



On the occasion of Centenary Celebrations of Dept. of Botany, OU

**International Conference on
"Advances in Plant Sciences for Sustainable Future"
(ICAPSSF- 2024)**

February 7th to 9th, 2024

PROCEEDINGS



Organized by:

**Department of Botany & Botany Alumni
Osmania University, Hyderabad – 500 007,
Telangana, India.**

Copyright © Chief Editor and Editorial Members

No part of this publication may be reproduced or distributed in any form or by any means, electronic, mechanical, photocopy, recording, or otherwise or stored in a database or retrieval system without the prior written permission of publishers. This edition can be exported from India only by the Publishers.

The editorial board does not necessarily agree with all the research articles included in this edited book.

Proceeding of International Conference on "Advances in Plant Sciences for Sustainable Future"

Chief Editor : Prof. B. Rama Devi, Prof. A. Sabitha Rani

Editorial Members :

Prof. P. Kamalakar, Prof. E. Sujatha, Prof. K. Shailaja, Dr. S. Nageswara Rao,
Dr. P. R. Sushma, Dr. A. Vijaya Bhasker Reddy, Dr. P. Chaya, Dr. M. Venkat Ramana,
Dr. B. Kiran Kumar, Dr. Syeda Azeem Unnisa, Dr. D. Seshikala, Dr. R. Suman Kumar,
Dr. K. Raghu,

Published by the DnyanPath Publication (INDIA)

A Leading National Books Publishing House In India

The First edition published in February, 2024

DnyanPath[®]
Publication
Write well - Style well
ISO 9001 : 2015

A Leading National Books Publishing House In India

Reg. Office : FFS-A, Block C, First Floor, Venus Plaza, Shegaon Naka, V.M.V. Road,
Amravati, Maharashtra 444 603

Branch Office : Kalash Complex, Near Gulmohar Hall, Pande Layout, New Sneh Nagar,
Khamala, Nagpur, Maharashtra 440025

Visit us : www.dnyanpath.com

Contact us : dnyanpathpub@gmail.com

Phone : 08600353712, 09503237806



Printed at - Shri Gurudeo Printers, Amravati.

Mahatma Fule Sankul, Shegaon Naka,
V.M.V. Road, Amravati - 444603 (Maharashtra)

ISBN : 978-81-19435-77-7
9 788119 435777

LIST OF THE CHAPTERS IN THE PROCEEDINGS

Chapter 1	Indirect Organogenesis and Plant Regeneration in <i>Corynandra Felina</i> (L.F.) Cochrane & Ittis., using stem explants - An Important Endemic medicinal plant Narendar Mediseti^{1*}, Shailaja Kusuma² Narendar Mediseti^{1*}, Research Scholar, Department of Botany, Osmania University, Hyderabad-500007, Telangana, India. E-mail: narend174@gmail.com Prof. Shailaja Kusuma², Department of Botany, Osmania University, Hyderabad- 500007, Telangana, India.
Chapter 2	Effect of ZnO nanoparticles synthesized from different plant extracts on growth of <i>Oryza sativa</i> L. Govindugari Vijaya Laxmi^{1*}, Kamasani Aarya Sree¹, Kruthiventi Chandana¹, Shilpa Chakra² ¹Department of Biotechnology, Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad-500075, Telangana, India. ²Centre for Nano Science and Technology Institute of Science and Technology Hyderabad, Kukatpally, Hyderabad-500085, Telangana, India. *Communicating author: drgvilaxmi_biotech@cbit.ac.in
Chapter 3	Direct shoot regeneration using leaf explants of <i>Spilanthes acmella</i> Murr. Hajera Sana^{1*} and A. Sabitha Rani² ¹Department of Botany, Telangana Mahila Vishwavidyalayam, Hyderabad-500095, Telangana State, India. Email: hajera05sana@gmail.com ²Department of Botany, Osmania University, Hyderabad- 500007, Telangana State, India. Email: sabithaanmana@yahoo.com
Chapter 4	Morphological Studies of <i>Selaginella bryopteris</i> (L.) Baker. Genotypes of Telangana, India. P. Rupa¹, A.Chandra Shekar Reddy² and N. Lakshmi Bhavani³ ¹Lecturer, Department of Botany, Telangana Social Welfare Residential Armed Forces Preparatory Degree College for Women, Bhongir. ²Assistant Professor, Department of Botany, AV College of Arts, Science and Commerce, Domalguda, Hyderabad ³Plant Tissue Culture and Molecular Genetics Lab, Department of Botany, University College of Science, Saifabad, Osmania University, Hyderabad, 500004, India. Email Id for correspondence: rupareddyputta@gmail.com
Chapter 5	Arbuscular Mycorrhizal Fungal Association with <i>Echinops echinatus</i> Roxb. from Nagarkurnool District, Telangana State, India. Prasad Kante^{1*}, Hindumathi Amballa², Bhadraraj Bheemanathini³ ¹Assistant Professor, Department of Botany, MVS Government Arts & Science College (Autonomous), Mahabubnagar, Telangana, India. *Corresponding Author: hariprasad.telangana@gmail.com ^{2,3}Applied Mycology and Molecular Plant Pathology Lab, Department of Botany, Osmania University, Hyderabad, India.
Chapter 6	Ethnobotanical Exploration of Amrabad Area, Nallamala Forest Telangana, India: Traditional Healing Practices and Herbal Treatments. Dr. Rajendar Gubba^{1*}, Prof. G. Bagyanarayana². ¹Assistant Professor of Botany, MVS Government Arts and Science College (Autonomous), Mahaboob Nagar, Telangana -509001. Email ID: rajangphd@gmail.com ²Professor (Retd.), Department of Botany, University College of Science, Osmania University, Hyderabad, Telangana-500007

Arbuscular Mycorrhizal Fungal Association with *Echinops echinatus* Roxb. from Nagarkurnool District, Telangana State, India.

Prasad Kante^{*1}, Hindumathi Amballa², Bhadraiah Bheemanathni³

¹Assistant Professor, Department of Botany, MVS Government Arts & Science College (Autonomous), Mahabubnagar, Telangana, India. ^{*}Corresponding Author: hariprasad.telangana@gmail.com

^{2,3} Applied Mycology and Molecular Plant Pathology Lab, Department of Botany, Osmania University, Hyderabad, India.

ABSTRACT

The arbuscular mycorrhizal (AM) fungal association in the rhizosphere of *Echinops echinatus* Roxb. from five Mandals of Nagarkurnool District, Telangana state, India, was studied. The results showed 30 species of 6 genera of AM fungi were identified, of which 10 belonged to *Acaulospora*, 1 to *Archaeospora*, 1 to *Entrophospora*, 3 to *Gigaspora*, 13 to *Glomus*, and 2 to *Scutellospora*. *Glomus* was the dominant genera followed by *Acaulospora* and *Glomus aggregatum*, *Glomus fasciculatum*, *Acaulospora bireticulata*, and *Acaulospora rehmi* were the prevalent species. The AM fungi spore density ranged from 70 to 173 per 100 gm of soil (average 98), while the root colonization ranged from 56% to 77.33% (average 70.13). This study provides valuable information for AM fungal association and AM fungal biotechnology on medicinal standardization planting.

Keywords: *Echinops echinatus* Roxb. Arbuscular Mycorrhizal fungi, AM fungal spores, Root colonization.

INTRODUCTION

In the intricate tapestry of plant-microbe interactions, the symbiotic relationship between arbuscular mycorrhizal (AM) fungi and plants stands out as a crucial determinant of ecological and physiological dynamics. *Echinops echinatus* Roxb. a medicinal plant of considerable importance, has been the subject of growing interest due to its therapeutic properties. This study focuses on unraveling the nuances of the arbuscular mycorrhizae association with *Echinops echinatus* Roxb. specifically delving into the dynamics of AM spore isolation, identification and root colonization within this plant species. By examining the intricate interplay between the plant and AM fungi, we aim to shed light on the mechanisms underlying the mutualistic relationship, particularly as it relates to the medicinal value of *Echinops echinatus* Roxb. Understanding the intricate connections between the plant, its associated mycorrhizal fungi, and the potential implications for medicinal properties holds promise for advancing both ecological knowledge and applications in traditional medicine.

***Echinops echinatus* Roxb.**

The botanical entity *Echinops echinatus* Roxb., colloquially recognized as Indian Globe Thistle (Asteraceae family), is a subject of increasing scientific interest due to its diverse range of medicinal attributes. The plant's phenological cycle, marked by flowering and fruiting during December to January, has become a focal point for researchers exploring its therapeutic potential. This hardy herbaceous species is a reservoir of bioactive compounds, notably Terpenoids and Echinacin, identified within its botanical matrix. With a rich history in traditional medicine, *Echinops echinatus* has earned prominence for its robust anti-inflammatory and antibacterial properties. Its efficacy in addressing urinary disorders further underscores its multifaceted role in enhancing health. This scientific discourse acknowledges the profound interplay between *Echinops echinatus* and human wellness, underscoring its significance as a valuable natural resource in medicinal research and application.

Bupinder singh *et al.* 1989 [1] had studied anti-inflammatory activity of *Echinops echinatus*. Singh *et al.* 2006 [2] had reported flavonoids from *E. echinatus*. Manish Agarwal *et al.* 2012 [3] had reported protective effects of *Echinops echinatus* on testosterone-induced prostatic hyperplasia in rats. Santosh kumar *et al.* 2015 [4] had studied ethno medicinal review of (Usnakantaka) *E. echinatus* Roxb. Muhammad Younus *et al.* 2016 [5] had reported spectral analysis and antibacterial activity of methanol extract of roots of *E. echinatus* and its fractions.

2. MATERIALS & METHODS

2.1 Collection of root and soil samples

The roots and rhizosphere soils of *Echinops echinatus* Roxb. were collected from a depth of approximately 5-10 cm. Three healthy plants were selected from each field, root and soil samples were collected and subsequently placed in plastic bags and transferred to the laboratory. In the laboratory, the rhizosphere soil was air dried and stored in a refrigerator at 4°C until processing. The root samples were washed with distilled water to removed attached soil particles, cut into 1 cm segments and fixed in FAA solution (formalin, acetic acid and alcohol).

2.2 Isolation, identification and quantification of AM Fungi spore

Spores and sporocarps of AM fungi were isolated by using the wet sieving and decanting method [6]. AMF spore identification and their morphological characters were determined and analyzed qualitatively by using manual of Schenck and Perez [7] and the website of the International collection of vesicular and AM fungi (<http://invam.wvu.edu/>; <http://www.zor.zut.edu.pl/Glomeromycota/index.html>).

2.3 Quantification of AM fungi root colonization

The root samples were gently washed with distilled water to remove attached soil particles and free of FAA. The root samples cut into approximately 1 cm long segments, cleared by boiling in

10% KOH and the boiling time varied depending on the colour and thickness of the roots [8]. Cleared root segments were acidified with 5 N HCl and stained with 0.05% trypan blue in lactophenol [9]. AM fungal colonization was quantified by the glass slide method, in which 50 randomly selected 1 cm long root segments were examined microscopically [10]. The root colonization percentage was calculated by the following formulae:

$$= \frac{\text{No. of infected root fragments} \times 100}{\text{No. of total root fragments}}$$

2.5. Geographical details of the Study area

The Nagarkurnool district is situated between N 16° 29' 38.1912" latitudes and E 78° 18' 36.8964" longitudes in the state of Telangana, India. This study aims to assess the diversity of arbuscular mycorrhizal (AM) fungi in rhizosphere soils and their association with the roots of *Echinops echinatus* Roxb. Root samples and rhizosphere soils were collected from five mandals in Nagarkurnool District, Telangana, India, and were subsequently studied.



Map 1: Nagarkurnool district Map (source: Planning Department, Government of Telangana).

3. RESULTS & DISCUSSIONS

In the present study reveals that, *Echinops echinatus* Roxb. associated with 30 AM fungal species belonging to 6 genera viz., *Acaulospora*, *Archaeospora*, *Entrophosphora*, *Gigaspora*, *Glomus* and *Scutellospora*. Of which 10 belonged to *Acaulospora*, 13 to *Glomus*, 2 to *Scutellospora*, 3 to *Gigaspora*, 1 to *Archaeospora* and 1 to *Entrophosphora*. The highest AM fungal spore count per 100gm of rhizosphere soil was recorded (Table 2) in Amrabad with 173 AM fungal spores with 68 % root colonization followed by Kollapur with 84 AM fungal spores with 73.33 % root colonization and Nagarkurnool with 83 AM fungal spores with 56 %root colonization. The lowest AM fungal spore count per 100gm of rhizosphere soil was recorded in Achampet with 70 AM fungal spores with 76 % root colonization. The highest root colonization 77.33 % was recorded in

Kodair followed by Achampet with 76 % root colonization. The lowest root colonization 68 % was recorded in Amrabad. The average AM fungal spore count was recorded as 98 and percentage of root colonization was recorded as 70.13%. *Glomus* was the dominant genera followed by *Acaulospora* and *Glomus aggregatum*, *Glomus fasciculatum*, *Acaulospora bireticulata*, and *Acaulospora rehmiti* were the prevalent species (Plate 1).

The AM spore number of *Echinops echinatus* Roxb. was higher in Amrabad samples compared to that of Achampet sample which might be due to the presence of sandy loam soil in Amrabad and clay loam soil in the Achampet. Rachel et. al., 1993 [11] reported more AM fungal infection in sandy loam soil followed by other soil types.

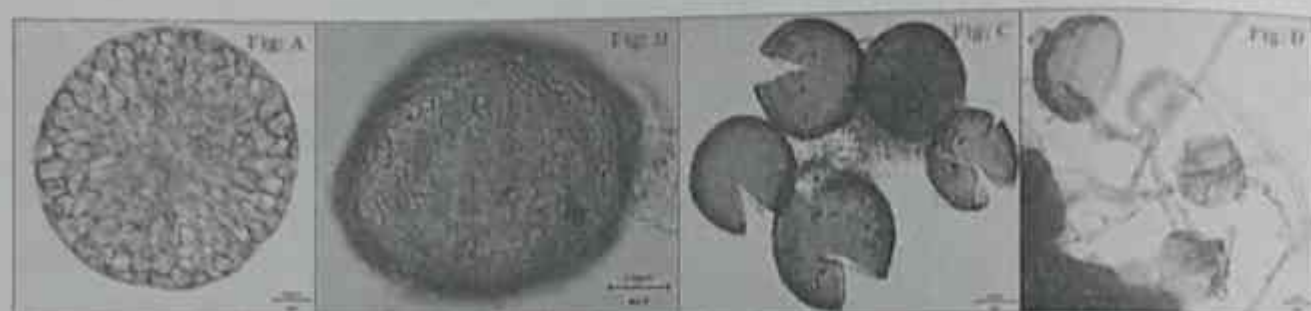


Fig. A – *Acaulospora bireticulata*, Fig. B – *Acaulospora rehmiti*
Fig. C – *Glomus aggregatum*, Fig. D – *Glomus fasciculatum*

Plate 1 illustrates the predominant arbuscular mycorrhizal (AM) species found in *Echinops echinatus* Roxb. from five mandals in Nagarkurnool District

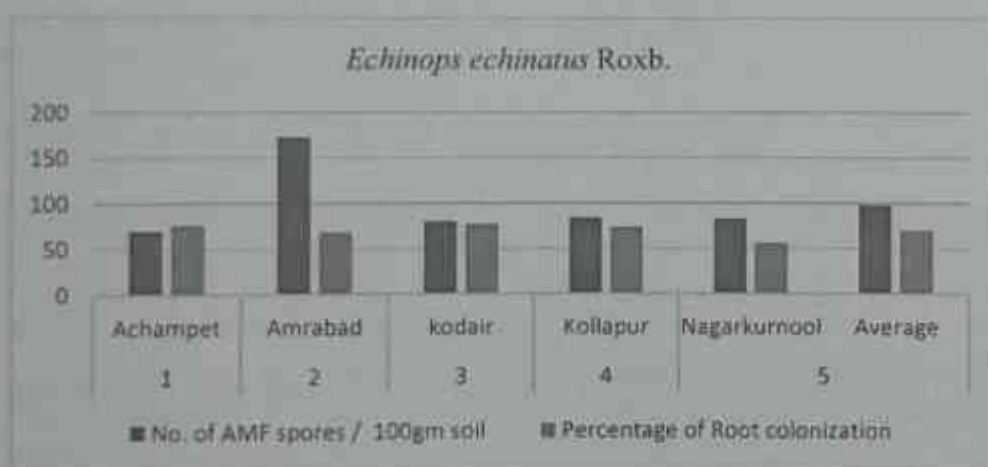
Table 1: The AM fungal association with *Echinops echinatus* Roxb. from five mandals of Nagarkurnool District

S. No	AMF Species	Achampet	Amrabad	Kodair	Kollapur	Nagarkurnool
1	<i>Acaulospora bireticulata</i>	+	+	+	+	+
2	<i>Acaulospora delicata</i>	-	+	-	+	-
3	<i>Acaulospora denticulata</i>	-	+	-	+	+
4	<i>Acaulospora mellea</i>	+	+	+	-	-
5	<i>Acaulospora morrowiae</i>	+	-	-	-	+
6	<i>Acaulospora paulinae</i>	-	-	+	-	-
7	<i>Acaulospora rehmiti</i>	+	+	+	+	+
8	<i>Acaulospora scrobiculata</i>	+	+	-	+	+
9	<i>Acaulospora spinosa</i>	-	+	-	+	-
10	<i>Acaulospora thomii</i>	-	-	+	+	-
11	<i>Archaeospora schenckii</i>	+	-	-	+	+
12	<i>Eutrophosphora infrequens</i>	-	-	-	+	+
13	<i>Gigaspora albida</i>	-	+	-	-	+
14	<i>Gigaspora gigantea</i>	+	-	+	-	+
15	<i>Gigaspora rosea</i>	-	+	-	+	-
16	<i>Glomus aggregatum</i>	+	+	+	+	+

17	<i>Glomus albidum</i>	-	+	-	-	+
18	<i>Glomus claroidesum</i>	+	-	-	+	-
19	<i>Glomus clarum</i>	-	-	+	-	+
20	<i>Glomus constrictum</i>	+	+	-	+	-
21	<i>Glomus cubense</i>	-	-	+	+	-
22	<i>Glomus fasciculatum</i>	+	+	+	+	+
23	<i>Glomus globiferum</i>	-	+	-	+	-
24	<i>Glomus maculosum</i>	-	+	-	+	+
25	<i>Glomus mossae</i>	+	-	+	+	+
26	<i>Glomus multisubtensum</i>	-	+	+	-	-
27	<i>Glomus tenebricosum</i>	-	+	-	+	+
28	<i>Glomus warcupii</i>	+	-	+	-	+
29	<i>Scutellospora dipurpurascens</i>	-	+	+	+	-
30	<i>Scutellospora reticulata</i>	+	+	-	+	-

Table 2: AM fungal spore count and root colonization percentages in *Echinops echinatus* Roxb. from five mandals of Nagarkurnool District.

Sample No.	Name of the Mandal	No. of AMF spores / 100gm soil	Percentage of Root colonization
1	Achampet	70	76
2	Amrabad	173	68
3	Kodair	80	77.33
4	Kollapur	84	73.33
5	Nagarkurnool	83	56
	Average	98	70.13



Graph 1 depicts the AM fungal spore count and root colonization percentages in *Echinops echinatus* Roxb. from five mandals in Nagarkurnool District.

4. CONCLUSION

The AM fungal association with *Echinops echinatus* Roxb. in five Mandals of Nagarkurnool District was investigated in the present study. From the research, we can conclude that the biodiversity of AM fungi was abundant, with *Glomus* and *Acaulospora* emerging as the dominant genera. Noteworthy prevalent species included *Glomus aggregatum*, *Glomus fasciculatum*, *Acaulospora bireticulata*, and *Acaulospora rehmiti*. The spore density of AM fungi ranged from 70 to 173 per 100 gm of soil (average 98), and root colonization varied from 56% to 77.33% (average 70.13). Marked variations in AM fungal spore density and root colonization were observed among the five Mandals. Considering the potential application of AM fungi on *Echinops echinatus* Roxb., it is evident that more attention should be directed towards the predominant AM fungi during their cultivation process, especially in enhancing mycorrhizal performance, such as improving growth and increasing secondary metabolite production.

REFERENCES

- Bupinder Singh, S.S. Gambhir, V.B. Pandey & V.K. Joshi, 1989. Anti-inflammatory activity of *Echinops echinatus*, Journal of Ethnopharmacology, Volume 25, Issue 2, Pages 189-199.
- S. Singh, R. K. Upadhyay, M. B. Pandey, J. P. Singh & V. B. Pandey (2006) Flavonoids from *Echinops echinatus*, Journal of Asian Natural Products Research, 8:3, 197-200, DOI: 10.1080/1028602042000324826
- Manish Agrawal, Alok Nahata and Vinod Kumar Dixit, 2012. Protective effects of *Echinops echinatus* on testosterone-induced prostatic hyperplasia in rats, European Journal of Integrative Medicine, Volume 4, Issue 2, June 2012, Pages e177-e185.
- Maurya SK, Kushiwaha AK, Seth A. Ethnomedicinal review of Usnakantaka (*Echinops echinatus* Roxb.). Pharmacogn Rev. 2015 Jul-Dec; 9(18):149-54. DOI: 10.4103/0973-7847.162138. PMID: 26392713; PMCID: PMC4557238.
- Younus M, Khan FZ, Sultana S, Asif HM (2016) Spectral Analysis and Antibacterial Activity of Methanol Extract of Roots of *Echinops echinatus* and its Fractions, J. Microb. Biochem. Technol. 8: 216-221. DOI: 10.4172/1948-5948.1000288
- Gerdemann J.W. and Nicolson T.H. 1963. Spores of mycorrhizal Endogone species extracted from soil by Wet-Sieving and Decanting. Trans.Br. Mycol. Soc. 46: 235-244.
- Schenck N.C. and Perez Y. 1990. Manual for the Identification of VA Mycorrhizal Fungi. Synergistic Publications, Gainesville, Florida, USA. pp 283.
- Koske and Gemma, 1989. A modified procedure for staining roots to detect VA mycorrhizas. Mycological Research. Volume 92, Issue 4, June 1989, Pages 486-488.
- Phillips J. and Hayman D.S. 1970. Improved procedure for clearing roots and staining parasitic and vesicular mycorrhizal fungi for rapid assessment of infection. Trans. Br. Mycol. Soc. 55: 158 -161.
- Giovannetti, M., & Mosse, B., 1980. An Evaluation of Techniques for Measuring Vesicular Arbuscular Mycorrhizal Infection in Roots. New Phytologist, 84, 489-500. <http://dx.doi.org/10.1111/j.14698137.1980.tb04556.x>.
- Rachel EK, Reddy SR, Reddy SM, 1993. Distribution of VA-mycorrhizal fungi in four different soils of Andhra Pradesh. Ind. Bot. Res. 12:35-40.



On the occasion of Centenary Celebrations of Dept. of Botany, OU

**International Conference on
“Advances in Plant Sciences for Sustainable Future”
(ICAPSSF- 2024)**

February 7th to 9th, 2024

PROCEEDINGS



Organized by:

**Department of Botany & Botany Alumni
Osmania University, Hyderabad – 500 007,
Telangana, India.**

LIST OF THE CHAPTERS IN THE PROCEEDINGS

Chapter 1	Indirect Organogenesis and Plant Regeneration in <i>Corynandra Felina</i> (L.F.) Cochrane & Iltis., using stem explants - An Important Endemic medicinal plant Narendar Mediseti^{1*}, Shailaja Kusuma² Narendar Mediseti^{1*}, Research Scholar, Department of Botany, Osmania University, Hyderabad-500007, Telangana, India. E-mail: narend174@gmail.com Prof. Shailaja Kusuma², Department of Botany, Osmania University, Hyderabad- 500007, Telangana, India.
Chapter 2	Effect of ZnO nanoparticles synthesized from different plant extracts on growth of <i>Oryza sativa</i> L. Govindugari Vijaya Laxmi^{1*}, Kamasani Aarya Sree¹, Kruthiventi Chandana¹, Shilpa Chakra² ¹Department of Biotechnology, Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad-500075, Telangana, India. ² Centre for Nano Science and Technology Institute of Science and Technology Hyderabad, Kukatpally, Hyderabad-500085, Telangana, India. *Communicating author: drgvilaxmi_biotech@cbit.ac.in
Chapter 3	Direct shoot regeneration using leaf explants of <i>Spilanthes acmella</i> Murr. Hajera Sana^{1*} and A. Sabitha Rani² ¹Department of Botany, Telangana Mahila Vishwavidyalayam, Hyderabad-500095, Telangana State, India. Email: hajera05sana@gmail.com ²Department of Botany, Osmania University, Hyderabad- 500007, Telangana State, India. Email: sabitaammanna@yahoo.com
Chapter 4	Morphological Studies of <i>Selaginella bryopteris</i> (L.) Baker Genotypes of Telangana, India. P. Rupa¹, A.Chandra Shekar Reddy² and N. Lakshmi Bhavani³ ¹Lecturer, Department of Botany, Telangana Social Welfare Residential Armed Forces Preparatory Degree College for Women, Bhongir. ²Assistant Professor, Department of Botany, AV College of Arts, Science and Commerce, Domalguda, Hyderabad ³ Plant Tissue Culture and Molecular Genetics Lab, Department of Botany, University College of Science, Saifabad, Osmania University, Hyderabad, 500004, India. Email Id for correspondence: rupareddyputta@gmail.com
Chapter 5	Arbuscular Mycorrhizal Fungal Association with <i>Echinops echinatus</i> Roxb. from Nagarkurnool District, Telangana State, India. Prasad Kante^{*1}, Hindumathi Amballa², Bhadraiah Bheemanathni³ ¹Assistant Professor, Department of Botany, MVS Government Arts & Science College (Autonomous), Mahabubnagar, Telangana, India. *Corresponding Author: hariiprasad.telangana@gmail.com ^{2,3}Applied Mycology and Molecular Plant Pathology Lab, Department of Botany, Osmania University, Hyderabad, India.
Chapter 6	Ethnobotanical Exploration of Amrabad Area, Nallamala Forest Telangana, India: Traditional Healing Practices and Herbal Treatments. Dr. Rajendar Gubba^{1*}, Prof. G. Bagyanarayana². ¹Assistant Professor of Botany, MVS Government Arts and Science College (Autonomous), Mahaboob Nagar, Telangana -509001. Email ID: rajangphd@gmail.com ²Professor (Retd.). Department of Botany, University College of Science, Osmania University, Hyderabad, Telangana-500007

Chapter 6

Ethnobotanical Exploration of Amrabad Area, Nallamala Forest Telangana, India: Traditional Healing Practices and Herbal Treatments.

Dr. Rajendar Gubba¹*, Prof. G. Bagyanarayana².

¹Assistant Professor of Botany, MVS Government Arts and Science College (Autonomous), Mahaboob Nagar, Telangana-509001. e-mail ID: rajangphd@gmail.com

²Professor (Retd.), Department of Botany, University College of Science, Osmania University, Hyderabad, Telangana-500007

ABSTRACT

The Nallamala Forest, spanning Andhra Pradesh and Telangana, hosts diverse topography, rich biodiversity, and cultural heritage. Scorching temperatures and low rainfall characterize the dry Deccan Peninsula region. The area boasts enormous plant taxa, diverse wildlife, and the Amrabad Tiger Reserve. Nallamala Hills feature dense vegetation, waterfalls, and notable destinations. Ethnobotanical studies reveal a profound connection with Chenchu communities, unraveling traditional knowledge. The author conducted meticulous field visits to the study area, interviewing 25 respondents, notably centenarians with intriguing anecdotes. Medicinal expertise from figures like Beesanna, sought even by the Nizam of Hyderabad, is highlighted. An enumeration of 59 herbs across 40 plant families underscores the importance of herbal treatment and their traditional knowledge. Chenchu healthcare, holistic and diverse, treats various conditions. Traditional medicine, including 59 herbals, plays a crucial role, emphasizing plant parts' significance in cultural practices. The study advocates collaboration between traditional practitioners and scientists for comprehensive healthcare solutions, bridging traditional and scientific knowledge. In conclusion, the ethnobotanical exploration unveils Chenchu communities' traditional healing practices, intertwining nature, and culture in Nallamala Forest's unique ecological setting.

Keywords: Nallamala Forest, Ethnobotanical Studies, Chenchu Communities, Traditional Knowledge, Herbal Treatment.

INTRODUCTION

The Nallamala forest in Nagarkurnool district serves as a repository of biodiversity with distinct cultural heritage [8]. The Nallamala Forest, spanning Andhra Pradesh and Telangana, features a diverse topography with hills parallel to the Coromandal coast [1]. Geologically, its rocks are known to be formed through volcanic activity, yielding irregularly salt-filled Quartzite [5]. With scorching summer temperatures reaching 45°C and an average annual rainfall of 500-740 mm it falls under the dry Deccan Peninsula region [6] [11].

Nallamala with rich biodiversity is a known Hot Spot; it accommodates 1541 plant taxa, diverse animal life [2], and houses the Amrabad Tiger Reserve with 26 in 2018 to 21 in 2022 tigers. Nallamala Hills, a haven for nature lovers, features dense vegetation, waterfalls, and boating. Srisailem Dam, a major attraction, spans the Krishna River between Kurnool and Nagarkurnool districts, creating a picturesque scene during rainy seasons [7]. Notable destinations include Umamaheshwaram temple, Mallela Theertham, Farhabad viewpoint, and Saleshwaram, a trekking spot with a (Tribal) religious temple, accessible once a year during Chaithra Pournami. Srisailem hosts the Jyothirlinga Mallikarjuna Swamy temple, Shakthipeetha Bhramaraambika Matha temple, Akka Maha Devi caves, and Istakaameshwari temples, all near Achampet in Nagarkurnool district [3, 10].

Ethnobotanical studies highlight its profound connection with Chenchu communities, unveiling traditional knowledge and cultural anecdotes [9]. The focus was on engaging with the Chenchu communities residing in different villages of Amrabad area, including Gudibanda, Chenchu Gudem, Bilakal, Ambagiri, SriRangapuram, Errapenta, Macharam, Maddimadugu, Sarlapally, Appapur, Madonipally, Chitlamkuntla, and more.

RESEARCH METHODOLOGY

This paper presents an ethnobotanical study conducted by the author, who meticulously planned and executed field visits to this forest over the course of three years, during holidays and various seasons.

The interviews were conducted following a prescribed and standardized method, adhering to the guidelines set forth by Jain and Goel (1987) [4]. And the collected plants are compared with the herbariums of department of Botany, Osmania University.

RESULTS AND DISCUSSION

The author interviewed a total of 25 respondents, with 5 females and the remaining males. The majority of the participants belonged to the age group of 45 to 60 years. Notably, in the village Errapenta, the author encountered two remarkable individuals—Pedda Veraiah and Chinna Veraiah, aged 100 years and 90 years, respectively. Pedda Veraiah shared an intriguing anecdote about sending processed silky hair from Calotropis to Hyderabad for the cradle ceremony of Indira Gandhi, following a call from Jawaharlal Nehru.

In Macharam village, Kudumula Venkataiah, aged 60, recounted the legacy of his grandfather Beesanna, a renowned aboriginalist and herbalist. Beesanna's medicinal expertise reached far and wide, with patients seeking treatment from regions including Mahabub Nagar, Naryanpet, Hyderabad, and even Karnataka. Notably, the Nizam of Hyderabad once sought Beesanna's remedy during his travels through the area.

The ethnobotanical enumeration of herbal treatments unveiled a comprehensive medicinal repertoire consisting of 59 herbs belonging to 40 plant families. Among them, notable families include Acanthaceae -1, Aizoaceae -1, Amarathaceae -1, Anacardicaceae -2, Apiaceae - 4, Apocyanaceae - 1, Asclepiadaceae - 2, Asparagaceae - 1, Astaereceae - 2, Avicinnaceae - 1, Balanitaceae - 1, Caesalpinaceae - 3, Capparidaceae - 2, Clusiaceae - 1, Combretaceae - 1, Cucurbitaceae - 1, Euphorbiaceae - 2, Fabaceae - 3, Hypoxidaceae - 1, Lamiaceae - 3, Liliaceae - 3, Loganiaceae - 3, Loranthaceae - 1, Malveceae - 1, Meliaceae -1, Myrsinaceae - 1, Myrtaceae - 1, Neelambonaceae - 1, Papavaraceae - 1, Pedaliaceae - 1, Poaceae - 1, Rubiaceae - 1, Sapindaceae - 1, Solanaceae - 1, Sterculiaceae - 1, Tiliaceae - 1, Verbinaceae - 1, Vitaceae - 1, Zingibaraceae - 2, Zygophyllaceae - 1 plants. This diverse array of medicinal plants underscores the importance of traditional herbal knowledge across various plant families in ethnomedicine.

This ethnobotanical exploration not only sheds light on the traditional herbal wisdom of the Chenchu communities but also serves as a testament to the invaluable cultural and medicinal heritage embedded in the Nallamala forest.

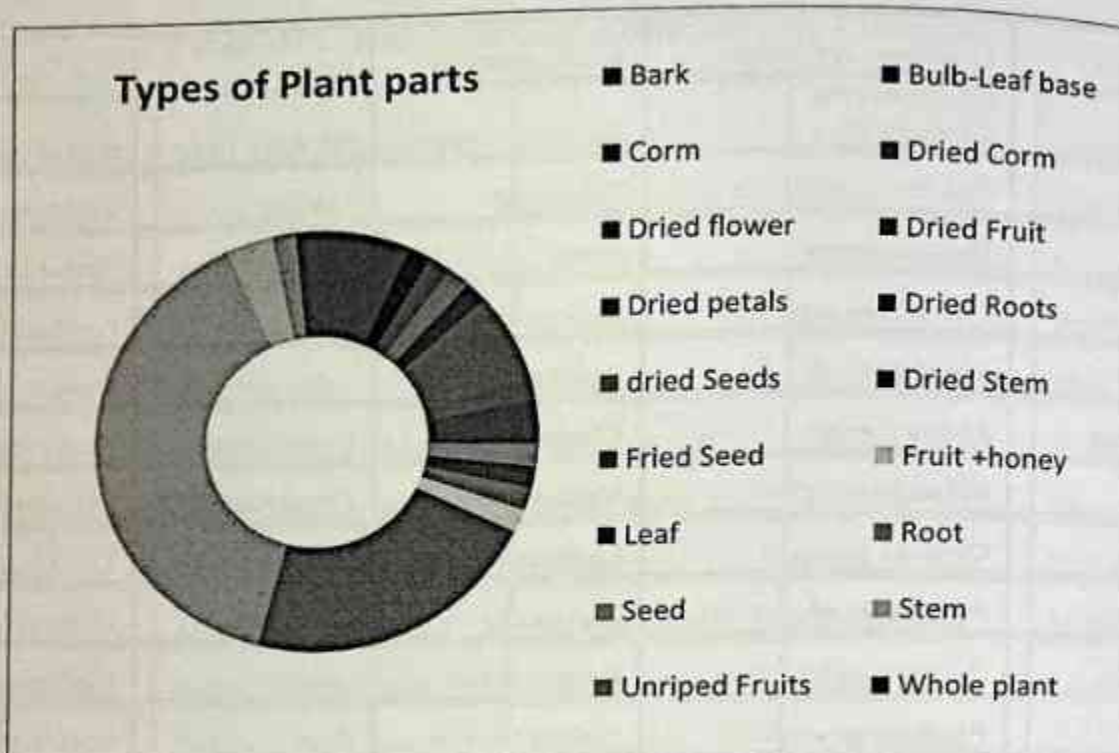
The utilization of various plant parts such as seeds, roots, leaves, and bark underscores the diverse therapeutic applications within the Chenchu community. The plants serve purposes ranging from pain relief and fever reduction to treating conditions like epilepsy, colds, and coughs. This indigenous knowledge represents a valuable contribution to herbal medicine. The Chenchu approach to healthcare is holistic, addressing not only specific symptoms but also considering the overall well-being. This aligns with the holistic principles often associated with traditional herbal medicine.

Traditional medicine consisting of 59 herbals, including 12 dried forms and 47 freshly prepared, plays a crucial role in Chenchu communities. Among these, Barks account for 4, Bulb for 1, Leaf base for 1, Corm for 1, Dried Corm for 1, Dried flower for 1, Dried Fruit for 4, Dried petals for 1, Dried Roots for 2, Dried Seeds for 1, Dried Stem for 1, Fried Seed for 1, Fruit +honey for 1, Leaf for 13, Root for 9, Seed for 14, Stem for 2, Unripe Fruits for 1, Whole plant for 1. This detailed categorization reflects the intricate knowledge of the Chenchu people in utilizing different plant parts for various health purposes, emphasizing the significance of plants in their cultural practices and traditional healthcare methods.

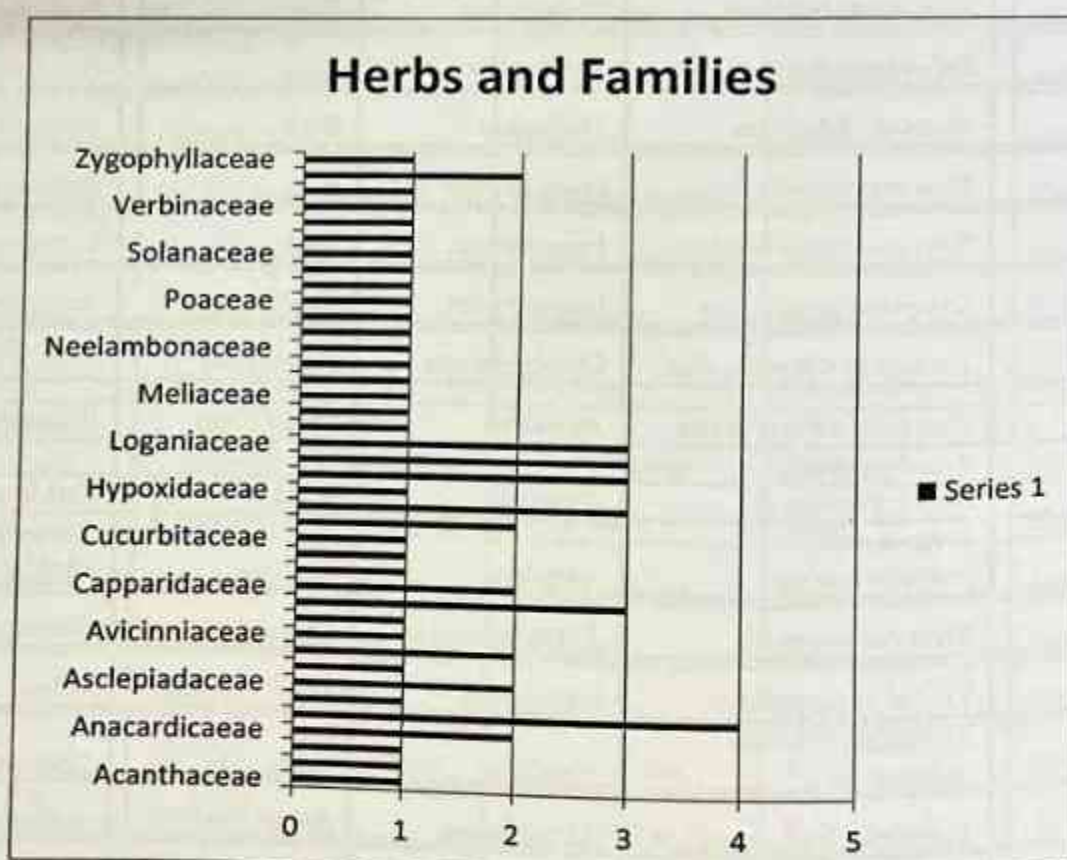
Table -1: List of Medicinal Plants used by Chenchus

SNO	COMMON NAME	BOTANICAL NAME	FAMILY	USEFULL PLANT PART	USED FOR
1	Konda Pindeeru	<i>Aerva lanata</i>	Amarathaceae	Root	Vomiting and Motions
2	Elligadda	<i>Allium sativum</i>	Liliaceae	Bulb-Leaf base	Epilepsy
3	Kalabanda	<i>Aloe vera</i>	Liliaceae	Leaf	Antiseptic
4	Kalabanda	<i>Aloe vera</i>	Liliaceae	Dried Roots	Menstrual Disorders
5	Jeedi ginja	<i>Anacardium occidentale</i>	Anacardicaee	Seed	Body Pains
6	Nelavemu	<i>Andrographis paniculata</i>	Acanthaceae	Leaves	Fever
7	Nela shenaga	<i>Arachis hypogea</i>	Fabaceae	Seed	Epilepsy
8	Shathavari	<i>Asparagus racemosus</i>	Asparagaceae	Dried Roots	Menstrual Disorders
9	Maadagadda	<i>Avicinnia officinalis</i>	Avicinniaaceae	Root	Lactation
10	Gara pandu	<i>Balanites aegyptiaca</i>	Balanitaceae	Fruit +honey	Cold and Cough
11	Morli chekka	<i>Buchanania axillaris</i>	Anacardicaee	Stem	Decreases hungry
12	Gachcha kaya	<i>Caesalpinia crista</i>	Caesalpinaceae	Seed	Varibeejamu
13	Magasiri gadda	<i>Capparis grandis</i>	Capparidaceae	Root	increase sperm count
14	Kalvi kaayalu	<i>Carissa carndas</i>	Apocyanaceae	Unripped Fruits	snake bite, insect bites
15	Jilakarra	<i>Carum carvi</i>	Apiaceae	Seed	Epilepsy
16	Sunamukhi	<i>Cassia augustifolia</i>	Caesalpinaceae	Leaf	Gas trouble
17	Nela thangedu	<i>Cassia italica</i>	Caesalpinaceae	Leaf	Motions
18	Dalchanichekka	<i>Cinnamomum verum</i>	Lauraceae	Bark	Epilepsy
19	Mudu pachchala Nalleru	<i>Cissus quadrangularis</i>	Vitaceae	Whole Plant	Increases sperm count
20	Aakash garuda gadda	<i>Corallocarpus epigeus</i>	Cucurbitaceae	Corm	snake bite
21	Dhaniyaalu	<i>Coriandrum sativum</i>	Apiaceae	Seed	Epilepsy
22	Neela thadi gadda	<i>Curculigo orchioides</i>	Hypoxidaceae	Root	Epilepsy
23	Kasha gaddi	<i>Cymbopogon martini</i>	Poaceae	Root	Epilepsy
24	Badhanika	<i>Dendrothoe falcata</i>	Loranthaceae	Leaf	Injuries
25	Yaalakkulu	<i>Elettaria cardamomum</i>	Zingibaraceae	Seeds	Epilepsy
26	Vayuvidamgaalu	<i>Embellia robusta</i>	Myrsinaceae	Dried Seeds	Epilepsy
27	Neelagiri	<i>Eucalyptus globules</i>	Myrtaceae	Leaf, Oil	Head ache
28	Athimadhuram	<i>Glycyrrhiza glabra</i>	Fabaceae	Dried Stem	Menstrual Disorders
29	Juvilika	<i>Grewia hirsute</i>	Tiliaceae	Leaf	Injuries(external), Motions(internal)

30	Podapathri veru	<i>Gymnema sylvestris</i>	Asclepiadaceae	Root	Cold and Cough
31	Thalati veru	<i>Gynandropsis pentaphylla</i>	Capparidaceae	Root	Cough and tiredness
32	Banjeeru	<i>Haldinia Cordifolia</i>	Rubiaceae	Leaf	Epilepsy
33	Nulikkaya	<i>Helicteres isora</i>	Sterculiaceae	Dried Fruit	Stomach pain
34	Gudipala veru	<i>Leptadenia reticulata</i>	Asclepiadaceae	Root	Cold and Cough
35	Pudeena	<i>Mentha viridis</i>	Lamiaceae	Leaf	Cough
36	Naagakesharalu	<i>Mesua ferrea</i>	Clusiaceae	Dried Flower	Menstrual Disorders
37	Thaamara	<i>Nelumbo nucifera</i>	Neelambonaceae	Dried Petals	Menstrual Disorders
38	Thulasi	<i>Ocimum sanctum</i>	Lamiaceae	Leaf	Cough
39	Maakudu ginja	<i>Pentapetes phoenicea</i>	Malveceae	Fried Seed	Diabetes
40	Gasagasaalu	<i>Papaver somniferum</i>	Papavaraceae	Seed	Epilepsy
41	Usiri	<i>Phyllanthus emblica</i>	Euphorbiaceae	Root	Back pain
42	Kukkasirika	<i>Phyllanthus indofischeri</i>	Euphorbiaceae	Stem	tooth brush
43	Kumkudu kayalu	<i>Sapindus trifoliata</i>	Sapindaceae	Seed	Piles
44	Nallanuvvulu	<i>Sesamum indicum</i>	Pedaliaceae	Seed	Epilepsy
45	Nelamulaka	<i>Solanum virginianum</i>	Solanaceae	Seed	decrease Mucous
46	Somidi chekka	<i>Soymida febrifuga</i>	Meliaceae	Bark	Stomach pain
47	Nagamushti	<i>Strychnos colubrina</i>	Loganiaceae	Bark	External ulcers
48	Vishamushti	<i>Strychnos nux-vomica</i>	Loganiaceae	Bark	External ulcers
49	Chilla ginjalu	<i>Strychnos potatorum</i>	Loganiaceae	Seeds	decreases hungry
50	Karakkaya	<i>Terminalia Chebula Retz.</i>	Combretaceae	Dried Fruit	Throat infection, Cough
51	Vaamu	<i>Trachyspermum ammi</i>	Apiaceae	Dried Fruit	Stomach pain
52	Azavaamu	<i>Trachyspermum roxburgianum</i>	Apiaceae	Seed	Gas trouble
53	Tella galijeru	<i>Trianthema portulacastrum</i>	Aizoaceae	Leaves	Blood improvement, Menstrual Disorders
54	Palleru	<i>Tribulus terrestris</i>	Zygophyllaceae	Dried fruits	Menstrual Disorders
55	Nallalamu	<i>Tridax procumbens</i>	Asteraceae	Leaf	Pains
56	Menthulu	<i>Trigonella foenum-gracum</i>	Fabaceae	Seed	Epilepsy
57	Che-Jilakara	<i>Vernonia anthelmintica</i>	Asteraceae	Seed	decrease Mucous
58	Vavili	<i>Vitex negundo</i>	Verbinaceae	Leaf	Body pains
59	Shonti	<i>Zingiber officinale</i>	Zingiberaceae	Dried Corn	Cold and Cough



Graph-1: type of plant part used as herbal medicine by Chenchu healers.



Graph-2: number of plants belongs to each family

CONCLUSION

The ethnobotanical study carried out in Amrabad area of the Nallamala Forest, Telangana, provides an insight into the traditional healing practices and herbal remedies practiced by the Chenchu community. By delving into the rich biodiversity and cultural heritage of the Nallamala Forest, the research highlights the deep connection between the forest and the Chenchu communities.

The study uncovers a diverse herbal repertoire comprising 59 herbs belonging to 40 families, categorized based on various plant parts. The Chenchu community employs these herbs for medicinal purposes, addressing a broad spectrum of health conditions. Their holistic approach to healthcare considers not only specific symptoms but also the overall well-being of individuals, aligning with the holistic principles of traditional herbal medicine that emphasize the interconnectedness of physical, mental, and spiritual health. The utilization of different plant parts underscores the significance of plants in Chenchu communities, serving not only as sources of physical well-being but also playing a role in cultural practices, such as cradle ceremonies and historical anecdotes involving the Nizam of Hyderabad seeking herbal remedies.

Furthermore, the study emphasizes the potential for collaboration between traditional practitioners and scientists to bridge the gap between traditional and scientific knowledge. Such collaboration can lead to a more comprehensive understanding of the medicinal properties of plants and contribute to the preservation of traditional knowledge while integrating it with contemporary scientific approaches. This collaborative effort holds promise for the development of sustainable and effective healthcare solutions that respect and incorporate the wisdom of traditional healing practices.

In conclusion, the ethnobotanical exploration of the Amrabad area in the Nallamala Forest unravels a tapestry of traditional healing practices, cultural anecdotes, and herbal treatments within the Chenchu communities. This knowledge not only contributes to the broader field of herbal medicine but also underscores the intricate relationship between nature and culture in the unique ecological setting of the Nallamala Forest.

ACKNOWLEDGEMENTS

1. The Authors are thankful to 25 Chenchu healers for providing their herbal Knowledge.
2. Special thanks to Pedda Veraiah and Chinna Veraiah, Kudumula Venkataiah for valuable sharing's.

REFERENCES

- Dinakar Y, (2018) "Ethnobotanical Study of Medicinal Plants Used by the Tribes of Nallamalai Forests", International Journal of Medicinal Plants and Natural Products (IJMPNP), vol. 4, no. 1, pp. 19 -21, <http://dx.doi.org/10.20431/2454-7999.0401004>.
- Ellis, J.L. (1987). Flora of Nallamalais, Vol. 1 and II. Botanical Survey of India, Calcutta.
- GOI, (1985). Report of the working group on development of scheduled tribes during seventh five-year plan – Government of India, Ministry of Home affairs, 1985-90 p.129.
- Jain, S. K. and A.K. Goel (1987) Workshop Exercise I: Proforma for field work. In: S. K. Jain (ed.) A Manual of Ethnobotany Scientific Publishers, Jodhpur, (India) p.142-153.
- Krishnan, (1956). Geology of India and Burma. Madras. Government of India.
- Nagarkurnool Dist Web site- <https://nagarkurnool.telangana.gov.in>
- Naidu, M. Mutyalu, and. Venugopala Rao K. (1998) "Domestic Tourism Potential in Rayalaseema Region (Andhra Pradesh)." Domestic Tourism in India, 293.
- Raju PS, Sudhakar C, Umamohan Ch. (2009) *Chenchu* and social transformation: a study of a primitive tribe in Kurnool district of Andhra Pradesh. Anthropologist. 11:167-72.
- Ramana naidu .BV., Haribabu Rao.D, Subramanyam.P, Prabhakar raju.C, Jayasimha Rayalu.D, (2012). Ethnobotanical study of medicinal plants used by the tribes in nallamala forest area of Kurnool district, Andhra Pradesh, int. j. plant, animal and env sci 2(4), 72
- Shameer, Syed. (2014). Incredible Cultural Heritage of Chenchu Tribe: A Case study on Amrabad mandal, Mahabubnagar District.
- Thulsi K & Krishna, R & Sudhakar Reddy C. (2008). Biodiversity of Nallamalai hill ranges, Eastern Ghats, Andhra Pradesh. Proceedings of National Seminar on Conservation of Eastern Ghats. EPTRI, Hyderabad. 216-223.

Department of Botany, Osmania University, Hyderabad

Department of Botany was established in the year 1924 and later became full-fledged department with PG (1934) and Ph.D. courses (1951). Department is dedicated to basic and advanced research in Plant Biotechnology, Molecular Biology, Plant Tissue culture, Plant Physiology, Plant Pathology, Taxonomy, Paleontology, Medicinal Botany etc. To date, more than 600 Ph.Ds. have been awarded and more than 3000 research papers published in reputed National and International Journals. The department has been received funds from various funding agencies like UGC, CSIR, DBT, DST and recognized as a UGC Center for Advanced Studies (CAS). Botany department offers UG and PG courses in the constituent colleges and serves as a nodal department to M.Sc. Environmental Science.



DnyanPath[®]
Publication
Write well - Right now
ISO 9001 : 2015

A Leading National Books Publishing House In India

Visit us



www.dnyanpath.com



9 788119 435777

₹.400/-

As per CBCS syllabus Common for all universities
of Telangana State



S Publishers

2-2-1/6, Inamreddy Colony
Near Registration Office, Uppal-500039

Ph: +91-9703164355

spublishershyderabad@gmail.com

shahvishw@spublishershyderabad.in

₹225/-



S Publishers

FINANCIAL ACCOUNTING-II

DR. A. BALACHANDRAM

DR. P. SRILATHA

DR. MD. SULEMAN

MFS. S. SUSHMA NARAYANA

S. BAGHYA LAKSHMI

FINANCIAL ACCOUNTING-II

- DR. A. BALACHANDRAM
- DR. P. SRILATHA
- DR. MD. SULEMAN
- MFS. S. SUSHMA NARAYANA
- S. BAGHYA LAKSHMI



S Publishers

Financial Accounting-II

Dr. A. Balachandram

M.Com., M.Phil., Ph.D., NET, TS-SET
Senior Assistant Professor of Commerce
Government Degree College for Women
Gajwel, Dist. Siddipet. T.S.

Dr. P. Srilatha

M.Com., M.Phil., Ph.D., NET, APSET,
Lecturer in Commerce
Telangana Social Welfare Residential
Degree College for Women
Jagathgiritutta, Shamirpet, Hyd.

Dr. Md. Suleman

M.Com., M.Phil., NET, Ph.D.
Assistant Professor of Commerce
(Selection Grade)
MVS Government Arts & Science College
(Autonomous)
Mahaboobnagar. (T.S.)

Mrs. S. Sushma Narayana

M.com, M.phil, PDNCC
Assistant professor
Kasturba Gandhi Degree and
PG college for women
West marriedpally, Secunderabad.

S. Baghya Lakshmi

M.Com, M.Phil., ICWA(Inter)
Assistant Principal,
HOD Commerce
St.Mary's Centenary Degree College
Secunderabad.

S PUBLISHERS

2-2-1/6, Laxmareddy colony, Near Registration office,
Uppal-500039. Ph: 9703164355

ఇంటర్మీడియట్

ఆర్థిక శాస్త్రం



తెలంగాణ ప్రభుత్వం



సార్వత్రిక విద్యా పీఠం, తెలంగాణ, హైదరాబాదు



తెలంగాణ ప్రభుత్వం

ఇంటర్మీడియట్

ఆర్థిక శాస్త్రం



సార్వత్రిక విద్యా పీఠం, తెలంగాణ, హైదరాబాదు

DELFI	863	83.82	B	0.78	51KJ	256.32
WJH8	125	732.5	S	1.23	FGTV7	162.23
1	1298	85.36	B	-5	JKTY	32.9
2	1258	253.6	S	-3.36	OLP5	15.6

318

ECONOMICS

Chief Advisor

Smt. Vakati Karuna, IAS,
Secretary to Government, Education Department,
Govt. of Telangana,
Hyderabad.

Editor

Prof. S. Limba Goud
Professor of Economics (Retd.)
Former Dean, Faculty of Social Sciences, Telangana University &
Principal, Giriraj Government College (Autonomous)
Nizamabad.

Textbook Printing Council

Smt. A. Sridevasena, IAS,
Director, School Education,
Telangana, Hyderabad.

Sri P.V. Srihari,
Director, TOSS,
Telangana, Hyderabad.

Sri S. Srinivasa Chary,
Director, Textbook Press,
Telangana, Hyderabad.

Coordination

Sri M. Somi Reddy,
Joint Director, TOSS,
Telangana, Hyderabad.

Sri B. Venkateswara Rao,
State Coordinator, TOSS,
Telangana, Hyderabad.



Telangana Open School Society (TOSS), Hyderabad.

SCERT Campus, Opp: L.B. Stadium,
Basheerbagh, Hyderabad - 500 001

Phone: 040-23299568, Website: telanganaopenschool.org,
E-mail: dintoshyd@gmail.com

Coordinator

Sri Gaddameedi Rathangapani Reddy,
ZPHS, Janampet, Musapet (M),
Mahabubnagar.

Textbook Development Committee

Dr. D. Adeppa,
Asst. Professor, Economics,
Giriraj Govt. College (A), Nizamabad.

Dr. S. Ramesh,
Asst. Professor, Economics,
Govt. Degree College, Malkajgiri.

Tungaturti Subba Rao, SA,
ZPHS, Kamanchikal,
Khammam.

Mohareer Rajendra Kumar, PGT,
TS Model School, Kethepally,
Nalgonda.

Gaddameedi Rathangapani Reddy, SA,
ZPHS, Janampet, Musapet (M),
Mahabubnagar.

M. Prasoon Kumar, SA,
ZPHS, Dongli,
Kamareddy.

G. Venkateshwarlu, SA,
ZPHS, Champapet,
Rangareddy.

Nuthipally Balaraj, SA,
ZPHS, Tadgur Big, Madnoor,
Kamareddy.

Dr. Sushila Aleme, PGT,
TSMS, Boodhan Pochampally,
Yadadri Bhuvanagiri.

Dr. Yalavathi Venu Prasad,
Asst. Professor, Economics,
Giriraj Govt. College (A), Nizamabad.

Dr. M. Mallikarjun,
Asst. Professor, Economics,
MVS Govt. Arts & Science College (A), Mahabubnagar.

Dr. Padegela Dasharath, PGT,
TS Model School, Navipet,
Nizamabad.

G. Sreedevi, PGT,
TSMS, Mirdoddi,
Siddipet.

A. Srinivas Goud, SA,
ZPHS, Nasrullabad, Jadcherla,
Mahabubnagar.

Bakaram Lalitha, SA,
ZPHS (Grils), Manchal,
Rangareddy.

Dr. Yellaiah Jangati, PGT,
TS Model School, Vallala, Shaligouraram,
Nalgonda.

Thatipamula Ramesh, SA,
ZPHS, Wardhannapet,
Warangal.

K. Gopi Krishna, Retd. Lecturer,
MJPTBCWR Junior College, Pragnapur,
Siddipet.

Cover page designing

K. Sudhakara Chary,
MPPS Mylaram, Mdl: Rayaparthi, Warangal

Layout Design

Kannaiah Dara, SCERT, Telangana, Hyderabad.

INDEX

SL.NO.	NAME OF THE CHAPTER	PAGE NO.
	I. INTRODUCTION TO ECONOMICS	
1.	NATURE AND SCOPE OF ECONOMICS	1-14
2.	ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT	15-24
	II. MICRO ECONOMICS	
3.	UTILITY ANALYSIS	25-34
4.	DEMAND ANALYSIS	35-47
5.	PRODUCTION ANALYSIS	48-65
6.	SUPPLY, COST AND REVENUE ANALYSIS	66-78
7.	MARKET ANALYSIS	79-91
8.	THEORIES OF DISTRIBUTION	92-104
	III. MACRO ECONOMICS	
9.	NATIONAL INCOME ANALYSIS	105-116
10.	THEORY OF EMPLOYMENT	117-129
11.	PUBLIC FINANCE AND BUDGET	130-145
12.	MONEY	146-156
13.	BANKING	157-168
14.	INFLATION AND TRADE CYCLES	169-177
	IV. INDIAN ECONOMY	
15.	ECONOMIC DEVELOPMENT IN INDIA	178-190
16.	DEMOGRAPHY	191-204
17.	HUMAN RESOURCE DEVELOPMENT	205-215
18.	NATIONAL INCOME TRENDS AND SECTORAL CONTRIBUTION	216-223
19.	POVERTY AND UNEMPLOYMENT	224-240
20.	PLANNING AND NITI AAYOG	241-253
21.	AGRICULTURE SECTOR	254-269
22.	INDUSTRIAL SECTOR	270-282
23.	TERTIARY SECTOR (SERVICE SECTOR)	283-297
24.	FOREIGN SECTOR	298-313
25.	ENVIRONMENT - ECONOMIC DEVELOPMENT	314-327
	V. TELANGANA ECONOMY	
26.	STRUCTURE AND GROWTH OF TELANGANA ECONOMY AFTER FORMATION	328-338
27.	HUMAN RESOURCES	339-349
28.	SECTORS OF ECONOMY - TELANGANA	350-360
29.	TELANGANA BUDGET	361-367
30.	POVERTY ERADICATION, EMPLOYMENT GENERATION AND WELFARE PROGRAMMES IN TELANGANA STATE	368-382

- 17.0. Objectives
- 17.1. Introduction
- 17.2. Human Capital and Human Development
- 17.3. Concept of Human Resource Development
- 17.4. Importance of Human Resource Development
- 17.5. Role of Education and Health in Development of a Nation
 - 17.5.1. Education in India and Human Development
 - 17.5.2. Some Important Educational Initiatives and Policies launched by GoI for the promotion of HRD
 - 17.5.3. Health in India and Human Development
 - 17.5.4. Some Important Health Schemes and Policies initiated by GoI
- 17.6. Human Development Index (HDI)
 - 17.6.1. Components of HDI
 - 17.6.2. Construction of HDI
 - 17.6.3. HDI and classification of countries
- 17.7. Model Examination Questions
- 17.8. Glossary
- 17.9. References

ఇంటర్నెటియట్

ఆర్థికశాస్త్రం



తెలంగాణ ప్రభుత్వం



సాంస్కృతిక విద్యా పీఠం, తెలంగాణ, హైదరాబాదు



తెలంగాణ ప్రభుత్వం

ఇంటర్నెటియట్

ఆర్థికశాస్త్రం



సాంస్కృతిక విద్యా పీఠం, తెలంగాణ, హైదరాబాదు

DELFI	963	83.82	B	6.78	5180	256.32
WJAN	125	732.5	S	1.23	FGTV7	162.23
1	1298	85.36	B	-5	JKTY	32.9
2	1258	253.6	S	-3.36	OLP5	15.6

318

ECONOMICS

Chief Advisor

Smt. Vakati Karuna, IAS,
Secretary to Government, Education Department,
Govt. of Telangana,
Hyderabad.

Editor

Prof. S. Limba Goud
Professor of Economics (Retd.)
Former Dean, Faculty of Social Sciences, Telangana University &
Principal, Giriraj Government College (Autonomous)
Nizamabad.

Textbook Printing Council

Smt. A. Sridevasena, IAS,
Director, School Education,
Telangana, Hyderabad.

Sri P.V. Srihari,
Director, TOSS,
Telangana, Hyderabad.

Sri S. Srinivasa Chary,
Director, Textbook Press,
Telangana, Hyderabad.

Coordination

Sri M. Somi Reddy,
Joint Director, TOSS,
Telangana, Hyderabad.

Sri B. Venkateswara Rao,
State Coordinator, TOSS,
Telangana, Hyderabad.



Telangana Open School Society (TOSS), Hyderabad.

SCERT Campus, Opp: L.B. Stadium,
Basheerbagh, Hyderabad - 500 001

Phone: 040-23299568, Website: telanganaopenschool.org,
E-mail: dintoshyd@gmail.com

© TELANGANA OPEN SCHOOL SOCIETY

GOVERNMENT OF TELANGANA, HYDERABAD

First Published : 2023

No. of Copies : 1021

All Rights Reserved

No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means without the prior permission, in writing of the publisher, nor be otherwise circulated in any form of binding or cover.

**This Study Material is Prepared on the basis of Original Economics
(Telugu Version) of TOSS, Hyderabad.**

Published by:

Telangana Open School Society (TOSS), Hyderabad.

Foreword

Providing education to children is a fundamental right, and it's essential for the overall development of society. The government of Telangana plays a crucial role in ensuring that education is accessible to all, and they often establish institutions like the Telangana Open School Society (TOSS) to cater to children who may be unable to access formal education due to various reasons.

To provide quality education to learners studying Intermediate Education in Telangana Open School Society starting from the 2023 academic year, the textbooks have been revised to align with the changing social situations and incorporate the fundamental principles of the National Education Policy 2020. The guidelines set forth in the policy aim to enhance the overall learning experience and cater to the diverse needs of the learners. Earlier Textbooks were just guides with questions and answers. TOSS has designed the textbook with a student-centric approach, considering the different learning styles and needs of learners. This approach encourages active engagement and participation in the learning process. The textbooks include supplementary teaching materials and resources to support educators in delivering effective and engaging lessons.

This textbook of economics is broadly divided into four areas: introduction to Economics, Microeconomics, Macroeconomics, the Indian Economy, and the Telangana Economy. Inflation, unemployment, economic growth, Demand Analysis, National Income Analysis, Economic Development in India, and human resources are some of the topics of this textbook. Understanding all these chapters is essential for a comprehensive grasp of the subject.

We are indeed very grateful to the Government of Telangana and the Telangana State Board of Intermediate Education. Special thanks to the editor, co-coordinator, teachers, lecturers, and DTP operators who participated and contributed their services tirelessly to write this text book.

Date: .08.2023,
Place: Hyderabad.

**Director, TOSS,
Hyderabad.**

Coordinator

Sri Gaddameedi Rathangapani Reddy,
ZPHS, Janampet, Musapet (M),
Mahabubnagar.

Textbook Development Committee

Dr. D. Adeppa,
Asst. Professor, Economics,
Giriraj Govt. College (A), Nizamabad.

Dr. S. Ramesh,
Asst. Professor, Economics,
Govt. Degree College, Malkajgiri.

Tungaturti Subba Rao, SA,
ZPHS, Kamanchikal,
Khammam.

Mohareer Rajendra Kumar, PGT,
TS Model School, Kethepally,
Nalgonda.

Gaddameedi Rathangapani Reddy, SA,
ZPHS, Janampet, Musapet (M),
Mahabubnagar.

M. Prasoon Kumar, SA,
ZPHS, Dongli,
Kamareddy.

G. Venkateshwarlu, SA,
ZPHS, Champapet,
Rangareddy.

Nuthipally Balaraj, SA,
ZPHS, Tadgur Big, Madnoor,
Kamareddy.

Dr. Sushila Aleme, PGT,
TSMS, Boodhan Pochampally,
Yadadri Bhuvanagiri.

Dr. Yalavathi Venu Prasad,
Asst. Professor, Economics,
Giriraj Govt. College (A), Nizamabad.

Dr. M. Mallikarjun,
Asst. Professor, Economics,
MVS Govt. Arts & Science College (A), Mahabubnagar.

Dr. Padegela Dasharath, PGT,
TS Model School, Navipet,
Nizamabad.

G. Sreedevi, PGT,
TSMS, Mirdoddi,
Siddipet.

A. Srinivas Goud, SA,
ZPHS, Nasrullabad, Jadcherla,
Mahabubnagar.

Bakaram Lalitha, SA,
ZPHS (Grils), Manchal,
Rangareddy.

Dr. Yellaiah Jangati, PGT,
TS Model School, Vallala, Shaligouraram,
Nalgonda.

Thatipamula Ramesh, SA,
ZPHS, Wardhannapet,
Warangal.

K. Gopi Krishna, Retd. Lecturer,
MJPTBCWR Junior College, Pragnapur,
Siddipet.

Cover page designing

K. Sudhakara Chary,
MPPS Mylaram, Mdl: Rayaparthi, Warangal

Layout Design

Kannaiah Dara, SCERT, Telangana, Hyderabad.

INDEX

SL.NO.	NAME OF THE CHAPTER	PAGE NO.
	I. INTRODUCTION TO ECONOMICS	
1.	NATURE AND SCOPE OF ECONOMICS	1-14
2.	ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT	15-24
	II. MICRO ECONOMICS	
3.	UTILITY ANALYSIS	25-34
4.	DEMAND ANALYSIS	35-47
5.	PRODUCTION ANALYSIS	48-65
6.	SUPPLY, COST AND REVENUE ANALYSIS	66-78
7.	MARKET ANALYSIS	79-91
8.	THEORIES OF DISTRIBUTION	92-104
	III. MACRO ECONOMICS	
9.	NATIONAL INCOME ANALYSIS	105-116
10.	THEORY OF EMPLOYMENT	117-129
11.	PUBLIC FINANCE AND BUDGET	130-145
12.	MONEY	146-156
13.	BANKING	157-168
14.	INFLATION AND TRADE CYCLES	169-177
	IV. INDIAN ECONOMY	
15.	ECONOMIC DEVELOPMENT IN INDIA	178-190
16.	DEMOGRAPHY	191-204
17.	HUMAN RESOURCE DEVELOPMENT	205-215
18.	NATIONAL INCOME TRENDS AND SECTORAL CONTRIBUTION	216-223
19.	POVERTY AND UNEMPLOYMENT	224-240
20.	PLANNING AND NITI AAYOG	241-253
21.	AGRICULTURE SECTOR	254-269
22.	INDUSTRIAL SECTOR	270-282
23.	TERTIARY SECTOR (SERVICE SECTOR)	283-297
24.	FOREIGN SECTOR	298-313
25.	ENVIRONMENT - ECONOMIC DEVELOPMENT	314-327
	V. TELANGANA ECONOMY	
26.	STRUCTURE AND GROWTH OF TELANGANA ECONOMY AFTER FORMATION	328-338
27.	HUMAN RESOURCES	339-349
28.	SECTORS OF ECONOMY - TELANGANA	350-360
29.	TELANGANA BUDGET	361-367
30.	POVERTY ERADICATION, EMPLOYMENT GENERATION AND WELFARE PROGRAMMES IN TELANGANA STATE	368-382

27.0. Objectives

27.1. Introduction

27.2. Demographic features of Telangana

27.2.1. Population size in Telangana

27.2.2. Density of population in Telangana

27.2.3. Literacy rate of population

27.3. Occupational distribution of population

27.4. Human Resource Development in Telangana

27.5. Role of the government in Education sector

27.5.1. Free and Compulsory Education (RTE) Act, 2009

27.5.2. Research Educational Institutions

27.5.3. Providing quality infrastructures

27.5.4. Mana Ooru - Mana Badi / Mana Basti-Mana Badi Scheme

27.5.5. Improving the enrolment in government schools

27.5.6. Expanding the learning opportunities:

27.5.7. Building industry-education partnerships:

27.5.8. Telangana ICT policy of 2021- 26

27.6. Role of government in health sector

27.7. Summary

27.8. Model Examination Questions

27.9. Glossary

27.10. References

ایک سوہی صدی اور فکر اقبال



زیرنگرانی

ڈاکٹر امان اللہ ایم بی

چیرمین شعبہ اردو مدراس یونیورسٹی، چنئی، بھارت، انڈیا

مرتب

ڈاکٹر قسیم احمد وی

چیرمین تنظیم فروغ اردو، چنئی، بھارت، انڈیا

+919444192513

تفصیلات

ISBN : 978-81-963783-7-0
 Name of book : Eakkisween Sadi Aur Fikr-e-Iqbal
 By : Dr.Thameem Ahmed V
 Year Of Printing : 2023
 Pages : 353

نام کتاب : اکیسویں صدی اور فکر اقبال
 موضوع : بین الاقوامی و بینا میں پیش کئے گئے مقالہ جات کا مجموعہ
 زیر نگرانی : ڈاکٹر امان اللہ - ایم۔ بی [چیرمین شعبہ اردو مدراس یونیورسٹی]
 مرتب : ڈاکٹر مفتی تمیم احمد قاسمی [چیرمین - تنظیم فروغ اردو چھٹی نسل ناڈو]
 صفحات : 353
 سن اشاعت : 2023
 کمپوزنگ : ایم، وائی، کے، ڈیزائنس وانمباڑی
 زیر اہتمام : شعبہ نشر و اشاعت انجمن قاسمیہ پیری میٹ چھٹی نسل ناڈو وانڈیا

کتاب ملنے کا پتہ :

Anjuman-e-Qasimiyah(Regd) & Tanzeem Farogh-e-Urdu

21/25, E.K.Guru Street, Periamet, Chennai. 600003. Tamilnadu. India

drthameemahmed786@gmail.com, anjumanqasimiyah@gmail.com

9444192513, 9940251340

Not for sale

114	ڈاکٹر محمد انصاف اللہ خان	19	بال جبریل کا مطالعہ اکیسویں صدی کے تناظر میں
119	ڈاکٹر انوار پناچال	20	عصر حاضر میں علامہ اقبال کا تصور زمان و مکاں
123	ڈاکٹر تقیم احمد وی	21	اکیسویں صدی اور علامہ اقبال
131	ڈاکٹر عبدالرحیم - اے - ما	22	اکیسویں صدی میں نوجوانوں کے لئے فکرِ اقبال کی اہمیت و ضرورت
136	مفتی محمد الیاس مظاہری	23	قرآن حکیم اور فکرِ اقبال اکیسویں صدی کے تناظر میں
147	ڈاکٹر رضیہ بی	24	اردو شاعری میں عہدِ اقبال کا مطالعہ اکیسویں صدی کے تناظر میں
152	عائشہ صدیقہ - جے	25	اکیسویں صدی میں نظم ”مسجد قرطبہ“ کی معنویت
160	ڈاکٹر عرفات حسین شاہ	26	اکیسویں صدی میں قومی یکجہتی کی اہمیت اور فکرِ اقبال
164	محمد مجاہد خان ندوی	27	عصر حاضر میں امت مسلمہ کے لئے فکرِ اقبال کی اہمیت
172	میمونہ تحسین محمد اسماعیل	28	فکرِ اقبال میں عورت کا مقام اور اکیسویں صدی
178	ڈاکٹر صدیقی افروزہ خاتون	29	اقبال کا فلسفہ اکیسویں صدی کے تناظر میں
181	ایس۔ جی۔ انیسہ بیگم	30	اکیسویں صدی میں نوجوانوں کے لئے فکرِ اقبال کی اہمیت و ضرورت
186	ڈاکٹر عظمت اللہ	31	اقبال کا تصور حرکت و عمل اکیسویں صدی کے تناظر میں
190	ڈاکٹر نازنین سلطانی آصف احمد	32	فکرِ اقبال اور صوفیا کا تذکرہ اکیسویں صدی کے تناظر میں
194	فوزیہ حبیب	33	اقبال کے تصورِ شاہین کی اہمیت اکیسویں صدی میں مسلم نوجوانوں کیلئے
199	ڈاکٹر یحییٰ ترمین جمال	34	اقبال کا فلسفہ خودی ”اکیسویں صدی کے تناظر میں“
207	کے۔ نادرہ بیگم	35	اکیسویں صدی اور علامہ اقبال کا تصور مرد و مومن / انسان کامل
213	شکیلہ بانو	36	علامہ اقبال کا تصور قومیت اکیسویں صدی کے تناظر میں
218	کریم النساء	37	علامہ اقبال کا تصور تعلیم اکیسویں صدی کے آئینہ میں
222	ڈاکٹر عرفانہ بیگم	38	اقبال کا اسلوب فن عصر حاضر کے تناظر میں

اقبال کا تصور حرکت و عمل۔ اکیسویں صدی کے تناظر میں

Dr. Azmathulla, HOD & Assistant Professor of Urdu

MVS Govt. Arts. & Science College, Mahboobnagar, Telangana

اکیسویں صدی سائنسی ترقیات و تغیرات کی صدی مانی جاتی ہے۔ عصر حاضر میں انسان چاند اور مریخ پر قدم رکھنے کا ارادہ رکھتا ہے۔ مغربی ممالک نے مصنوعی انسان **ROBOT** بنا لیا ہے، جو زندگی کے مختلف شعبہ جات سے کام لے رہا ہے۔ مصنوعی ذہانت اس صدی کی اہم ترقی مانی جا رہی ہے۔ اس ترقیاتی دور میں وہی قوتیں کامیاب تھیں جو پہلے کامیاب تھیں۔ جو مستقل جدوجہد کریں گی گویا کہ جمود موت ہے۔ علامہ اقبال کی فکر اور اس کے مختلف زاویوں کے بارے میں بہت واضح ہے کہ وہ اپنے عہد کے بہت بڑے اسلامی مفکر تھے اور وہ مغربی فلسفے کے طالب علم بھی تھے۔ اقبال نے مغرب کے بہت ساری باتوں میں سے کچھ کو قبول اور کچھ کو مسترد کر دیا اور کچھ کو اپنے نقطہ نظر کے مطابق پیش کیا۔ ان کے مغربی فلسفہ کا تعلیمی میدان اور فلسفیانہ ترقی کا میلان تحقیقی محور رہا۔ اس کے علاوہ مسلمانوں کا جمہ جہتی تنزل اور مغرب کی فعالیت اور کے ثمرات ان کے سامنے تھے۔

مغربی تہذیب اس کی مادی ترقی سائنسی ایجادات سے مسلمانوں کے تعلیم یافتہ طبقے کی نظریں خیرہ ہو رہی تھیں۔ اقبال کی خصوصیت یہ تھی کہ انہوں نے ان ترقیات کا مثبت جائزہ اور اسلامی اصول و نظریات کے تناظر میں ان کو جاننے کی کوشش کی۔ انہوں نے اپنے کلام کے ذریعہ نوجوان نسل کو توجہ دلائی کہ دنیا میں اس قوم کی قدر ہوتی ہے جو حرکت کرے، کو اپنا کر بنی نوع انسان کے لئے کارآمد بنتی ہے۔ مستقل جدوجہد اور عمل انسان کو ترقی کی منازل عطا کرتے ہیں ان کے برخلاف انسانی زندگی میں "جمود" موت ہے۔

ہمس میں نہ ہوا انقلاب موت ہے وہ زندگی روح امم کی حیات کشمکش انقلاب!

ان تصورات کو علامہ اقبال نے بانگ درا، بال جبریل اور ضرب کلیم کی کئی ایک نظموں میں پیش کیا ہے۔ ضمن میں بانگ درا کی چند نظمیں قابل ذکر ہیں۔ چاند اور تارے، ستارہ، دو ستارے، بزم انجم، جواب شکوہ، طلوع اسلام وغیرہ۔ بال جبریل کی کچھ غزلوں، نظموں اور رباعیوں میں بھی اقبال نے تصور حرکت و عمل کی موثر انداز میں پیش کیا ہے۔

TSPSC / APPSC

Telangana / Andhra Pradesh State Public Service Commission

JL / DL / GROUPS

HISTORY



Telangana History Indian History World History

AUTHOR'S

Raghavendra Reddy
Assistant professor of History
MVS Government Arts & Science College (A)
Mahabub Nagar

Dr N Gopal
Assistant professor of History
Government Degree College
Sherelingampally, Ranga Reddy

EDITOR'S

Raghavendra Reddy
Assistant professor of History ,
Head of the Department of History
MVS Government Arts & Science College (A),
Mahabub Nagar.

Dr.N. Gopal
Assistant professor of History
Head of the Department of History
Sherelingampally,
Ranga Reddy (Dist)

Sai Teja Publications
Reg.No.3052
Hyderabad

Printed Year : 2023



Raghavendra Reddy

Assistant Professor of History,
MVS Govt Arts & Science College (A)
Mahabubnagar, Telangana
Cell: 9966971101



Dr. N. Gopal

Assistant Professor of History,
GDC Serilingampally (BHEL)
Ranga Reddy, Telangana

MRP ₹ 218.00

500 Copies Year 2023



Underprivileged Communities in India

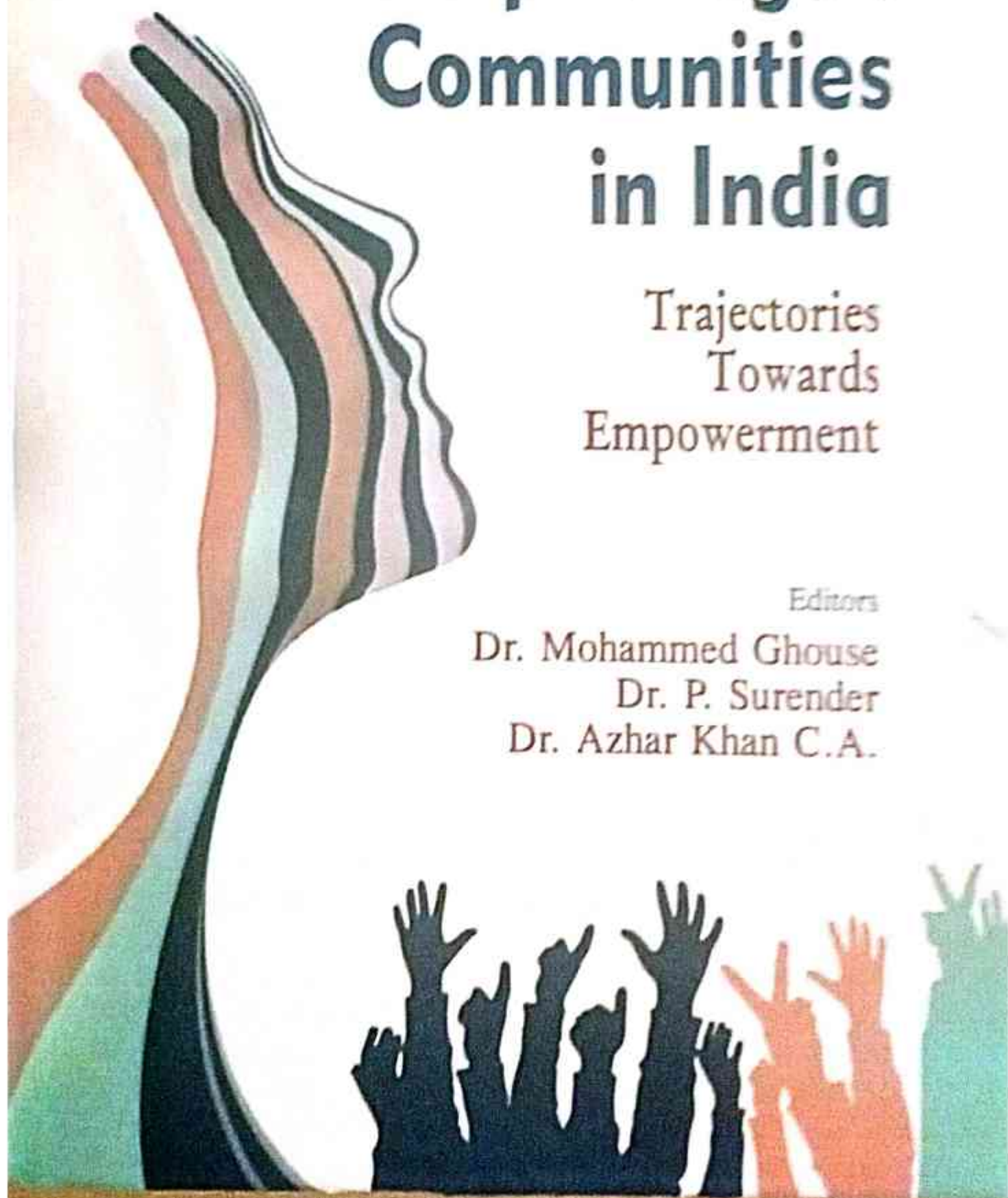
Trajectories
Towards
Empowerment

Editors

Dr. Mohammed Ghouse

Dr. P. Surender

Dr. Azhar Khan C.A.



OTHER TITLES

Early Social Formations
Amar Farooque

Silk Letter Movement
Moulana Muhammad Miyan Deobandi

Dynamics of Colonialism and Imperialism: India and West Asia
R L Shukla

The Prisoner of Malta : The Heart-rending Tale
of Muslim Freedom Fighters in British Period
Moulana Syed Mohammed Mian

The Land, Peasantry and Peasant Life in India
New Direction Renewed Debate
S. Jeyaseela Stephen (Ed)

The Peasant and India's Freedom Movement
Abani Lahiri

Deccan: Culture, Heritage and Literature
Mohammad Nazrul Bari & H M Maheshwarai (Eds)

MANAK

Publications Pvt. Ltd.

B-7, Saraswati Complex, Subhash Chowk

Laxmi Nagar, New Delhi 110092

Phone : 22042529, 9999011977

E-mail : manak.publications@gmail.com

Website : <http://www.manakpublications.com>



Underprivileged Communities in India: Trajectories towards Empowerment

Editors : Mohammed Ghouse, Surender Pailla, Azhar Khan C.A.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher.

Published by

MANAK

PUBLICATIONS PVT. LTD.

B-7, Saraswati Complex, Subhash Chowk

Laxmi Nagar, New Delhi 110092 (India)

Phone : 91-11-22453894, 22042529

E-mail: manakpublications@gmail.com

Website: manakpublication.com

Subsidiary Office in U.S.A

MANAK PUBLICATION, INC

2426, Lexington Circle South Canton

Michigan-48188 (USA)

E-mail: manakpublicationsusa@gmail.com

Phone: +1 (313) 6087618

First Edition 2023

© Editors, 2023

ISBN: 978-93-91897-31-4

Typeset in Adobe Garamond Pro
by GRS Graphics, India

Printed in India by: Nice Printing Press, New Delhi (India)

vi | Underprivileged Communities in India: Trajectories towards Empowerment

11. Empowerment of Tribal Women through Panchayati Raj	85
<i>Y. Ravinarayan</i>	
12. Planning and Budgetary Strategies for Excluded Groups in India	95
<i>Y. Venuprasad</i>	
13. Empowering Underprivileged Communities with a Focus on Muslim Women in India	113
<i>Zaheda Begum</i>	
14. New Education Policy 2022 and Its Rhetoric of Quality at the Cost of Equity	121
<i>Andem Madhusudhan Reddy</i>	
15. Women Empowerment through Education: Removing the Barriers	129
<i>Deekonda Thirupathi</i>	
16. Other Backward Classes: A Multi-Dimensional View Over its Concepts and Related Aspects	136
<i>J. Narasimulu</i>	
17. Participation in Women Empowerment through Panchayati Raj Institutions: Problems and Prospects	152
<i>K. Srinivas</i>	
18. Thoti Community in Telangana	161
<i>Meeta Joshi</i>	
19. Rise and Decline of Constitutional or Political Institutions	170
<i>Raghavendra Reddy</i>	
20. Political Engagement of Under-Privileged Communities with Reference to Hyderabad	177
<i>Rama Devi</i>	
21. Educational Empowerment of Muslim's in Telangana: A Case Study of Telangana Minorities Residential Educational Institutions Society of Hyderabad (TMREIS)	188
<i>Sudheer Kumar Bollam</i>	
22. Political Engagement of Underprivileged	201
<i>Sreepathi Naidu</i>	
23. Social Justice through Political Inclusion: A Case Study of Under-Representation of Muslims in Zaheerabad Municipality	206
<i>Mohammed Ghouse</i>	
Glimpses of National Seminar	225
About the Editors	244
Index	247

11. Empowerment of Tribal Women through Panchayati Raj <i>Y. Ravivardhan</i>	85
12. Planning and Budgetary Strategies for Excluded Groups in India <i>Y. Venuprasad</i>	95
13. Empowering Underprivileged Communities with a Focus on Muslim Women in India <i>Zaheda Begum</i>	113
14. New Education Policy 2022 and Its Rhetoric of Quality at the Cost of Equity <i>Andem Madhusudhan Reddy</i>	121
15. Women Empowerment through Education: Removing the Barriers <i>Deekonda Thirupathi</i>	129
16. Other Backward Classes: A Multi-Dimensional View Over its Concepts and Related Aspects <i>J. Narsimuloo</i>	136
17. Participation in Women Empowerment through Panchayati Raj Institutions: Problems and Prospects <i>K. Srinivas</i>	152
18. Thoti Community in Telangana <i>Meeta Joshi</i>	161
19. Rise and Decline of Constitutional or Political Institutions <i>Raghavendra Reddy</i>	170
20. Political Engagement of Under-Privileged Communities with Reference to Hyderabad <i>Rama Devi</i>	177
21. Educational Empowerment of Muslim's in Telangana: A Case Study of Telangana Minorities Residential Educational Institutions Society of Hyderabad (TMREIS) <i>Sudheer Kumar Bollam</i>	188
22. Political Engagement of Underprivileged <i>Sreepathi Naidu</i>	201
23. Social Justice through Political Inclusion: A Case Study of Under-Representation of Muslims in Zaheerabad Municipality <i>Mohammed Ghouse</i>	206
Glimpses of National Seminar	225
About the Editors	244
Index	247

About the Authors



Dr. Kuparaja Venkatesh Vidyasagar working as a lecturer in the Department of Mathematics, JSSS Government Degree College, Puttur, Karnataka. He has about 22 years of teaching experience. He received his B.A. degree from S.S. Institute of Arts and Science. He has published 11 research papers in JGC and about 15 papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology.



Dr. O.V. Shanmuga Sundaram working as an Assistant Professor in the Department of Mathematics, JSSS Government Degree College, Puttur, Karnataka. He has about 22 years of teaching experience. He received his B.A. degree from S.S. Institute of Arts and Science. He has published 11 research papers in JGC and about 15 papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology.



Dr. P. Ramulu working as an Assistant Professor in the Department of Mathematics, JSSS Government Degree College, Puttur, Karnataka. He has about 22 years of teaching experience. He received his B.A. degree from S.S. Institute of Arts and Science. He has published 11 research papers in JGC and about 15 papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology.



Mr. V. Gopinath working as an Assistant Professor in the Department of Mathematics, JSSS Government Degree College, Puttur, Karnataka. He has about 22 years of teaching experience. He received his B.A. degree from S.S. Institute of Arts and Science. He has published 11 research papers in JGC and about 15 papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology. He has also published 11 research papers in the Journal of Science and Technology.

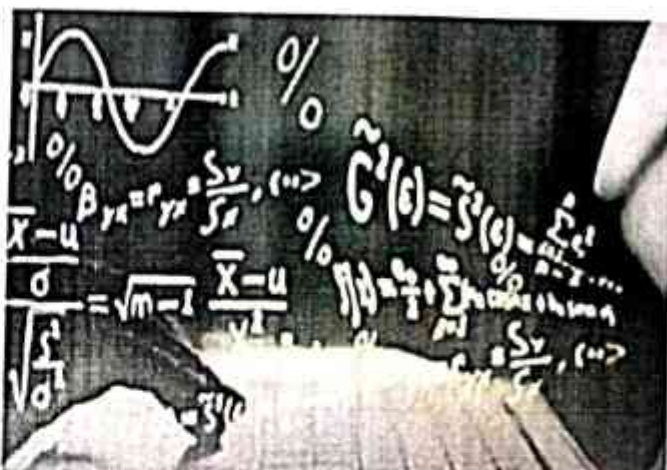


Infinite Research

www.infinite-research.org
info@infinite-research.org
info@infinite-research.org



A TEXTBOOK OF ENGINEERING MATHEMATICS



A Textbook of ENGINEERING MATHEMATICS



Dr. Kuparaja Venkatesh Vidyasagar
Dr. O.V. Shanmuga Sundaram
Dr. P. Ramulu
Mr. V. Gopinath

HEAD

of Mathematics

Dr. Kuparaja Venkatesh Vidyasagar

Dr. O.V. Shanmuga Sundaram

Dr. P. Ramulu

Mr. V. Gopinath

Recent Trends in Banking and Financial Sectors of India Issues and Challenges



Captain Dr. VIJAY KUMAR MADUGU

Edited Book

Vol.01

**RECENT TRENDS IN BANKING AND FINANCIAL
SECTORS OF INDIA:
ISSUES AND CHALLENGES**

Editor

Capt. Dr. Vijay Kumar Madugu
Associate Professor & Head,
Department of Commerce & Management
M.V.S Govt. Arts & Science College (Autonomous)
Mahabubnagar, Telangana State

All rights are reserved. No part of this publication which is material protected by this copyright notice may not be reproduced or transmitted or utilized or stored in any form or by any means now known or hereinafter invented, electronic, digital or mechanical, including photocopying, scanning, recording or by any information storage or retrieval system, without prior written permission from Publisher.

Information contained in this book has been published and has been obtained by its Author(s), from sources believed to be reliable and are correct to the best of their knowledge. However, the Publisher and its Author(s) shall in no event be liable for any errors, omissions or damages arising out of use of this information and specifically disclaim any implied warranties or merchantability or fitness for any particular use.

Recent Trends in Banking and Financial Sectors of India: Issues and Challenges

First Edition - May, 2023

Copyright © Capt. Dr. Vijay Kumar Madugu

ISBN: 978-93-5891-753-6

**MVS Govt. Arts & Science College (Autonomous), Christian Pally,
Mahabubnagar, Telangana - 509001.**

CONTENTS

S.No.	Title of the Paper & Author(s) Name	Page No(s).
1	BANKING IN REGIONAL LANGUAGES- <i>A. Vijayasree</i>	1-6
2	DIGITAL BANKING HABITS AMONG THE WEAKER SECTIONS IN WANAPARTHY DISTRICT- <i>Dr. N. Srinivas</i>	7-14
3	ARTIFICIAL INTELLIGENCE BANKING SECTORS IN INDIA - <i>P. Rajasheker Reddy & S. Archana</i>	15-19
4	DIGITAL BANKING IN INDIA PROBLEMS AND PERSPECTIVES- - <i>Dr. Y. Padmaja Rani</i>	20-25
5	BLOCK CHAIN TECHNOLOGY IN BANKING AND FINANCIAL SECTOR IN INDIA- <i>V. Srinivasulu</i>	26-30
6	CENTRAL BANK DIGITAL CURRENCY IN INDIA- PROSPECTS, OPPORTUNITIES, CHALLENGES AND WAY FORWARD - <i>Roopa Kema</i>	31-35
7	CLOUD COMPUTING IN BANKING SECTORS: ISSUES AND CHALLENGES - <i>Prashanti. V</i>	36-40
8	CYBER SECURITY IN BANKING SYSTEM IN INDIA - <i>P. Srilatha</i>	41-45
9	DIGITAL INDIA, DIGITAL PAYMENTS & CASHLESS ECONOMY: ROLE OF JUDICIARY- <i>Dr. R. Laxman</i>	46-51
10	A STUDY ON CASHLESS TRANSACTIONS IN INDIA- - <i>Dr.G.Satyanarayana Goud</i>	52-57
11	PROMOTING EMPLOYMENT AND ENTREPRENEURSHIP DEVELOPMENT THROUGH THE BANKING AND FINANCIAL SECTORS IN INDIA - <i>Dr. K. Praneetha</i>	58-62
12	THE IMPACT OF DIGITAL BANKING ON ECONOMIC DEVELOPMENT - <i>Dr. K.Sushma</i>	63-66
13	ELECTRONIC PAYMENT AND INTERNET BANKING – - <i>Dr. C. Ashok Kumar, C. Anitha & K. Neeraja,</i>	67-71
14	ASSESSING CUSTOMERS ACCEPTABILITY OF ONLINE BANKING CHANNELS: AN EMPIRICAL STUDY- <i>P.V.V. Satya Vara Prasad,</i>	72-78
15	ARTIFICIAL INTELLIGENCE (AI) IN BANKING SECTOR: PROS AND CONS - <i>Capt. Dr. Vijay Kumar Madugu</i>	79-85
16	MERGER OF PUBLIC SECTOR BANKING INSTITUTIONS- - <i>Dr. Y. Shaaradha</i>	86-90
17	STRENGTHENING BANKING SYSTEM THROUGH REDUCTION OF NPAs - <i>Mohd Arif</i>	91-98
18	PROBLEMS AND PROSPECTS OF INSURTECH BUSINESS IN INDIA - <i>Dr J. Jayapradha</i>	99-101
19	RECENT TRENDS IN ALL ASPECTS OF BANKING AND FINANCIAL SECTORS- <i>Dr. Rina C Dave</i>	102-107

“Recent Trends in Banking and Financial Sectors of India: Issues and Challenges”
ISBN: 978-93-5891-753-6

✓ 20	AN ANALYSIS OF PERSONAL FINANCE MANAGEMENT AMONG MVS COLLEGE STUDENTS OF MAHABUBNAGAR - <i>R. Nagaraja Chary</i>	108-113
✓ 21	ROBOTIC PROCESS IN BANKING SECTOR- - <i>K. Krishna Priya & B. Gnaneshwari</i>	114-118
✓ 22	EMERGING TRENDS IN BANKING AND FINANCIAL SECTORS IN INDIA - <i>Dr. MD Suleman</i>	119-122
✓ 23	A STUDY ON BANKING AND FINANCIAL ISSUES IN HEALTH CARE INDUSTRY- <i>S. Anjaneyuloo & Jaweria Siddiqua</i>	123-125
✓ 24	ADVANCEMENTS IN ACTIVITIES OF FINANCIAL SERVICES - ROLE OF ARTIFICIAL INTELLIGENCE - <i>B.Eswaraiah</i>	126-130
25	DIGITAL BANKING – ROLE OF UPI PAYMENTS IN INDIA – A REVIEW - <i>K.Syamala Devi</i>	131-139
26	DIGITAL PAYMENTS IN INDIA – OPPORTUNITIES AND CHALLENGES - <i>K. Ranjitha</i>	140-151
✓ 27	PAYMENT BANKS SYSTEM IN INDIA: AN OVERVIEW - <i>Dr. K. Padmavathi, Reshma Begum & Afroz Jabeen</i>	152-155
28	FINANCIAL INCLUSION THROUGH PAYMENT BANKS WITH REFERENCE TO IPPB - <i>Mrs. V. Swathi</i>	156-160
29	A STUDY ON GREEN BANKING: REVOLUTION IN BANKING SECTOR IN RAIPUR DISTRICT - <i>Dr. Nidhi Goenka & Ms. Gayathri Iyenger</i>	161-167
30	BLOCK CHAIN IN INDIAN BANKING SECTOR - OPPORTUNITIES AND CHALLENGES - <i>Mrs. Kadapala Indrāja</i>	168-173
31	AN EMPIRICAL STUDY ON DIGITAL PAYMENTS: ISSUES AND CHALLENGES FACED BY STUDENTS OF PALAMURU UNIVERSITY, MAHABUBNAGAR DISTRICT, TELANGANA STATE - <i>Dr. S. N. Arjun Kumar</i>	174-179
32	RECENT TRENDS IN BANKING SECTOR AN OVERVIEW - <i>Dr. K.Manjula</i>	180-184
33	A RESEARCH PAPER ON “PERFORMANCE OF CO - OPERATIVE SOCIETIES IN ECONOMIC DEVELOPMENT - A CASE STUDY OF SMACCS, MAHABUBNAGAR - <i>Shaik Shujath Ali</i>	185-188
34	AWARENESS ON CENTRAL BANK DIGITAL CURRENCY (CBDC) (A CASE STUDY IN NIZAMABAD) - <i>Dr. G. Linganna</i>	189-196
✓ 35	RECENT TRENDS IN BANKING & FINANCIAL SECTOR - <i>Ruksana Begum</i>	197-201
✓ 36	BANKING GOVERNANCE IN INDIA: AN OVERVIEW- <i>J. Narsimuloo</i>	202-205
✓ 37	CYBER FINANCIAL FRAUDS IN INDIAN BANKING SECTOR: A STUDY - <i>Khadar Vali Karvan & Prudvi Vivekanand</i>	206-211

“Recent Trends in Banking and Financial Sectors of India: Issues and Challenges”

ISBN: 978-93-5891-753-6

38	A STUDY ON THE CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES OF STATE BANK OF INDIA - <i>Neelakantam Nagesh</i>	212-218
39	BANKING AND REAL ESTATE: AN OVERVIEW - <i>Dr. J. Laxmaiah</i>	219-223
40	DIGITAL BANKING UNITS: GAME CHANGERS IN BANKING AND FINANCIAL SERVICES IN INDIA - <i>Afreen Sultana & Smt. K.Lavanya</i>	224-227
41	SOCIAL ECONOMIC DEVELOPMENT THROUGH BANKING AND FINANCIAL INNOVATIONS - <i>Arun Kumar</i>	228-232
42	THE ROLE OF ENGLISH IN CREATING BANKING AMBIENCE - <i>Dr. P Narahari Murthy</i>	233-236
43	MOBILE BANKING AND ITS IMPACT: AN OVERVIEW - <i>Uma Rapaka & J. Jyothi</i>	237-239
44	DIGITAL BANKING AND DIGITAL CURRENCY - <i>Dr. Dhavalkumar P. Dave</i>	240-245
45	INDIAN BANKING SECTOR: CHALLENGES AND OPPORTUNITIES - <i>Dr. Nagalaxmi. B</i>	246-250
46	RECENT TRENDS AND DEVELOPMENTS IN INDIA BANKING SECTOR - <i>E. Ramaraju Yadav</i>	251-254
47	THE ROLE OF NEW DEVELOPMENT BANK IN ECONOMIC GROWTH OF BRIC COUNTRIES: AN OVERVIEW- <i>DVVS Gupta</i>	255-259
48	NON PERFORMING ASSETS IN BANKING SECTOR- <i>P. Manjula</i>	260-263
49	ROLE OF CREDIT RATING AGENCIES IN INDIAN FINANCIAL SYSTEM - <i>Dr. MD Sadat Shareef</i>	264-268
50	MODERNISATION OF COOPERATIVE BANKING SYSTEM IN INDIA - <i>Amtul Habeeb & Rehana Begum</i>	269-272
51	A BRIEF ANALYTICAL STUDY ON REFORMS IN THE INDIA'S BANKING SECTOR - <i>Dr. Gaddam Jimmy Corton</i>	273-277
52	A STUDY ON “AWARENESS ON FINANCIAL LITERACY OF WOMEN STUDENTS IN WANAPARTHY DISTRICT, TELANGANA” - <i>D. Haleema Begum & P. Radhika</i>	278-282
53	RECENT TRENDS IN BANKING AND FINANCIAL SECTORS IN INDIA - <i>Dr. H. Narsimulu</i>	283-289
54	TRANSFORMING DIGITAL PAYMENTS IN INDIA: OPPORTUNITIES AND CHALLENGES- <i>Dr G. Narsimulu</i>	290-294
55	ROLE OF DATA ANALYTICS IN BANKING FINANCIAL SERVICES AND INSURANCE (BFSI) - AN EXPLORATORY STUDY - <i>Lavudi Vijay</i>	295-299
56	IMPACT OF FINANCIAL SECTOR REFORMS ON INDIAN ECONOMY - <i>C. Veeresh Kumar</i>	300-302
57	TRENDS IN THE GROWTH OF DIGITAL PAYMENT MODES IN INDIA AFTER CORONA PANDEMIC - <i>V. Surender Reddy</i>	303-308

3. ARTIFICIAL INTELLIGENCE BANKING SECTORS IN INDIA

1. P. Rajasheker Reddy, Lecturer in Computer Application, MVSGDC (A), MBNR

2. S. Archana, Lecturer in Computer Application, MVSGDC (A), MBNR

INTRODUCTION

Artificial Intelligence (AI) is fast evolving as the go-to technology for companies across the world to personalize experience for individuals. The technology itself is getting better and smarter day by day, allowing more and newer industries to adopt the AI for various applications. Banking sector is becoming one of the first adopters of AI. And just like other segments, banks are exploring and implementing the technology in various ways. The rudimentary applications AI include bring smarter chat-bots for customer service, personalizing services for individuals, and even placing an AI robot for self-service at banks. Beyond these basic applications, banks can implement the technology for bringing in more efficiency to their back-office and even reduce fraud and security risks. Artificial intelligence (AI) is revolutionizing the banking industry by automating routine tasks, improving customer experiences, and reducing fraud. Banks have started to harness the power of AI to gain a competitive edge in the market. One of the primary applications of AI in the banking sector is chatbots. Chatbots are intelligent virtual assistants that use natural language processing (NLP) to understand and respond to customer queries. Chatbots can handle a wide range of customer requests, such as account balance inquiries, transaction history, and payment transfers. They can also provide personalized product recommendations, offer financial advice, and even assist with loan applications. Another area where AI is being applied is fraud detection. Banks have traditionally relied on rule-based systems to identify fraudulent transactions, but these systems have limited effectiveness against sophisticated fraudsters. AI-based fraud detection systems, on the other hand, can analyze vast amounts of data. AI is also being used for credit scoring and risk assessment. Traditional credit scoring models rely on historical data, such as payment history and credit utilization, to predict the likelihood of default. However, AI-based models can incorporate a wide range of data sources, such as social media activity. Overall, AI has the potential to transform the banking sector by improving efficiency, enhancing customer experiences, and reducing costs. As the technology continues to evolve, we can expect to see more innovative AI applications in the banking industry in the coming years.

10. A STUDY ON CASHLESS TRANSACTIONS IN INDIA

Dr. G. Satyanarayana Goud

Assistant Prof. of Chemistry, M.V.S Govt. Arts & Science College (A), Mahabubnagar

INTRODUCTION

Cashless Economy can be defined as a situation in which the flow of cash within an economy is nonexistent and all transactions must be through electronic channels such as direct debit, credit cards, debit cards, electronic clearing, and payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) in India. For the financial year 2019-20, the tax deduction for cash withdrawal exceeding 1 crore will be 2% as a part of leveraging the concept cashless economy. Businesses with an annual turnover of over Rs 50 crore are entitled to offer low-cost digital modes of payments and they won't have to incur extra charges on Merchant Discount Rate. As the digital mode of payment is overtaking the liquid cash transaction method, the Reserve Bank of India has to incur very low charges on maintaining the cash. This ultimately will help in having a positive cash flow in the economy. Cashless transaction is processing liquid money in the form of plastic or debit or credit cards etc. Transferring the money to others account through online or specific websites is called cashless transactions. The top five countries in world in cashless transaction are Sweden, Denmark, United Kingdom, Canada, Belgium. Besides these, a lot of other countries like France, Norway, Singapore, Netherlands are making progress in replacing cash with non-cash transactions using cards, apps and internet banking. Many countries have upper limits on cash transactions. As cash permits anonymity in transactions, it leaves the door open for tax evasion and even funding low-cost terrorism. But India's not the only country in the world, and certainly not the first, make the big move to becoming cashless. This is a global trend: countries — both the developed and developing economies — are making great strides in eliminating or minimizing the use of paper money. These countries aren't cashless in the true sense of the word, some cash still does the rounds. The main drawbacks of cashless transactions is the basic infrastructure and security concerns. People who live in the lower level of pyramid are not technology friendly. They don't know how to operate a smart phone. Everyone cannot buy a Smartphone and data packs. (person who fights for his survival, how could he invest amount in electronic gadgets). People who live in rural areas will be affected a lot because the basic infrastructure for cashless transactions is missing. In India the small traders are more than the huge traders.

15. ARTIFICIAL INTELLIGENCE (AI) IN BANKING SECTOR: PROS AND CONS

*Capt. Dr. Vijay Kumar Madugu, Associate Professor of Commerce,
M.V.S Govt. Arts & Science College, Mahabubnagar, Telangana state.*

1. INTRODUCTION

Artificial Intelligence is a broad area of computer Technology focus on creating intelligent computers that can carry out activities, in which traditionally require human intelligence, it examines how the human brain perceives, decides and functions when solving issues. Adopting the AI in the Banking Sector have been perceived to be increasing in the recent years, and made the technology as commercially feasible. AI is to bring radical changes in every business including Banking Sector. In fact the banks are the backbone of financial system. The technological innovations had brought a drastic transformation of the banking and financial sector. The banking and financial sector of India covers all banking companies, non-banking companies, financial companies, fin tech companies and regulatory agencies and other institutions.

2. BACKGROUND OF THE STUDY

Artificial Intelligence enables a smart environment with which everyone can just access information and communicate with virtual assistants. As the banking and financial sector now need a progressive emergence of automation. AI Assistants like Alexa and Siri, which utilize sensors to understand human request and autonomously gather information from the web without the participant's assistance. They have the potential to acquire data concerning the environment that it perceives like the weather condition. Infogate, which notifies consumers of the news based on predetermined subjects of interest. As they employ sensors GPS and cameras to respond to their surroundings and navigate through traffic autonomous cars might also be regarded as Intelligent Assistant. Artificial Intelligence technologies are capable of hearing what people are saying expressing it as words and comprehending what they are saying. AI identifies the text printed on paper is interpreted by character recognition, which identifies the letter forms and transforms them into machine readable. AI is a knowledge discovery focus on expressing data regarding the actual world in a way that system software can utilize to alleviate challenging problems. AI preparation refers to decision-making processes carried out by machine or software application to accomplish a particular objective. The programme implementation entails selecting a series of tasks they have a high likelihood of completing a certain job. AI as computer

17. STRENGTHENING BANKING SYSTEM THROUGH REDUCTION OF NPAs

Mohd Arif, Lecturer in Commerce,

MVS Govt. Arts & Science College (A), Mahabubnagar, Telangana State.

INTRODUCTION

Non-performing Assets are debt Assets that has stopped generating any recurring and regular income for the bank. Banks can either keep the NPAs in their balance sheets in the possibilities that they may be able to recover or make provisions for NPAs. Gross NPA is an absolute amount which is considered irrecoverable and shows the total value of NPA for the bank in a particularly financial year and is still held in banks financial statements. On other side net NPA provides the exact value of NPA after making specific provisions for the particular asset.

SIGNIFICANCE OF THE STUDY

Growth of Non-Performance Assets undermines the image of bank, losing the trust of the public depositors may withdraw their deposits causing liquidity problem of bank. Liquidity in turn impact on productive activities of economy. The curb in investments may slow down the economy and it results unemployment, inflation, bear market situation in the country, further the banks will focus on increasing their interest rates to gain margin of profit. It also hurts the economy. It is the necessary study focus on the issues related to NPAs.

REVIEW OF LITERATURE

Hawaladar, I.T, Spulkar, C., Lokesh, A., Birau, R., Robegen, C. (2020) in their study analyzing non-performing assets in agriculture loans. A case study in India concluded that there is no significant difference in pre and post sanction of agriculture loans and management of non-performing assets by banks. The willful default by borrowers and more NPAs in banks are due to debt waiver policies announced by political parties.

Jethwani, B., Dave, D., Ali, T., Phansalker, S., and Ahhirao, S. (2020) in their study Indian agriculture GDP and NPA: A regression model found that the repayment of farm loan adversely affects as factors like rural population, low export value of crop and low crop production for the year. It should be understood that the farm loan waivers cannot solve the problem.

20. AN ANALYSIS OF PERSONAL FINANCE MANAGEMENT AMONG MVS COLLEGE STUDENTS OF MAHABUBNAGAR

R. Nagaraja Chary, Asst. Prof. of Commerce
MVS Govt. Arts & Science College (A), Mahabubnagar

INTRODUCTION

Financial literacy seems very important forever in human life for all types of category of people. As a priority financial literacy awareness is needed in student's life. Especially the college students of MVS commuting from different nooks and corners of the location. During the education period of the college students, understanding their financial literacy awareness is very important. Most of the researches on college students and their finances have been focused almost exclusively on the credit card use. Financial literacy is the ability to understand and apply financial management skills, like investing and budgeting. Understanding personal finance management can help to become more aware of how to enhance the financial planning and make more effective in financial decisions during the college life of the students. Developing financial knowledge early stage of life can also help to save money and spend expenses wisely, which leads to improve students' financial awareness during pre-earning stage and college life. Financial literacy involves being able to understand financial principles and concepts like managing debt, applying savings techniques, planning for future needs, understanding and calculating compound interest and even understanding the principle of time as money. Financial literacy is essential for long-term financial stability, as it can help to understand how money functions in the life and how to manage personal finance needs to meet the situations.

REVIEW OF LITERATURE

Anshika, Singla, Anju (2022) the present study identifies the measures to enhance the level of financial literacy for increasing financial access and performance of enterprises. It has been found that financial literacy improves performance of an enterprise, particularly when the funds are readily available as insufficient funds disrupt the operating efficiency of the firm, thereby hindering its growth and survival. The other most important factors i.e. access to formal financial lending policies of financial institutions, ease of doing business and training programmes have a substantial influence on the survival of the firms. The study conceptualises a research model which can be used by the policymakers to develop training modules for entrepreneurs. These training modules will contribute to the nation's economic growth by virtue of enhanced performance and superior financial access. This study proposes a hypothesised research model

22. EMERGING TRENDS IN BANKING AND FINANCIAL SECTORS IN INDIA

*Dr. MD Suleman, Asst. Prof. of Commerce,
MVS Govt. Arts & Science College (A), Mahabubnagar*

INTRODUCTION

In the last decade the Indian banking and financial sector showing tremendous growth due to the emerging trends in this sector. Today the banking industry is stronger and capable of withstanding the pressures of competition. Today, we are having a fairly well developed banking system in the banking field, there has been an unprecedented growth and diversification of banking industry has been so stupendous that it has no parallel in the annals of banking anywhere in the world. The banks have shed their traditional functions and have been innovating, improving and coming out with new types of the services to cater to the emerging needs of their customers. At present banking considerable innovation and diversification in the business of major commercial banks. In the present Techade the banks are quickly responding to the changes in the industry; especially the new generation banks. The continuance of the trend has re-defined and re-engineered the banking operations as whole with more customization through leveraging technology. As technology makes banking convenient, customers can access banking services and do banking transactions any time and from any ware. The importance of physical branches is going down. Digital payments are on the rise. Banks and other financial institutions are ensuring the best technologically equipped systems and infrastructure to support digital payments. This includes things like net banking and mobile banking, as well as payment processing

OBJECTIVES OF THE STUDY:

1. To discuss about the recent trends in banking sector
2. To know the challenges banking sector facing in the present situation.

FINDINGS & DISCUSSION:

RECENT TRENDS IN BANKING SECTOR:

1. **Electronic Clearing Service (ECS):** Electronic Clearing Service is a retail payment system that can be used to make bulk payments/receipts of a similar nature especially where each individual payment is of a repetitive nature and of relatively smaller amount. This facility is meant for companies and government departments to make/receive large volumes of payments rather than for funds transfers by individuals.

23. A STUDY ON BANKING AND FINANCIAL ISSUES IN HEALTH CARE INDUSTRY

1. S. Anjaneyuloo, Lecturer in Zoology, MVS GDC (A), Mahabubnagar

2. Jaweria Siddiqua, Lecturer in Zoology, MVS GDC (A), Mahabubnagar

INTRODUCTION

In healthcare life sciences the banking finance became an important aspect. Recent time's health financing challenges as the global health burden evolves. Health care is one of the Sustainable Development Goals of UNO declarations. The scale of investment needed for equitable access to health services means global health is one of the key economic opportunities for decades to come. New financing partnerships with the private sector are vital. Healthcare Investment Banking Definition: In healthcare IB, bankers advise companies in the biotech, pharmaceutical, medical device, healthcare service/facility, and healthcare IT markets on mergers, acquisitions, and debt and equity capital issuances. Banks, through banc assurance channels, typically focus on selling life insurance products because they generally command a higher price than non-life insurance products. Moreover, banks can find and promote the most suitable life insurance for customers based on their credit and personal need.

SIGNIFICANCE OF THE STUDY

Post Covid Health care became big issue for even a single individual in the world. It became crucial factor in life journey of every person. The development of any sector depends on the financial resource supported by the financial institutions and banks; the present study is significant to know the role of banks and financial institutions in health care sector as health care is a integral part of the every person life style.

OBJECTIVES OF THE STUDY

The present paper is intended to focus on the following objectives:

1. To know the role of Banks in promoting the health care industry.
2. To explore the issues related to Health crises and economic instability.
3. To understand the health financing.

RESEARCH METHODOLOGY:

The present paper is based on the secondary data collected from various journals, magazines, newspapers, blogs and internet based sources. The paper is descriptive in nature to analyse the banking financial issues in healthcare.

24. ADVANCEMENTS IN ACTIVITIES OF FINANCIAL SERVICES. ROLE OF ARTIFICIAL INTELLIGENCE

*B. Eswaraih, Assistant Professor of Commerce,
MIS Govt. Arts & Science College (A), Mahabubnagar, Telangana State.*

INTRODUCTION

Financial activities are an essential part of our lives, and they play a crucial role in our economy. From banking and investment management to insurance and lending, financial services are a critical component of modern society. However, with the increasing complexity of financial transactions and the rapid pace of technological change, financial institutions are facing a range of challenges. Artificial intelligence (AI) has emerged as a powerful tool for addressing these challenges. AI is a branch of computer science that focuses on the development of intelligent machines that can perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. In the financial services industry, AI is being used to automate processes, improve decision-making, and enhance the customer experience. AI-powered systems can analyze vast amounts of data and provide insights that would be difficult or impossible for humans to discern. They can also learn from past behavior and adapt their decision-making based on new data. AI has the potential to revolutionize the financial services industry, making it more efficient, cost-effective, and customer-centric. By leveraging AI technology, financial institutions can improve cyber security, prevent fraud, ensure regulatory compliance, provide better customer service, expand access to financial services, keep up with technological advances, and better manage economic uncertainty. In this seminar presentation paper, we will explore the advancements in activities of financial services and the role of artificial intelligence in addressing the challenges faced by financial institutions. We will examine specific examples of how AI is being used in the financial services industry and discuss its potential impact on the future of financial activities.

FINANCIAL ACTIVITIES AND CHALLENGES

Financial activities encompass a broad range of services and industries, from banking and investment management to insurance and lending. While each of these activities faces unique challenges, there are some common challenges that are prevalent across the financial services industry. Here are some examples.

Security and Fraud: Financial services institutions must ensure the security of customer data and transactions, as well as prevent fraudulent activities. With the increasing use of digital channels for financial transactions, cyber security threats and fraud have become major challenges.

Compliance: Financial institutions must comply with a range of regulatory requirements, including anti-money laundering (AML) and know your customer (KYC) regulations, which can be complex and time-consuming to manage.

27. PAYMENT BANKS SYSTEM IN INDIA: AN OVERVIEW

1. Dr. K. Padmavathi, Principal, MVS GDC (A), Mahabubnagar
2. Reshma Begum, Lecturer in Commerce, MVS GDC (A), Mahabubnagar
3. Afroz Jabeen, Lecturer in Management, MVS GDC (A), Mahabubnagar

INTRODUCTION

A payment bank is a new form of bank constituted by the Reserve Bank of India for achieving the goal of financial inclusion in India and to Provide a wide spread of payment and provide financial services to low-income households, small businesses, and the migrant labour workforce. There are several payment banks which are Airtel Payments Bank, Jio Payments Bank, NSDL Payments Bank, Paytm Payments Bank, India Post Payments Bank, and Fino Payments Bank. Payment Bank can accept demand deposits up to 2 lakh. Payment banks provide services like- net banking, mobile banking, debit Banks, and ATM cards, but they cannot lend loans and issue credit cards. Government of India treats that the payment banks can provide the services in both urban and rural areas with an intention to achieve the universal access of banking services. These banks are intended to ensure financial inclusion. Firstly, to act as a platform where the low-income groups can have a Savings account and deposit their incomes and savings and to facilitate transactions and payments for small businesses and promote entrepreneurship. Payment Banks will rid the semi-literate population to carry out all banking services at one stop including paying bills, transfers to others, making deposits and the like. They will empower the users to carry out end to end transactions. Payment Banks will also facilitate the transfer of money to remote locations beneficial to the migrant workers.

REVIEW OF LITERATURE

According to the paper "RBI Guidelines for Licensing of Payment Banks, Opportunities and Challenges", published by Deloitte Touche Tomatsu India Pvt. Ltd., many initiatives have been undertaken by the RBI, the Government of India, and other stakeholders to promote financial inclusion. The primary reason for low levels of financial inclusion in the country despite these initiatives is "the lack of financially viable business models to serve the 'Bottom of the Pyramid' customer segment in cost effective manner". "Payments Banks are niche banks, setup by the Reserve Bank of India to further the agenda of financial inclusion. These banks will provide small savings accounts and payments/ remittance services mainly to migrant labour workforce, low-income households, small businesses, etc. by enabling high volume -low value transactions in deposits and payments/ remittances services in a secured technology-driven environment. The

35. RECENT TRENDS IN BANKING & FINANCIAL SECTOR

*Ruksana Begum, Lecturer in Commerce,
M.V.S Govt. Arts & Science College (A), Mahabubnagar*

INTRODUCTION

In Banking and Financial sectors the most important trends on their radar should be the ability to innovate quickly and at scale, and to humanize digital experiences. Digital transformation was an area of emphasis, changes to systems, processes, products, and experiences were mostly modest, representing iterations to what was already familiar. The pandemic forced financial institutions to become proactive, and to question existing business models. At the same time, Fintech firms emerged that challenged the status quo in banking. Almost immediately, it became apparent that most organizations were not prepared to take advantage of the opportunities of a changing digital marketplace. Trends in Banking Sectors for the coming year include reimagining the importance of innovation, using technology and automation to improve banking experiences and back-office efficiencies, understanding the impact of crypto currencies and new payment alternatives, and fighting for increasingly scarce talent. Emerging banking trends banks to shift increasingly from face-to-face actions to fully digitized services. Banks will be offering advanced targeted service on a whole range of new devices that duplicate the functionality of smartphones but are more user-friendly and portable. Electronic Payment Services – E Cheques, Real Time Gross Settlement (RTGS), Electronic Funds Transfer (EFT), Electronic Clearing Service (ECS), Automatic Teller Machine (ATM), Point of Sale Terminal, Tele Banking, Electronic Data Interchange (EDI). Digital banking: Many banks are now offering a range of digital banking services, including mobile banking apps, online banking portals, and virtual assistants, which allow customers to access their accounts and conduct transactions remotely.

OBJECTIVES OF THE STUDY:

The study has the following objectives.

1. To review the recent digital trends and scenario in Indian banking sector
2. To review the digital initiatives in Indian banking sectors
3. To study the emerging issues and challenges in Indian banking sectors.

37. CYBER FINANCIAL FRAUDS IN INDIAN BANKING SECTOR: A STUDY

1. Khadar Vali Karvan, Asst. Prof. of English, MVS GDC (A), Mahabubnagar
2. Prudvi Vivekanand, Lecturer in Commerce, MVS GDC (A), Mahabubnagar

INTRODUCTION:

In the present financial era cyber financial crimes have become the deadliest retaliating tools and anyone can employ to threaten or defraud someone. Cybercrime refers to the use of a computer to advance illicit activities like fraud, the trafficking of child pornographic material and other intellectual property, identity theft, privacy invasions, etc. It entails spreading viruses, downloading files unlawfully, engaging in phishing schemes, and stealing personal data like bank account numbers, because of this, computer crimes are frequently used to refer to cybercrimes. Monetary cybercrimes are economic crimes," which are typically carried out by highly organized criminals and employ the most cutting-edge technologies. The number of cases of financial fraud has risen along with the rate of innovation. The banks have employed a number of specific procedures to protect against these frauds, yet the problem persists. In fact the security measures currently available through banks are also available in public or in other places where they can be exploited by cybercriminals who can simply breach security measures. Banking sector has suffered an impact of cybercrimes.

Significance of the study: The banking industry has increased its services and strives to offer exceptional customer service through innovation. During the course the cyber criminal's easy access to contact information on the internet, as a result in significant financial losses for banks as well as customers. The current situation calls for an increase in cooperation amongst the nations regarding the instruments and methods that can successfully allow them to combat electronic crime worldwide. Developing countries like India that are plagued by electronic and cybercrime pose a significant issue due to the lack of instruction in the areas relevant to the inquiry of cybercrime and electronic crime. The banking sector is being obliged to examine its current procedures in order to better analyse and reduce risks. Technology-driven methods have been employed in risk management. There is a dire need to focus on the issues to know the facts about the cyber financial frauds in India.

39. BANKING AND REAL ESTATE: AN OVERVIEW

Dr. J. Laxmaiah, Asst. Prof. of Telugu, MVS GDC (A), Mahabubnagar

INTRODUCTION:

The real estate sector is one of the most globally recognized sectors. It comprises of four sub-sectors - housing, retail, hospitality, and commercial. The growth of this sector is well complemented by the growth in the corporate environment and the demand for office space as well as urban and semi-urban accommodation. The construction industry ranks third among the 14 major sectors in terms of direct, indirect and induced effects in all sectors of the economy. In India, the real estate sector is the second-highest employment generator, after the agriculture sector. It is also expected that this sector will incur more non-resident Indian (NRI) investment, both in the short term and the long term. In India Bengaluru is expected to be the most favoured property investment destination for NRIs, followed by Ahmedabad, Pune, Chennai, Goa, Delhi and Dehradun. Real estate sector plays a crucial role in economic development of India. Rise in real estate business elevates the role of financial institutions. Every person wishes to have a house of his choice for dignified living and a secured future. For a common man, it's quite difficult to invest huge amounts at a particular time in some project where he is assured to have a decent apartment. According to the payment plans, mostly 90% of the payment of total sale consideration has to be made at the initial stage after booking an apartment which seems impossible without any financial assistance. Here comes the role of financial institutions.

REVIEW OF LITERATURE:

Aggarwal S. (2003) in his paper try to present the problems of developing and less developing economies in coming days in real estate sector. He point out the deficiency of resource shortage which will be major challenges in the real estate sector. He also emphasised the negative environment impact on the environment. Singh V. and Komal (2009) presented the psychological behaviours of customers in real sector market. He describes the various market factors which impact the customer behaviour. He also discussed about present scenario in real estate sector of our country India. CII publish report concerning with real estate sector on Feb 2019, outlines various emerging trend in the affordable housing and new technologies used in the field of the real state sector. Yojana September, 2017 publish article for the need of effective regulator authorities like RERA which will not only preserve the rights of common buyer but also weed out malign builders and make this sector more honest more accountable and safe destination for investment.

43. MOBILE BANKING AND ITS IMPACT: AN OVERVIEW

1. Uma Rapaka, Asst. Prof. of English, MVS GDC (A), Mahabubnagar
2. J. Jyothi, Lecturer in Political Science, MVS GDC (A), Mahabubnagar

INTRODUCTION:

Mobile technology in the recent two decades has completely changed the society. Mobile banking today is witnessing a rapid technological evolution. This evolution in banking technology was accelerated by the COVID-19 pandemic. As social distancing became the norm, mobile banking assumed renewed significance. IDFC FIRST Bank recognized this undercurrent of change, and its mobile banking app continues to be a flag-bearer in this banking revolution. While customer experience is an inherent benefit of the technology transformation in mobile banking, security is always a concern. Therefore, most of the future trends of mobile banking have customer experience and safety as key drivers.

BACKGROUND OF THE STUDY:

Mobile banking has made accessibility to banks easier. A customer can now access various banking information round the clock and not wait for banking hours. The speed of banking activities has increased too. Banks are redefining their role in the financial system while transforming the banking system with these tech innovations. As a result, the number of things user can do on mobile banking app is changing for the better. Making financial transactions using a mobile device such as a phone, tablet, etc., is known as mobile banking. This activity can range in complexity from a client paying bills or moving money overseas to anything as basic as a bank transmitting fraud or usage activity to a client's cell phone. The convenience of banking anytime anyplace is one benefit of mobile banking. Security issues and a constrained range of capabilities in comparison to in-person or online banking are drawbacks. In the current digital era, mobile banking is incredibly practical because to the various banks' amazing apps. People prefer to utilize mobile banking for a variety of reasons, including the ability to rapidly locate an ATM, pay for goods, send money to a buddy, and deposit checks. However, it's crucial to establish a secure connection before signing into a mobile banking app because failing to do so increases the possibility that a client's personal information would be compromised.

MOBILE BANKING AND ITS IMPACT:

1. Trading can be carried out anytime, anywhere.
Before the convergence of mobile technology and banking, people used to be skeptical about transferring online money. But with mobile banking apps coming into the picture, the entire process became seamless. Using smartphones, no matter how busy the traders are, they can do

21. ROBOTIC PROCESS IN BANKING SECTOR

- 1. K. Krishna Priya, Lecturer in Computer Science, MVS GDC (A), Mahabubnagar.*
- 2. B. Gnaneshwari, Lecturer in Computer Science, MVS GDC (A), Mahabubnagar.*

INTRODUCTION

Robotic Process Automation (RPA) is a technology that automates repetitive and rule-based tasks using software robots or bots. In the banking sector, RPA is increasingly being adopted to streamline operations, reduce costs, and improve efficiency. RPA can be used to automate a range of processes in the banking sector, including customer on boarding, loan processing, account management, compliance reporting, and more. By automating these processes, banks can free up staff time, reduce errors, and improve turnaround times for customers. For example, RPA can be used to automate data entry tasks, such as inputting customer information into a database or processing loan applications. RPA bots can also be used to perform routine checks, such as verifying customer identities or checking for fraudulent activity. Moreover, RPA can be integrated with other technologies such as machine learning, natural language processing, and artificial intelligence to improve decision making and provide insights into customer behavior. In summary, RPA is a technology that is transforming the banking sector by automating routine tasks, reducing costs, and improving efficiency.

BACK GROUND OF THE STUDY

The adoption of Robotic Process Automation (RPA) in the banking sector has been driven by several factors.

1. First, banks are under increasing pressure to reduce costs and improve efficiency in order to remain competitive. RPA provides a way to automate manual and repetitive tasks, allowing banks to reduce staffing levels and free up resources for more value-added activities.
2. Second, RPA can improve the accuracy and speed of processing for routine tasks, reducing errors and improving customer service. This is particularly important in the banking sector, where accuracy and compliance are critical.
3. Third, RPA can help banks to comply with regulatory requirements by automating compliance reporting and monitoring. This reduces the risk of non-compliance and potential fines or legal action.
4. Fourth, RPA can be implemented relatively quickly and with minimal disruption to existing processes. This makes it an attractive option for banks looking to improve their operations without significant investment in new technology or infrastructure.

40. DIGITAL BANKING UNITS: GAME CHANGERS IN BANKING AND FINANCIAL SERVICES IN INDIA

- 1. Afreen Sultana, Lecturer in Economics, MVS GDC (A), Mahabubnagar*
- 2. Smt. K.Lavanya, Lecturer in Commerce, MVS GDC (A), Mahabubnagar*

INTRODUCTION:

Government of India recently launched 75 digital banking units across 75 districts of the country, Digital Banking Units are aimed at furthering financial inclusion and enhancing banking experience for users. These units will provide seamless and secure banking services with minimum infrastructure involving zero paperwork, making it a simplified and user-friendly process. Digital Banking Units (DBUs), in layman's terms, are specialised branches for delivering digital banking products and services. DBUs will be paperless, and these will also act as digital financial literacy centres. DBUs are specialised fixed-point business units/hubs housing minimum digital infrastructure for delivering digital banking products and services, deliver in both self-service and assisted modes. The purpose of establishing the DBUs is to improve the availability of digital infrastructure for banking services, which will also help accelerate and widen the reach of digital banking services. DBUs would be for digital banking like PCOs (in late nineties) were for long-distance calling or Internet cafes for browsing. DBUs will improve the flow of credit in the rural areas, Poor will get easier access to money and loans, The establishment of these units will be cheaper than the conventional brick and mortar units, They will provide better technical support to customers, Digital Units will decrease the manpower requirement, For the scheduled banks, they will ensure steady profits, DBUs will help the government enhance digital literacy.

Genesis of DBUs:

In India, digital banking started taking shape in the late 1990s with ICICI Bank being the first one to bring the service to their retail clients. On October 16, 2022 Prime Minister Narendra Modi launched 75 Digital Banking Units (DBUs) in 75 districts across the country to boost financial inclusion and simplify banking. The DBU concept will be an important step in the country's banking industry journey, from being physical to phygital to digital-first to digital only. NITI Aayog has pitched for "digital only" banks to be set up in the country. According to RBI, Digital Banking Units are defined as present and future electronic banking services provided by a licensed bank for the execution of financial, banking and other transactions, instruments through electronic devices or equipment over websites (online banking), mobile