

S.S.E.S.AMT'S SCIENCE COLLEGE, NAGPUR

Information to be submitted by Head of the Department for Internal Academic Audit

Name of the Department: **Physics**

Period of assessment: Session: 2017-18

1. Details about Academic Programmes:

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
UG	B.Sc.			
PG	M.Sc.Physics		M.Sc.Physics	
Ph. D.	Ph.D. Degree of RTMNU			
PG Diploma	-		-	
Advanced Diploma				
Diploma				Maple
Certificate				Maple
Others				
Total	03		01	02

2. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt./Ph.D. / M. Phil. etc.,)

Name	Whether Permanent /Adhoc/ Contributor	Qualification	Designation	Specialization	No. of Years of Experience	Whether supervisor	No. of Ph.D. awarded / Submitted / Ongoing
Dr.D.K.Burghate	Permanent	M.Sc.,Ph.D.	Principal	Materials Science	38	Yes	04 awarded Submitted-01 02 On going
Dr H K Dahule	Permanent	M.Sc., Ph.D.	Associate Professor	Materials Science	28	Yes	04 On going
Dr S B Khasare	Permanent	Ph.D., D.Sc.	Associate Professor	Theoretical	24	Yes	02 Awarded
Dr.S.W.Anwane	Permanent	M.Sc.,Ph.D.	Associate Professor	Materials Science	20	Yes	04 Ongoing
Dr.S.S.Darokar	Permanent	M.Sc.,Ph.D.	Associate Professor	Materials Science	14	Yes	01 Ongoing
Mr Ruchir Kumar	Adhoc	M.Sc.Phy.	Assistt.Prof	Material Science	2	No	No
Mr Pratik Deshmukh	Adhoc	M.Sc.Phy	Assistt.Prof	Material Science	2	No	No

Ku.Neha B.Khotele	Adhoc	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Material Science	4	No	No
Ku.Hemlata N.Sidam	Adhoc	M.Sc.Phy	Assistt.Prof	X-Rays	2	No	No
Mrs Pritee K. Tawalare	Contributory	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Spectroscopy	3	No	No
Ku.Archana G. Wasnik	Contributory	M.Sc.Phy.GATE	Assistt.Prof	Atomic & Molecular Physics	3	No	No
Ku. Minakshi V. Ghate	Contributory	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Material Science	4	No	No
Ku.Nikhila Nair	Contributory	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Material Science	3	No	No
Ku.Priti Surkar	Contributory	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Material Science	1	No	No
Ku.Priyanka D. Virutkar	Contributory	M.Sc.Phy.(persuing Ph.D.)	Assistt.Prof	Material Science	3	No	No
Mrs. Chaitali S. Joshi	Contributory	M.Sc.Phy	Assistt.Prof	Material Science	1	No	No

3. No. of Guest and Visiting faculty

05

4. Faculty participation in conferences/seminar/workshop and symposia:

Name of the Faculty	Title of Conference/ Seminar/ workshop Attended	Period	Level International/ National/State /University /College	Whether Presented papers	Whether abstract published in Sovinor/Abstract Book	Whether papers published in proceeding with ISBN No if any	Whether served as experts, chairpersons or resource persons
Dr.D.K.Burghate	APQN	22-23 Mar 18	International	Yes	--	--	--
Dr.S.W.Anwane	APQN	22-23 Mar 18	International	No	-----	-----	-----
Dr.S.S.Darokar	APQN	22-23 Mar 18	International	No	-----	-----	-----

5. Innovative processes adopted by the Department in Teaching and Learning:

In addition to class room teaching the faculty members are using ICT facility, Simulations using Maple to strengthen teaching-learning process.

6. No. of faculty members involved in curriculum restructuring /revision /syllabus development as member of Board of Study/ as member of Faculty/as a participation in Curriculum Development workshop

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7. Initiatives undertaken towards faculty development

Name of the Faculty	Faculty / Staff Development Programmes								
	Orientation	Refresher	UGC – FIP	HRD program	Faculty exchange program	Staff training by university	Staff training by other institutions	Summer / Winter schools, Workshops, etc	Others
-	-	-	-	-	-	-	-	-	-

8. Details of Administrative and Technical staff

Name of the staff	Designation	Permanent /Temporary
D.S.Wankhade	Lab. Assistant	Permanent
D.A.Thakare	Lab. Attendant	Permanent
K.N.Meshram	Lab. Attendant	Permanent
H.M.Dhawad	Lab. Attendant	Permanent

R.B.Naik	Lab. Attendant	Temporary
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9. Research funds sanctioned and received from various funding agencies, industry and other organizations:

Name of the Faculty	Major/ Minor/ Interdisciplinary Industry sponsored/ Any other (Specify)	Duration Year	Name of the funding Agency	Sanction Letter No /Date	Total grant sanctioned	Received	Completed/ Ongoing	Whether New Proposal Submitted
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10. Details on research publications:

Name of the Faculty	Peer Review Journals			Non-Peer Review Journals			Conference proceedings			e-Journals		
	International	National	Other	International	National	Other	International	National	Other	International	National	Other
Dr.D.K.Burghate												
Dr.H.K.Dahule	04-Submitted			09			01			09		
Dr.S.B.Khasare	01											
Dr.S.W.Anwane												
Dr.S.S.Darokar	01						02					

11. No of research publications listed in International Database (SCOPUS / Google Scholar)

Name of the Faculty	No of research publications in SCOPUS	No of research publications in Google Scholar	Citations	h-index	i10-index
Dr D.K.Burghate	11 (43)	40	190	08	07
Dr.H.K.Dahule	04(19)	19	09	02	00
Dr.S.B.Khasare	11 (30)	30	88	05	04
Dr.S.W.Anwane	09(15)	11	28	03	02
Dr.S.S.Darokar	01(18)	18	18	02	01

12. Details on research publications listed in International Database (SCOPUS)

Name of the Faculty	Co-Authors	Short Title	Journal	Year of Publication	Imp. Factor	SNIP	IPP	SJR	h-index
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Dr D.K.Burghate									
Dr.S.W.Anwane									
Dr.S.S.Darokar									

Pl see Enclosure I, II and III

13. Details on Impact factor of publications:

Range **5 to 4.43** Average **3.00** h-index **20** Nos. in SCOPUS **37**

14. Details of publication of Chapter in Book/ Book Edited/ Book Published by the faculty:

Name of the Faculty	Chapter in Book	Book Edited	Book Published			Year of Publication
			Title of the Book Published	ISBN/ISSN	Publisher	
Dr.H.K.Dahule			6 Books	With ISBN	Sai Jyoti Publication, Nagpur	
Dr.S.W.Anwane	Solid Electrolytes -Principles		3 Books	With ISBN	Nirali Prakashan, Pune BPB Publication	
Dr.S.S.Darokar	06		6 Books	With ISBN	G.C.Pub.	

15. Areas of consultancy and Revenue generated through consultancy :

Areas of consultancy	Revenue generated through consultancy before the assessment period	Revenue generated through consultancy during the assessment period

16. Conferences/Seminar /workshop/Guest Lect. organized by the Department: 05

Name	International/ National / State/ University/ College Level	Title /Topic	Date	Address of Speaker
Prof. Dr. C. S. Adgaonkar	College Level	COCHLEAR IMPLANT-A BOON TO DEAF	13 th Sept 2017	Ex-Professor, Institute of Science
Dr C.H. Bhosale	College Level	Purifying water with the help of solar energy can conserve a lot of water on earth	14 th Dec.20 17	Professor Emeritus, Department of Physics, Shivaji University, Kolhapur
Professor N N Karade	College Level	Nuclear Magnetic Resonance (NMR)	20 th Feb	Department of Chemistry, RTM NU

		Spectroscopy	2018	
Dr. S. B. Kondawar	College Level	Nano-Technology	24 th Feb.20 18	Department of Physics, RTM NU
Dr. Smita Acharya	College Level	SQUID (Superconducting Quantum Interference Device Technology)	7 th March 2018	Professor, Post Graduate Teaching Department of Physics, Nagpur University

17. No. of collaboration /linkages : 02

18. Total budget for research for current year in lakhs: 4 Lacs

From funding agency From Management of College

19. No. of research awards/ recognitions of faculty and research fellows of the institute:

Name of the Faculty	Details of the awards/ recognitions	International / National / State / University/ Dist/ College Level	Year

20. No. of Ph.D. awarded by faculty from the Institution

21. No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF SRF Project Fellows Any other

22. Details of increase in infrastructure facilities:

Facilities	Existing		Newly purchased		Source of Fund	Total
	No	Value of the equipment (Rs. in Lakhs)	No	Value of the equipment purchased (Rs. in Lakhs)		
No. of important equipments (cost <1 lakh)	60	-----	25	14 Lacs	UGC	-----
No. of important equipments (cost ≥ 1 lakh)	05	35 Lacs	00	00	UGC Innovative programme	
Others						

23. Total Number of students

486	36	7	26
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24. No. of students qualified in these examinations

NET SET/SLET GATE CAT
 IAS/IPS etc State PSC UPSC Others

25. Faculty as members in a) National committees b) International Committees c) Editorial

Name of the Faculty	Whether members in National committees if yes, give details with period	Whether members in International Committees if yes, give details with period	Whether members in Editorial Boards if yes, give details with period	Whether served as experts, chairpersons or resource persons if yes, give details with period
Dr. D.K.Burghate	i. NAAC Peer team ii. Indian Science Congress iii. IAPT iv. Bharat krishak Samaj	OISCA, Japan Organization for Industrial, Spiritual, Cultural and Advancement	NCM2010, NCNST2011, NCNM2013, ICSM2012, NCRAECS 14.	
Dr.H.K.Dahule	Luminiscence Society of India NUTA VUPTA	Advanced Materials Letters	NCNST2011, NCNM2013, ICMS 2012	Selection ,Placement ,LEC ,Moderation , Syllabus ,Committee At NCLA 2016
Dr.S.B.Khasare	IAPT			
Dr.S.W.Anwane		OISCA		
Dr.S.S.Darokar		OISCA		Selection ,Placement ,LEC ,Moderation , Syllabus ,Committee At NCLA 2016

26. Student projects: 16 (PG Students), 01 (Innovative Programme)

27. Awards / Recognitions received by faculty and students:

Name of the Faculty/ students	Details of the awards/ recognitions	International / National / State / University/ Dist/ College Level	Year
Dr.D.K.Burghate	Felecitation By C.M. Maharashtra, for Best Principal Award By S.S.E.S.Amaravati		2016
Dr.H.K.Dahule	Best Poster Award In ICSTSD 2016 at Malaysia	International	2016
Dr S B Khasare	Best Researcher by the college	College	2017

28. List of eminent academicians and scientists / visitors to the department.

Sr No	Name	Field	Address	Date of visit
1	Dr.C.S.Adgeonkar	Accoustics	Sagar University	13.09.2017
2	Dr.C.H.Bhosale	Material Science	Kolhapur	14.12.2017

3	Dr.N.N.Karade	Chemistry	RTMNU, Nagpur	20.02.2018
4	Dr.S. .Kondawar	Physics	RTMNU, Nagpur	24.02.2018
5	Dr.Smita Acharya	Physics	RTMNU, Nagpur	07.032018
6	H.Broyn	Education	Ministry of Edu. China	24.03.2018
7	Miss.Hongyan Li	Education	Ministry of Edu. China	24.03.2018
8	Jing Tian	Education	Academy of Science	24.03.2018
9	Dr.J.M.Khobragade	Education	Joint Director, Ngp	29.03.2018
10	D.B.More	Physics	K J Somayya College MUMBAI	29.03.2018
11	J.D.More	Physics	IIT- MUMBAI	29.03.2018

29. Student progression

Student progression	Against % enrolled
UG to PG	<0.1%
PG to M.Phil.	0
PG to Ph.D.	<0.1%
Ph.D. to Post-Doctoral	0
Employed	
• Campus selection	1%
• Other than campus recruitment	25%
Entrepreneurship/Self-employment	25%

30. Details on student enrichment programs (special lectures/workshops/seminar) with external experts:

Title/ Topic of the Program	Whether lectures/workshops/seminar /other	Name of the external experts	Details of the external experts	Period of Program
COCHLEAR IMPLANT-A BOON TO DEAF	Guest Lecture	Prof. Dr. C. S. Adgaonkar	former Head Department of Electronics, Govt. Institute of Science, Nagpur	13 th Sept 2017
Purifying water with the help of solar energy can conserve a lot of water on earth	Guest Lecture	Dr C.H. Bhosale	Professor Emeritus, Department of Physics, Shivaji University, Kolhapur	14 th Dec.2017
Nuclear Magnetic Resonance (NMR) Spectroscopy	Guest Lecture	Professor N N Karade	Department of Chemistry, RTM NU	20 th Feb 2018:
Nanomaterials have extensive technological applications right from their use in day-to-day devices to treatment of	Guest Lecture	Dr. S. B. Kondawar	Department of Physics, RTM NU	24 th Feb.2018,

cancers extending upto space programme				
SQUID (Superconducting Quantum Interference Device Technology)	Guest Lecture	Dr. Smita Acharya	Professor, Post Graduate Teaching Department of Physics, Nagpur University	7 th March 2018:

31. Participation in Institutional Social Responsibility (ISR) and Extension activities:

Name of the Faculty/	Details of Participation in Co-curricular activities	Details of Participation in Extra curricular activities	Details of Participation in Extension activities including Institutional Social Responsibility (ISR)	Details with dates and period
Dr.S.B. Khasare	Research Cell			
Dr.S.S.Darokar		NSS		

32. List of Alumni of the Departments:

Name	Address	Profession	Email	Mobile No	Date of Birth	Qualification	Passout year	Achievements
Ashish A. Mahabal	U.S.A.	Senior Research Scientist						
Appulingam Shriram	NABARD							
Dr. Ashish A. Deshmukh	IISC Baglore							
Mr.Prafulla D.Vairagade	IIT Mumbai							
Ku.Pooja Pingale	Canara Bank Mumbai							
Ku.Roopa Singh	IIM							
Dr.Kamlesh Moon	M.P. Deo Science College, Nagpur							
Dr.S.N.Patil	Associate Prof .Nashik					M.Sc.Physics		
Shri Rahul D.Khade	Advocate High Court Nagpur							
Dr.Vikas Bangre ,	Institute of Science, Mumbai							
Mr. R. J. Sasan	Indian Air Force							

Mr. A. M. Lele	Multinational Based Elect. Space Company U.S.A.							
Mr. G. Agarwal	IIT Guwahati							
Mr. V. S. Marathe	UK							
Ku. Sandhya	U.S.A.							
Mr. Joshi S. S.	Indian Air Force							
Dr. Varambhe	Prof. Food & Tech LIT Nagpur							
P. V. Dhanodkar	System Engg. United Bank Of India Pune							
Shri Jayant M. Borade	NIC Nagpur							

33. Major grievances of students (if any) redressed:

34. Any other information:

35. SWOC analysis of the department:

S-Strength: Good student's intake, located in heart of city, well equipped lab.

W-Weakness: Less no of faculty members (Regulars)

O-Opportunity: Likely recruitment policy will be open INSPIRE Camp. being conducted last 5 Years

C-Challenges: Running department with the help of contributory teachers.

36. Future plans: 1. To develop the sophisticated laboratory

2. Strengthens UG, PG Programme

Date:30the April 2018

Signature
Head
Department of Physics

Encl I

5/2/2018

S.B.Khasare. - Google Scholar Citations



S.B.Khasare.

Department of Physics, Science College
Congress Nagar, Nagpur 440012, India
Equation of State for Fluid Mixture

	All	Since 2013
Citations	103	41
h-index	6	4
i10-index	4	0

TITLE	CITED BY	YEAR
EQUATION OF STATE FOR HARD-SPHERE FLUID SB Khasare INDIAN JOURNAL OF PURE & APPLIED PHYSICS 25 (4), 182-184	13	1987
General equation of state for a real fluid SB Khasare Indian Journal of Pure and Applied Physics 34 (7), 448-467	11	1996
EQUATION OF STATE FOR A FLUID OF HARD-SPHERE MIXTURE SB Khasare INDIAN JOURNAL OF PURE & APPLIED PHYSICS 26 (8), 487-491	11	1988
ULTRASONIC STUDY OF MOLECULAR INTERACTION IN BINARY-LIQUID MIXTURES OF 1, 4-DIOXANE IN BENZENE AND CYCLOHEXANE SB Khasare, BA Patki INDIAN JOURNAL OF PURE & APPLIED PHYSICS 25 (4), 180-181	11	1987
Nano cavity dependent thermodynamic study of Lennard-Jones Bio-fluids using scaled particle approach SB Khasare, JN Ramteke, SS Khasare Adv Appl Sci 3, 772-775	6	2012
A comprehensive approach to an equation of state for hard spheres and Lennard Jones fluids SB Khasare Chinese Physics B 20 (8), 085101	6	2011
Cluster Approach to Thermodynamic Behaviour of Liquid Mixtures: Acrylonitrile in Methanol, p-Dioxane & Cyclohexane VA Tabhane, VD Muley, SB Khasare, S Ghosh Acta Acustica united with Acustica 81 (2), 187-190	6	1995
Equation of state for a binary mixture of hard sphere fluids with concentration dependent cavity SB Khasare Indian journal of pure & applied physics 29 (1), 19-21	5	1991
Equation of state for a Lennard-Jones fluid SB Khasare Indian journal of pure & applied physics 29 (8), 547-550	5	1991
Perturbation and variational approach for the equation of state for hard-sphere and Lennard—Jones fluids SB Khasare Chinese Physics B 21 (4), 045103	4	2012
Equation of state for pure fluids at critical temperature SB Khasare Chinese Physics B 21 (4), 045102	4	2012

https://scholar.google.co.in/citations?user=Qj5a_rAAAAAJ&hl=en

1/2

5/2/2018

Suresh S Darokar - Google Scholar Citations



Suresh S Darokar

Assistant Professor in Physics, Science
College, Congress Nagar, Nagpur
Material Science(Ferrites)

	All	Since 2013
Citations	18	7
h-index	2	2
i10-index	1	0

TITLE	CITED BY	YEAR
Synthesis and characterization of substituted Ca-hexaferrites SS Darokar, KG Rewatkar, DK Kulkarni Mater. Chem. Phy 56, 84-86	14	1998
Electrical properties of Li _{0.5} Fe _{0.5+x} Al _{12-x} O ₁₉ ferrites SS Darokar, KG Rewatkar, MS Choukuse, DK Kulkarni Indian Journal of Physics. Part A 74 (2), 155-157	4	2000
Study of Magnetic properties of Cobalt and Aluminium doped Lithium Ceramics SS Darokar IOSR Journal of Applied Physics (IOSR-JAP) 9 (6 Ver.III), PP 13-17		2017
MICROCRYSTALLINE PARAMETER AND ELECTRICAL CONDUCTIVITY OF ALUMINIUM AND COBALT (AL - CO) MIXED LITHIUMFERRITES SS Darokar INTERNATIONAL JOURNAL OF RESEARCHES IN BIOSCIENCES, AGRICULTURE AND ...		2017
Influence of Cobalt and Aluminium ions on Structural and Electrical Behavior Mixed Lithium Ferrites SS Darokar International Journal of Science and Research (IJSR) www.ijsr.net 5 (10 ...		2016
Synthesis Of An Aluminium And Cobalt Substituted Lithium Ferrite By Standerd Ceramic Method SS Darokar IJISET - International Journal of Innovative Science, Engineering ...		2015
ALUMINIUM AND COBALT SUBSTITUTED LITHIUM FERRITE PREPARED BY STANDARD CERAMIC METHOD SS Darokar International Research Journal of Emerging Trends in Multidisciplinary 1 ...		2015
SYNTHESIS AND DIELECTRIC CHARACTERIZATIONS OF BIFEO ₃ BY SOLID STATE METHOD SSDarokar IJBART 2 (3), 345-347		2015
Effect of Aluminium and Cobalt Substituent on Structural and Magnetic Behaviour of Lithium Ceramics SS DAROKAR International Journal of Chemical and Physical Sciences 4 (3), 37-44		2015
EFFECT OF AL SUBSTITUENT ON STRUCTURAL AND ELECTRICAL PROPERTIES OF VANADIUM YIG 2 JMKSS Darokar I J R B A T 2 (Issue (3), Vol. II, May 2015: 327-331), 327-331		2015

Encl IIII

5/2/2018

Dr S W Anwane - Google Scholar Citations



Dr S W Anwane

Associate Professor (Physics) Shri Shivaji
Science College

	All	Since 2013
Citations	21	8
h-index	2	1
i10-index	1	0

TITLE	CITED BY	YEAR
A study of iso-and alio-valent cation doped Ag ₂ SO ₄ solid electrolyte K Singh, SM Pande, SW Anwane, SS Bhoga Applied Physics A 66 (2), 205-215	12	1998
Ion conductivity commensurate with lattice distortion in Ag ₂ SO ₄ K Singh, SW Anwane, SS Bhoga Solid state ionics 86, 187-191	5	1996
Ionic conductivity of Ag ₂ SO ₄ doped with transition metal and rare earth ion impurities K Singh, SM Pande, SW Anwane, SS Bhoga Bulletin of electrochemistry 12 (11-12), 652-655	2	1996
Solid Electrolytes: Principles and Applications SW Anwane Advanced Energy Materials, 259-294	1	2014
Investigation on Ag ₂ SO ₄ : La ₂ (SO ₄) ₃ binary system K Singh, SW Anwane, SS Bhoga NISCAIR-CSIR, India	1	1999
Lithium Niobate Dispersed Silver Sulphate—A Composite Solid Electrolyte SW Anwane		
Electrical properties of barium titanate dispersed silver sulphate SW Anwane		
Aliovalent Yttrium added silver sulphate: a promising candidate for SO ₂ gas sensor SW Anwane, RS Anwane		
On lattice distortion by isovalent cations in silver sulphate solid electrolyte SW Anwane		