kidney health.

25) Pterocarpus marsupium (Bibha) - Family: Fabaceae
Uses: A glass-type hole is made in wood, filled with water, and taken orally to manage diabetes. Pterocarpus marsupium, also known as Indian kino tree, has been used for its potential anti-diabetic properties.

26) Ricinus communis (Erandi) - Family: Euphorbiaceae
Uses: Leaf decoction of water is given in the morning for seven days to cure jaundice. Ricinus communis, commonly known as castor bean plant, is known for its castor oil-rich seeds and various medicinal uses.

*27) Solanum virgianum (*Bhuiringani) - Family: Solanaceae
Uses: Seed powder is filled in tooth cavities during toothache. Solanum virgianum, commonly known as yellow berried nightshade, has been used in traditional medicine for various purposes.

28) Soymida febrifuga (Ragat roda) - Family: Meliaceae
Uses: Stem bark powder is given orally with warm water to address women's health issues. Soymida febrifuga, commonly known as Indian redwood, has been used for its potential medicinal properties.

29) Tridax procumbens (Ekdandi) - Family: Asteraceae
Uses: Fresh leaf paste is applied externally for wound healing and to stop bleeding. Tridax *procumbens, commonly known as coat buttons, is used in traditional medicine for various purposes.*

30) Vitex negundo (Nirgudhi) - Family: Verbenaceae
Uses: Leaf paste is applied externally like a bandage on bone fractures. Leaf juice drop is applied externally to alleviate half headaches. Vitex negundo, commonly known as five-leaved chaste tree, has been used for its potential medicinal benefits.

31) Terminalia chebula (Sadada) - Family: Combretaceae
Uses: Dried bark powder mixed with warm water is taken in the morning to relieve uneasy feelings. Terminalia chebula, also known as haritaki, is a well-known Ayurvedic herb used for various health purposes.

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V. DISCUSSION

During the study, it was evident that the elderly individuals within the tribal communities possess an extensive understanding of the local flora and its practical applications. However, owing to entrenched superstitious beliefs, they continue to opt for magical practices and mantras to treat ailments. Their profound folk heritage, cultural traditions, and substantial indigenous knowledge, encompassing ethno-botanical insights, constitute an integral facet of their civilization. Unexplored realm of knowledge concerning the indigenous plant life, and a pressing necessity exists to systematically document the utilitarian significance of indigenous plants within the local ecosystem.

Furthermore, tribal communities have historically consumed select wild plants as food sources, sans any detrimental effects. Noteworthy observations unveil novel traditional applications of medicinal plants as remedies. Examples include the anti-jaundice properties of *Calotropis procera*, the utilization of *Annona squamosa* and *Merremia emerginata* leaves for lice eradication, the employment of *Gloriosa superba* for fishing, *Celosia argentea* for kidney ailments, *Terminalia chebula* for discomfort, and *Aloe vera* for stomach issues. Several plants have displayed notable efficacy in addressing conditions like asthma, gynecological disorders, wound healing, diarrhea, dysentery, ringworm, vomiting, headache, and bone fractures. The survey accentuates that many herbs used by tribal populations for medicinal purposes are abundantly available at minimal cost, rendering them accessible. The methods of preparation and administration of these remedies are straightforward and gentle, devoid of harmful side effects for patients. Strikingly, these local communities demonstrate an awareness of the sustainable and enduring application of medicinal plants.

Sacred groves hold a special significance, as they remain untouched due to the tribal belief that their principal deity, *'Waghdeo,'* would curse any desecration. *'Waghdeo gaga'* thus forms a protected area safeguarded against destruction, nurturing flora and fauna across generations. These sacred groves play a vital role in promoting forest conservation.

VI. ACKNOWLEDGEMENT

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REFERENCES

[1] Anonymous. 1994. Ethnobotany in India A status report (Ministry of Environment and Forests, Govt. of India).
[2] Badgujar, S. B., Mahajan, R. T. and Kosalge, S. B. 2008. Traditional practice for oral health care in Nandurbar District of Maharashtra, India. Ethnobotanical Leaflets 12:1137-44
[3] Cook, Th. 1958 (Repr.ed.). Flora of The Presidency of Bombay Vol. I, II & III. Bot. Survey of India, Calcutta.
[4] Duke JA. 1996. Role of Medicinal Plants in Healthcare in India, Brisbane, Australia.
[5] Jagtap, S. D., S. S. Deokule and S. V. Bhosle 2008. Ethnobotanical uses of endemic and RET plants by Pawra tribe of Nandurbar District, Maharashtra. Indian Journal of Traditional Knowledge (2):311- 315.
[6] Jain SK and Rao RR. 1977. A Handbook of Field & Herbarium Methods Today & Tomorrow Printers & Pub, New Delhi.
[7] Jain, S.K 1981 Ethnobotanical research unfolds new vistas of traditional medicine. In S.K. Jain (eds.), Glimpses of Indian Ethnobotany. Oxford & IBH Publ. Delhi. PP. 13-36.
[8] Kirtikar, K. R. and Basu B, D. 1999: Indian medicinal plants. Vol.-I.-IV, 2nd Ed., Edited by Blatter et al. Published by International Book Distributors, Dehra Dun.
[9] Lipp, F.]. 1989. Methods for ethnopharmacological field work. J. Ethnopharmacol. 25 : 139-150.
[10] Marie D'Souza, 1993: Tribal Medicine. Soc. for Pramotion of Waste Land Development, New Delhi.
[11] Maheshwari, J. K. 1996: Ethnobotany in south Asia. Jodhpur: Sci. Publishers (Ed.).
[12] Patil, D. A. 1992: Key to Angiosperm of Dhule District (Maharashtra). Pune Vidhyapit Griha Prakashan, Pune (M. S.).
[13] Patil, D. A. 2003: 'Flora of Dhule and Nandurbar Districts'. Bishen Singh Mahendrapal Singh, Dehra Dun.
[14] Patil, M. B. and P.V. Ramaiah, 2005. Traditional phytotherapy used for treating piles (Hemorrhoids) by tribes of Nandurbar district of Maharashtra. Bioinfolet. 2 (2): 219-220, 2005.
[15] Shah, G. L. 1978: Flora of Gujarat State. Vol. I-II, Vallabh Vidyanagar, Anand.
[16] Schultes, R.E. 1962. The role of ethnobotanists in the search for new medicinal plants. Lloydia 25 : 257- 266.
[17] Ugemuge, N. R. 1986: 'Flora of Nagpur District'. Shree Praka., Nagpur
[18] World Health Organization, 2002. WHO strategy on traditional medicine. World Health organization Geneva, pp 57.
[19] Archana, U., Khan, A., Sudarshanam, A., Sathya, C., Koshariya, A.K., Krishnamoorthy, R., 2023. Plant Disease Detection using ResNet, in: 2023 International Conference on Inventive Computation Technologies (ICICT). Presented at the 2023 International Conference on Inventive Computation Technologies (ICICT), IEEE, Lalitpur, Nepal, pp. 614–618. https://doi.org/10.1109/ICICT57646.2023.10133938

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[20] Jeba Sonia J, D. J. Joel Devadass Daniel, Dr. R. Sabin Begum, Pathan, A.K.N.K., Dr. Veera Talukdar, Solavande, V.D., 2023. AI Techniques for Efficient Healthcare Systems in ECG Wave Based Cardiac Disease Detection by High Performance Modelling. https://doi.org/10.5281/ZENODO.7562589
[21] Khairnar, A.S., Gomase, P.V., Khan, T.A., Khan, P.A., Patil, M.B., 2018. Begonia picta Sm.: A NEW RECORD TO NANDURBAR AND. Bionature 38, 333–336.
[22] Khan, P.A., Patil, M.B., 2016. Caterpillar of Trichoplusia sp (Lepidoptera) affects on Azadiracta indica or Vice-Versa: An Anomalous Behavior. International Journal of Science Info 1, 298–303. https://doi.org/10.5281/zenodo.7562399
[23] M. B. Patil, P. A. Khan, 2017. Ethnobotanical, phytochemical and Fourier Transform Infrared Spectrophotometer (FTIR) studies of Catunaregam spinosa (Thunb.) Tirven. Journal of Chemical and Pharmaceutical Sciences 10, 950–955. https://doi.org/10.5281/ZENODO.7562415
[24] M. B. Patil, T. A. Khan, Khan, P.A., 2018. Ipomoea clarkei Hook.f. : A New Record to Nandurbar and Dhule District Flora of Maharashtra. Online International Interdisciplinary Research Journal 8, 42–49. https://doi.org/10.5281/ZENODO.7562577
[25] P. A. Khan, 2014. Tissue culture studies in Hemidesmus indicus (L.) R. Br. https://doi.org/10.5281/ZENODO.7558911
[26] Patil, M.B., Khan, P.A., 2017a. Ethnobotanical, phytochemical and Fourier Transform Infrared Spectrophotometer (FTIR) studies of Catunaregam spinosa (Thunb.) Tirven 10. https://doi.org/10.5281/zenodo.7562415
[27] Patil, M.B., Khan, P.A., 2017b. Primary phytochemical studies of catunaregam spinosa (thunb.) Tirven for secondary metabolites. Int J Pharma Bio Sci 8. https://doi.org/10.22376/ijpbs.2017.8.2.p320-323
[28] Patil, M.B., Khan, P.A., 2016. Review: Techniques towards the Plant Phytochemical Study. IJSI 1, 157–172. https://doi.org/10.5281/zenodo.7559052
[29] Patil, M.B., Khan, P.A., n.d. Ethnomedicinal Studies of Acalypha Indica L. (Euphorbiaceae). Review of Research Journal 4, 1–6. https://doi.org/10.5281/zenodo.7559024
[30] Tanveer. A. Khan, M. B. Patil, Khan, P.A., 2020. Henckelia Bifolia (D. Don) A. Dietr. New Distributional Records for Maharashtra. Indian Forester 146, 461–462. https://doi.org/10.5281/ZENODO.7562565

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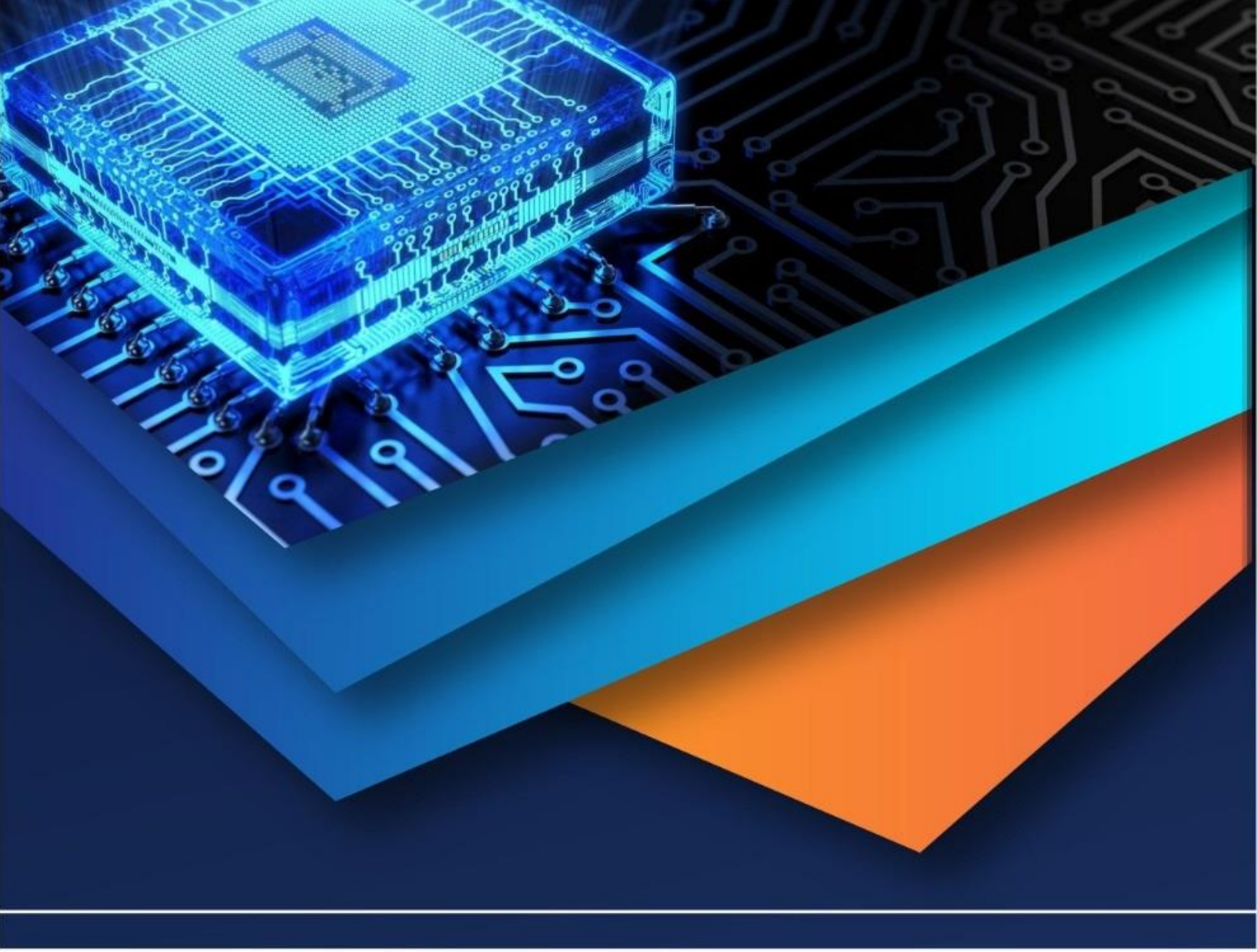

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