BIO-DATA OF **VANDANA MOLAHALLI**

Name : Dr. Vandana Molahalli, MSc, PhD
Current Position : Assistant Professor
Department of Physics
BMS College of Engineering, Bengaluru, India
Contact Number : +91 9740745644
Sex : Female
Nationality : Indian

ACADEMIC

- **Post Doc:** Kasetsart University Bangkok Thailand, 2023-2024 (Ionic liquid crystal electrolyte for supercapacitor Applications)
- **Post Doc:** CHRIST (Deemed to be University), Bangalore, India, 2022-2023 (Bio-waste Derived Carbonaceous Materials for Energy Applications)
- **Ph.D. Physics:** Mangalore University, India, 2021 (**Polymer Nanocomposites for Supercapacitor Applications)**
- **M.Sc. Physics:** Mangalore University, India, 2016
- **B.Sc.** (Physics, Chemistry, Mathematics), Bhandarkars' Arts and Science College Kundapura, India

Name of Course	Name of the College	Name of the University	Year of Passing	% of marks	Division	Subjects/ Disciplines
PhD Course work	Mangalore University, Mangalagangothri	Mangalore University	2017	81	- NA -	- NA -
MSc	Mangalore University, Mangalagangothri	Mangalore University	2016	75.28	First Class with Distinction	Physics
BSc	Bhandarkars' Arts and Science College	Mangalore University	2014	81.18	First class with Distinction	Physics Chemistry Mathematics

HIGHLIGHTS OF RESEARCH

PhD thesis Title: "Synthesis and Characterisation of Quantum dots Doped Conjugated Polymer for Energy Device Applications"

Supervisor's Name: Dr Devendrappa H, Professor
Department of Physics, Mangalore University, India, 574199

Year of award: 2022, April

To date, I have published **33** peer reviewed papers, 25 conference proceedings and **5** book chapters (**22** as a first author, **41** as co-author) in various reputed International journal publishers like ACS, RSC, Elsevier, Springer Nature, Taylor and Francis, IOP and AIP Proceedings etc.

I have received CRS "**Young Scientist Award**" 2024.

According to the Google Scholar record; Citations-724, h-index-15, i10-index-21

Publications (List of papers published in SCI Journals, in year wise descending order)

SL. No.	Author(s)	Title	Name of Journal	Volume	Page	Year	I F
1.	**Vandana Molahalli** , Pemika Hirankittiwong, Aman Sharma , Huddad Laeim, Apoorva Shetty, Nattaporn Chattham Gurumurthy Hegde	Roadmap on ionic liquid crystal electrolytes for energy storage devices	Materials Science & Engineering B	305	117369	2024	3.5
2.	Shainaz Nadaf, B Chethan, KM Swathi, Sofia Sultana Laxmeshwar, Angadi V Jagadeesha, K Manjunatha, **M Vandana,** Nattaporn Chattham, Gurumurthy Hegde	Synthesis, characterization and application of rare earth (Lu3+) doped zinc ferrites in carbon monoxide gas sensing and supercapacitors	Ceramics International	4	45	2024	5.2
3.	Govind Pathak, **Vandana M**, Gurumurthy Hegde, Srinandini Verma, Rajiv Manohar	Impact of porous nanoparticles on the electro-optical and dielectric parameters of nematic liquid crystals for display applications: Cost effective approach	Journal of Dispersion Science and Technology	2	1.9	2024	2.2
4.	**Vandana Molahalli**, Aman Sharma,Kiran	Low cost bio-waste nanocomposites for sustainable electrochemical	Materials Today Communication	-	108034	2024	3.8

	Bijapur, Gowri Soman, Nattaporn Chattham, Gurumurthy Hegde	devices: A systematic review					
5.	Jagadeesha Angadi V, Apsar Pasha, **Vandana Molahalli,** Vinayak K Pattar, Anuj Kumar, Gurumurthy Hegd, Chander Prakash, Bidhan Pandit, Satbir Sehgal, Mohd Ubaidullah	Enhanced supercapacitors and LPG sensing performance of reduced graphene oxide/cobalt chromate pigments for energy storage applications	Ceramics International	08	206	2023	5.2
6.	M Roopesh, Deljo Davis, MS Jyothi, **M Vandana**, BS Thippeswamy, Gurumurthy Hegde, TP Vinod, Rangappa S Keri	Wound healing efficacy of curcumin-loaded sandalwood bark-derived carbon nanosphere/PVA nanofiber matrix	RSC advances	13	24320	2023	3.9
7.	Gowri Soman, **Vandana M,** Gurumurthy Hegde	Molecularly imprinted graphene based biosensor as effective tool for electrochemical sensing of uric acid	Sensors International	23	100243	2023	-
8.	**Vandana M**, Chaitrashree K, Muskan Singh, Manica Agrawal, Syam G Krishnan, Gurumurthy Hegde	Past Decade of Supercapacitor Research – Lessons Learned for Future Innovations	Journal of Energy Storage	70	108062	2023	8.907
9.	**Vandana Molahalli,** Vinay S. Bhat, Apoorva Shetty, Devendrappa Hundekal, Arafat Toghan, Gurumurthy Hegde	ZnO doped SnO_2 nano flower decorated on graphene oxide/polypyrrole nanotubes for symmetric supercapacitor applications	Journal of Energy Storage	69	107953	2023	8.907
10.	**Molahalli Vandana**, Kiran Bijapur, Gowri Soman, Gurumurthy Hegde	Recent advances in the development, design and mechanism of negative electrodes for asymmetric supercapacitor applications	Critical Reviews in Solid State and Materials Sciences	1	1-36	2023	11.178

11.	Apoorva Shetty, **Vandana Molahalli**, Aman Sharma, Gurumurthy Hegde	Biomass-Derived Carbon Materials in Heterogeneous Catalysis: A Step towards Sustainable Future	Catalysts	13	20	2022	4.501
12.	**Vandana Molahalli**, Aman Sharma, Apoorva Shetty, Gurumurthy Hegde	SnO_2QDs Deposited on GO/PPy- Modified Glassy Carbon Electrode for Efficient Electrochemical Hydrogen Peroxide Sensor	Biosensors	12	983	2022	5.743
13.	**Molahalli Vandana**, Hundekal Devendrappa, Paola De Padova, Gurumurthy Hegde	Polymer Nanocomposite Graphene Quantum Dots for High-Efficiency Ultraviolet Photodetector	Nanomaterials	12	3175	2022	5.719
14.	S Veeresh, H Ganesha, YS Nagaraju, H Vijeth, **M Vandana**, M Basappa, H Devendrappa	Graphene oxide/cobalt oxide nanocomposite for high-performance electrode for supercapacitor application	Journal of Energy Storage	52	104715	2022	8.907
15.	M Basappa, H Ganesha, S Veeresh, YS Nagaraju**, M Vandana,** H Devendrappa	Preparation, characterization, and electrochemical properties of PEO/PVDF blend films	Chemical Physics Letters	799	139609	2022	2.328
16.	YS Nagaraju, H Ganesh, S Veeresh, H Vijeth, M Basappa, **M Vandana,** H Devendrappa	Single-step hydrothermal synthesis of ZnO/NiO hexagonal nanorods for high-performance supercapacitor application	Materials Science in Semiconductor Processing	142	106429	2022	3.92
17.	M Basappa, H Ganesha, S Veeresh, YS Nagaraju**, M Vandana,** H Vijeth, H Devendrappa	Investigate the Optical, Structural and electrochemical properties of PVC/PMMA/NiO blend films	IOP Conference Series: Materials Science and Engineering	1221	012059	2022	0.198
18.	**M Vandana,** S Veeresha, H Ganesha, Y S Nagarajua, H Vijeth, M.Basappa, H Devendrappaa	Graphene oxide decorated SnO_2 quantum dots/polypyrrole ternary composites towards symmetric supercapacitor application	Journal of Energy Storage	46	103904	2022	8.907
19.	H Ganesha, S Veeresh, YS	2-Dimensional layered molybdenum disulfide	Nanoscale Advances	4	521-531	2022	5.59

	Nagaraju, **M Vandana**, M Basappa, H Vijeth, H Devendrappa	nanosheets and CTAB-assisted molybdenum disulfide nanoflower for high performance supercapacitor application					
20.	S Veeresh, H Ganesh, YS Nagaraju, **M Vandana,** S P Ashokkumar, H Vijeth, MVN Ambika Prasad, H Devendrappa	UV-irradiated hydrothermal synthesis of reduced graphene quantum dots for electrochemical applications	Diamond and Related Materials	114	108289	2021	3.315
21.	**M Vandana**, Y S Nagaraju, H Ganesh, S Veeresh, H Vijeth, M Basappa, H Devendrappa	A SnO_2QDs/GO/PPy ternary composite film as positive and graphene oxide/charcoal as negative electrodes assembled solid state asymmetric supercapacitor for high energy storage applications	RSC Advances	11	27801-27811	2021	4.036
22.	Vijeth Hebri, Rabah Boukherroub, Ashokkumar Shankar Pawar, **Vandana Molahalli**, Devendrappa Hundekal	Self-assembled polypyrrole nanotubes/MoS_2 quantum dots for high performance solid state flexible symmetric supercapacitors	Sustainable Energy & Fuels	5	6338-6351	2021	6.813
23.	**M Vandana**, H Vijeth, SP Ashokkumar, H Devendrappa	Graphene quantum dots doped conducting polymer nanocomposite for high performance supercapacitor application	International Journal of Nanotechnology	18	494-504	2021	0.346
24.	H Vijeth, SP Ashokkumar, L Yesappa**, M Vandana**, H Devendrappa	Hybrid core-shell nanostructure made of chitosan incorporated polypyrrole nanotubes decorated with NiO for all-solid-state symmetric supercapacitor application	Electrochimica Acta	354	136651	2020	7.336
25.	H Ganesha, S Veeresh, YS Nagaraju**, M Vandana**, SP Ashokkumar, H Vijeth, H Devendrappa	Growth of 3-Dimentional MoS_2-PANI nanofiber for high electrochemical performance	Materials Research Express	7	084001	2020	2.025
26.	**M Vandana**, H Vijeth, SP Ashokkumar, H Devendrappa	Effect of different gel electrolytes on conjugated polymer-graphene quantum dots based electrode for solid state hybrid supercapacitors	Polymer-Plastics Technology and Materials	59	2068-75	2020	3.267

27.	**M Vandana**, H Vijeth, SP Ashokkumar, H Devendrappa	Hydrothermal synthesis of quantum dots dispersed on conjugated polymer as an efficient electrodes for highly stable hybrid supercapacitors	Inorganic Chemistry Communications	117	107941	2020	3.428
28.	SP Ashokkumar, H Vijeth, L Yesappa, M Niranjana**,** **M Vandana**, H Devendrappa	Electrochemically synthesized polyaniline/copper oxide nano composites: To study optical band gap and electrochemical performance for energy storage devices	Inorganic Chemistry Communications	115	107865	2020	3.428
29.	H Vijeth, SP Ashokkumar, L Yesappa, **M Vandana**, H Devendrappa	Camphor sulfonic acid surfactant assisted polythiophene nanocomposite for efficient electrochemical hydrazine sensor	Materials Research Express	6	125375	2020	1.609
30.	SP Ashokkumar, L Yesappa, H Vijeth, M Niranjana, **M Vandana**, H Devendrappa	Structure, morphology, thermal and electrochemical studies of electrochemically synthesized polyaniline/copper oxide nanocomposite for energy storage devices	Materials Research Express	6	125557	2020	1.609
31.	H Vijeth, SP Ashokkumar, L Yesappa, M Niranjana, **M Vandana**, H Devendrappa	Camphor sulfonic acid assisted synthesis of polythiophene composite for high energy density all-solid-state symmetric supercapacitor	Journal of Materials Science: Materials in Electronics	30	7471-7484	2019	2.779
32.	Yesappa Laxmayyaguddi, Niranjana Mydur, Ashokkumar Shankar Pawar, Vijeth Hebri, **M Vandana**, Ganesh Sanjeev, Devendrappa Hundekal	Modified Thermal, Dielectric, and Electrical Conductivity of PVDF-HFP/$LiClO_4$ Polymer Electrolyte Films by 8 MeV Electron Beam Irradiation	ACS omega	3	14188-14200	2018	4.132
33.	H Vijeth, SP Ashokkumar, L Yesappa, M Niranjana, **M Vandana**, H Devendrappa	Flexible and high energy density solid-state asymmetric supercapacitor based on polythiophene nanocomposites and charcoal	RSC advances	8	31414-31426	2018	4.036

Published Conference Proceedings

Sl. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	DS Suresh, **M Vandana**, S Veeresh, H Ganesh, YS Nagaraju, H Vijeth, M Basappa, H Devendrappa	Low-Cost Synthesis and Characterization of Donor P3HT Polymer for Fabrication of Organic Solar Cell	IOP Conference Series: Materials Science and Engineering	1221	012060	2022
2.	S Veeresh, H Ganesh, YS Nagaraj, **M Vandana**, SP Ashokkumar, L Yesappa, H Vijeth, H Devendrappa	UV-irradiation induced synthesis of reduced graphene quantum dots	Materials Today: Proceedings	45	3968-3970	2021
3.	YS Nagaraju, H Ganesha, S Veeresha, **M Vandana**, SP Ashokkumar, H Vijeth, H Devendrappa	Single crystalline hierarchical SnO_2 microsphere and fluoride-mediated hollow structures for photocatalytic activity	Materials Today: Proceedings	45	3833-3836	2021
4.	S Veeresh, H Ganesh, YS Nagaraj, **M Vandana**, SP Ashokkumar, L Yesappa, H Vijeth, H Devendrappa	Synthesis and characterization of reduced graphene oxide by cobalt oxide composite electrode	AIP Conference Proceedings	2265	030143	2020
5.	YS Nagaraju, S Veeresh, H Ganesh, **M Vandana**, SP Ashokkumar, L Yesappa, H Vijeth, H Devendrappa	Hydrothermal synthesis of highly crystalline NiO doped ZnO hexagonal shape nanorods arrays as cathode material for photocatalytic activities	American Institute of Physics Conference Series	2265	030136	2020
6.	Yennappa Siddappa Nagaraju, Honnu Ganesh, Shanthappa Veeresh, **Molahalli Vandana**, Shankar Pawar Ashokkumar, Hebri Vijeth, Hundekal Devendrappa	Facile hydrothermal synthesis of Zn-doped SnO_2 for crystallographic facet-oriented polyhedral structure	AIP Conference Proceedings	2244	080020	2020
7.	**Molahalli Vandana**, Shankar Pawar Ashokkumar, Lakshmayyaguddi Yesappa, Hebri Vijeth, Hundekal Devendrappa	Synthesis and characterization of reduced graphene oxide for energy storage application	AIP Conference Proceedings	2244	080022	2020
8.	Shantappa Veeresh, Honnu Ganesh, Yennappa Siddappa Nagaraju, **Molahalli Vandana**, Shankar Pawar Ashokkumar, Laxmayyaguddi Yesappa, Hebri Vijeth, Hundekal Devendrappa	Structure, morphology and optical properties of graphene oxide	AIP Conference Proceedings	2244	080023	2020

9.	Honnu Ganesha, Shantappa Veeresh, Yennappa Siddappa Nagaraju, **Molahalli Vandana**, Shankar Pawar Ashokkumar, Laxmayyaguddi Yesappa, Hebri Vijeth, Hundekal Devendrappa	Polymer quantum dots composite for electrochemical glucose detection	AIP Conference Proceedings	2244	080024	2020
10.	Shankar Pawar Ashokkumar, Hebri Vijeth, **Molahalli Vandana**, Mahadevappa Basappa, Myndur Niranjana, Hundekal Devendrappa	Electron beam irradiation effect on polymer blend electrolyte films: Thermal and conductivity studies	AIP Conference Proceedings	2244	080017	2020
11.	Hebri Vijeth, Shankar Pawar Ashokkumar, Laxmayyaguddi Yesappa, **Molahalli Vandana**, Hundekal Devendrappa	Nickel oxide nanoparticle incorporated polypyrrole nanocomposite for supercapacitor application	AIP Conference Proceedings	2244	040008	2020
12.	Shantappa Veeresh, Honuu Ganesh, Yennappa Siddappa Nagaraju, **Molahalli Vandana**, Shankar Pawar Ashokkumar, Laxmayyaguddi Yesappa, Hebri Vijeth, Hundekal Devendrappa	Synthesis and characterization of reduced graphene oxide nanocomposite	AIP Conference Proceedings	2244	080019	2020
13.	Yennappa Siddappa Nagaraju, Shanthappa Veeresh, Honnu Ganesh, **Molahalli Vandana**, Shankar Pawar Ashokkumar, Hebri Vijeth, Hundekal Devendrappa	To study the synthesis and characterization of ZnO hexagonal nano cubes with hydrothermal growth and formation mechanism	AIP Conference Proceedings	2244	080021	2020
14.	Honnu Ganesha, Shantappa Veeresh, Yennappa Siddappa Nagaraju, **Molahalli Vandana**, Shankar Pawar Ashok Kumar, Laxmayyaguddi Yesappa, Hebri Vijeth, Hundekal Devendrappa	Synthesis of nanorod structured polyaniline nanofiber for high electrochemical efficiency	AIP Conference Proceedings	2244	080025	2020
15.	Myndoor Niranjana, Laxmayyaguddi Yesappa, Hundekal Devendrappa, D Manjunath, S Sathisha, **Molahalli Vandana**,	Enhanced optical and thermal properties of polyaniline/copper oxide nanocomposite in the presence of camphor sulfonic acid surfactant	AIP Conference Proceedings	2244	080007	2020

	Shankar Pawar Ashokkumar, Hebri Vijeth					
16.	H Vijeth, SP Kumar, L Yesappa, M Niranjana, **M Vandana**, H Devendrappa	Influence of nickel oxide nanoparticle on the structural, electrical and dielectric properties of polypyrrole nanocomposite	AIP Conference Proceedings	2142	150029	2019
17.	SP Ashokkumar, H Vijeth, L Yesappa, **M Vandana**, H Devendrappa	Lower optical band gap and morphology of electrochemically synthesized polyaniline/CuO nanocomposites	AIP Conference Proceedings	2115	030059	2019
18.	**M Vandana**, SP Ashokkumar, H Vijeth, L Yesappa, H Devendrappa	Synthesis and characterization of polypyrrole-graphene quantum dots nanocomposites for supercapacitor application	AIP Conference Proceedings	2115	030535	2019
19.	H Vijeth, SP Ashokkumar, L Yesappa, **M Vandana**, H Devendrappa	Photocatalytic degradation of methylene blue and Rhodamine B using polythiophene nanocomposites under visible and UV light	AIP Conference Proceedings	2115	030536	2019
20.	M Basappa, L Yesappa, M Niranjana, SP Ashokkumar, **M Vandana**, H Vijeth, H Devendrappa	Structural and optical band gap of PEO/PVP polymer blend	AIP Conference Proceedings	1953	140045	2018
21.	SP Ashokkumar, H Vijeth, L Yesappa, M Niranjana, **M Vandana**, M Basappa, H Devendrappa	Surface morphology and electrochemical studies on polyaniline/CuO nano composites	AIP Conference Proceedings	1953	030095	2018
22.	**M Vandana**, SP Ashokkumar, H Vijeth, M Niranjana, L Yesappa, H Devendrappa	Synthesis and characterization of graphene quantum dots-silver nanocomposites	AIP Conference Proceedings	1942	050046	2018
23.	H Vijeth, L Yesappa, M Niranjana, SP Ashokkumar, **M Vandana**, H Devendrappa	Structural and Surface Morphology of Methylene Red Dye Doped PMMA Films	Proceedings of Int. Conference in Recent Advances in Materials Science and Biophysics	1	396	2018
24.	M Niranjana, L Yesappa, SP Ashokkumar, H Vijeth, **M Vandana**, M Basappa, H Devendrappa	Synthesis and Dielectric Properties of Polyaniline/Copper Oxide Nano Composite in the Presence of Surfactant	Proceedings of Int. Conference in Recent Advances in Materials Science and Biophysics	1	399	2018
25.	L Yesappa, M	Electron Beam Irradiated	Proceedings of Int.	1	396	2018

	Niranjana, SP Ashokkumar, H Vijeth, **M Vandana**, H Devendrappa	Polyaniline/$LiClO_4$ Composite: Structure, Morphology Studies	Conference in Recent Advances in Materials Science and Biophysics			

Published Book Chapters

Sl. No.	Author(s)	Title	Publisher	Volume	Page	Year
1.	**Vandana Molahalli**, jasmine joseph, Kiran bijapur, Aman Sharma, Gowri soman, Gurumurthy Hegde	Synergistic Effect of Bio-Nanocarbon Embedded Polymer Nanocomposite and its Applications	Bentham Books	1	1-46	2024
2.	**Vandana Molahalli**, Apoorva Shetty, Aman Sharma, Kiran Bijapur, Gowri Soman, Gurumurthy Hegde	Risks and ethics of nanotechnology: an overview	Academic Press, Elsevier	1	35-68	2023
3.	**Vandana Molahalli**, Apoorva Shetty, Kiran Bijapur, Gowri Soman, Aman Sharma, Gurumurthy Hegde	Biomass-Based Functional Carbon Nanostructures for Supercapacitors	Springer Nature	1	1-39	2023
4.	**Vandana Molahalli**, Sudeshna Mondal, Nithya Sri G, Renie Sebastina, Nattaporn Chattham, andGurumurthy Hegde*,	Green Synthesis and Application of Copper-Based Nanomaterials	ACS Book	1	287-303	2024
5.	**Vandana Molahalli**, Aman Sharma, Kiran Bijapur, Gowri Soman, Apoorva Shetty, B. Sirichandana, B. G. Maya Patel, Nattaporn Chattham, andGurumurthy Hegde*,	Properties, Synthesis, and Characterization of Cu-Based Nanomaterials	ACS Book	1	1-33	2024

International/National Conferences/Workshop attended and Papers Presented

1. Participated and presented a paper entitled "*Carbonaceous material as a potential electrode for storage applications*" at International Conference on Women in Electrochemistry organized by IISc, Bangalore during April 7-8, 2023

2. Participated and presented a paper entitled "*Asymmetric supercapacitors Design and study using ZnO doped SnO2 nanoflower anchored on GO/PPy nanotubes with carbonaceous material*" at International Conference on Advances in Material Science and Chemistry (AMSC-2023), organized by KLS Gogte Institute of Technology, Belagavi during 2-4 March, 2023

3. Participated in 29th National Conference on Liquid Crystals (NCLC-2022) organized by Department of Chemistry and Centre for Advanced Research and Development (CARD), Christ University in collaboration with Centre for Nano and Soft Matter Sciences (CeNS) under the aegis of Indian Liquid Crystal Society (ILCS) in December 2022

4. Attended Seminar on Small Angle X-Ray Scattering-The ideal technique for nanostructure analysis organized by Anton Paar, India in collaboration with Centre for Nano-Science, IISc Bangalore in November 2022

5. 7 Day- National Level DST STUTI Training program at Mangalore University in collaboration with Shivaji University, Kolhapur from 14- 20 November 2022

6. Participated in the workshop on Nanoparticles Characterization by Dynamic Light Scattering (DLS), by Anton Paar India at Peenya in September 2022

7. Participated in Stadler Seminar Series, organized by Anton Paar India in collaboration with Centre for Advanced Research and Development (CARD), Christ University, Bangalore in September 2022

8. Participated & presented a paper entitled "Synthesis and Characterization of reduced graphene oxide for supercapacitor application" in ICPN 2019 organized by Mangalore University Mangalagagotri, India during 19-21st September 2019.

9. Participated & presented a paper entitled "Graphene quantum dots doped conducting polymer nanocomposite for high performance supercapacitor application" in ICNAN-2019 organized by Vellore Institute of Technology, India during 29 Nov-1 December 2019

10. Participated & presented a paper entitled "Synthesis and Characterization of Polypyrrole – graphene quantum dots for supercapacitor application" in 63rd DAE Solid State Physics Symposium 2018 organized by Gurujambheshwar University Hisar Haryana, India during 18-22nd December 2018.

11. Participated in GIAN workshop on "Nanostructure based wide band gap materials for sensor applications" at Mangalore University from 11-17 October, 2018

12. Participated in the workshop on "Nanofabrication Technologies" at CENSE, Indian Institute of Science, Bangalore from 3-13 April, 2018

13. Participated & presented an article entitled "*Synthesis and characterization of graphene quantum dots-silver nanocomposites*" in 62nd DAE Solid State Physics Symposium 2017, organized by Bhabha Atomic Research Centre, Mumbai during 26-30 December, 2017

Declaration:

I do here by declare that the information furnished above is true, complete and correct to the best of my knowledge.

Place: Bangalore

Date: 04.9. 2024

Vandana Molahalli

Assistant Professor

Department of Physics

BMS College of Engineering Bangalore

Ph: 9740745644

Mail id:vandana.phy@bmsce.ac.in