



## DEPARTMENT OF PHYSICS - UG

1.	Name of the department	PHYSICS - UG
2.	Year of Establishment	1945
3.	Names of Programmes / Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)	B.Sc. : PCM, PME, PMCs
4.	Names of Interdisciplinary courses and the departments/units involved	Computational Physics for sixth semester
5.	Annual/ semester/choice based credit system (programme wise)	Semester System : Prior to 2014 - 15 Choice Based Credit system: 2014 - 15 onwards
6.	Participation of the department in the courses offered by other departments	NIL
7.	Courses in collaboration with other universities, industries, foreign institutions, etc.	NIL
8.	Details of courses/programmes discontinued (if any) with reasons	NIL
9.	<b>Number of teaching posts</b>	
	<b>Designation</b>	<b>Sanctioned</b>
	Professors	NIL
	Associate Professors	10
	Asst. Professors	0
	<b>Filled</b>	<b>Filled</b>
	NIL	9
	0	0



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

Name of the Faculty	Qualification	Designation	Specialization	No. of years of experience	No. of students guided for last 4 years
H S Balakrishna	M.Sc.,MS	Associate Professor	Nuclear Physics	30	
V Anuradha	M.Sc., M.Phil	Associate Professor	Electronics	29	
Dr A S Govind	Ph.D	Associate Professor	Solid state physics	29	4
Dr P Aswini	Ph.D	Associate Professor	Solid state physics	29	
Dr S Sundareshan	Ph.D	Associate Professor	Nuclear Physics	29	
Dr. K C Radha	Ph.D	Associate Professor	Solid state physics	29	
Dr. K S Suresh	Ph.D	Associate Professor	Solid state physics	29	
S Subhadramma	M.Sc., M.Phil	Associate Professor	Electronics	30	
Dr. R S Geetha	Ph.D	Associate Professor	Theoretical Physics.	30	

11.	List of senior visiting faculty	
	<ul style="list-style-type: none"> <li>• <b>Prof N G Puttaswamy</b>, Former Chairman and Professor, Department of Physics, Bangalore University.</li> <li>• <b>Prof C R Ramaswami</b>, Retd. Professor, Department of Physics, Bangalore University.</li> </ul>	
12.	Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty	NIL
13.	Student -Teacher Ratio (programme wise)	50 : 1
14.	Number of academic support staff	Sanctioned
		Filled
		5
		5



15.	Qualifications of teaching faculty with D Sc/ D.Litt. / Ph.D. / MPhil / PG	Ph.D	07												
		M.Phil.	02												
		PG	01												
16.	Number of faculty with ongoing projects from	NIL													
17.	Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received.	NIL													
18.	Research Centre /facility recognized by the University	NIL													
19.	Publications														
	Publication per faculty	2.7													
	Number of papers published in peer reviewed journals	24													
	National Journals	02													
	International Journals	22													
	Books Edited	02													
<table border="1"> <thead> <tr> <th>Co - Author</th> <th>Title of the Book</th> <th>Publisher</th> <th>Year of Publication</th> </tr> </thead> <tbody> <tr> <td>H S Balakrishna</td> <td>"Concise Physics BSc VI Semester Volume 8 (603)"</td> <td>Subhas Stores, Bangalore</td> <td>Dec 2014</td> </tr> <tr> <td>Dr. A S Govind</td> <td>"A Text Book of Physics Vol – I"</td> <td>Prism Books Private Ltd., Bangalore</td> <td>Aug 2012</td> </tr> </tbody> </table>				Co - Author	Title of the Book	Publisher	Year of Publication	H S Balakrishna	"Concise Physics BSc VI Semester Volume 8 (603)"	Subhas Stores, Bangalore	Dec 2014	Dr. A S Govind	"A Text Book of Physics Vol – I"	Prism Books Private Ltd., Bangalore	Aug 2012
Co - Author	Title of the Book	Publisher	Year of Publication												
H S Balakrishna	"Concise Physics BSc VI Semester Volume 8 (603)"	Subhas Stores, Bangalore	Dec 2014												
Dr. A S Govind	"A Text Book of Physics Vol – I"	Prism Books Private Ltd., Bangalore	Aug 2012												
	Books Edited with ISBN Numbers	02													



**Books co – authored by Prof. H S Balakrishna,**

**1. A Textbook of Physics: 1st Year Pre-University, 1/e**

ISBN : 9788131522714  
 Pages : 1306  
 Binding : Paperback  
 Trim Size : 241 x 181mm  
 Imprint : Cengage Learning India  
 © Year : 2014

**2. A Textbook of Physics: 2nd Year Pre-University, 1/e**

ISBN : 9788131522752  
 Pages : 1652  
 Binding : Paperback  
 Trim Size : 241 x 181 mm  
 Imprint : Cengage Learning India  
 © Year : 2014

**Text books for NCERT National Curriculum framework**

	Impact factor	1.11
	h – index	3

**Details of Paper Publications in Peer Reviewed Journals**

**a. Publications in International Journals**

Name of the Faculty	TITLE OF THE PAPER	JOURNAL	IMPACT FACTOR	CITATIONS
Prof V Anuradha	2-Nitrobenzyl Methanesulfonate	Acta crystallographica(2014) E 70 0616(2014)	0.567	
Prof V Anuradha	“Bis(2-bromobenzyl) ether”	Acta crystallographica (2014) E 70 765	0.567	



Name of the Faculty	TITLE OF THE PAPER	JOURNAL	IMPACT FACTOR	CITATIONS
S. Subadramma	Synthesis, characterisation and X – Ray studies of two biologically active compounds	IJSER, USA, Vol. 4 Issue 8 Aug. 2013	1.5	
Prof V Anuradha	“1-(3-Oxo-3-phenylpropyl)piperidinium Chloride”	Acta crystallographica E 69 81748(20 <sup>th</sup> ) 01748(2013)	0.567	
Dr. A. S. Govind	A Molecular Theory for Effect of light on liquid crystals	<i>liquid crystals</i> , Vol. 39, No. 3, March 2012, 347–357.	1.653	3
Dr. A. S. Govind	Enhancement of Nematic Order of Liquid Crystals in Thin cells	<i>Actaphy. Polonica A</i> , 2012, 121, 1111–1113	0.467	1
Dr. A. S. Govind	Enhancement of Nematic Order of Liquid Crystals in Thin Cells with Surface Induced Smectic Phase	<i>liquid crystals</i> , Vol. 39, No. 6, June 2012, 701–706	1.653	1
Dr. A. S. Govind	Enhancement of Nematic Order of Polar Liquid Crystals in Thin Cells	<i>liquid crystals</i> , Vol. 39, No. 12, December 2012, 1476–1481	1.653	
Dr. P. Aswini	“Enhancement of Nematic Order of LC in Thin cells”	‘Acta Physica Polonica A’ Vol. 121, 2012 March.	0.39	
Dr. P. Aswini	“Enhancement of Nematic Order of LC in thin cells with a Surface Induced Smectic Phase.”	Journal of liquid crystals Vol 39, issue 6, 2012 march	1.9	
Dr. P. Aswini	“Enhancement of Nematic order of Polar Liquid crystals in thin cells”.	Journal of liquid crystals Vol 39, Dec 2012, PP 1476-1481	1.9	
Dr. S. Sundareshan	Radon and Thoron levels in dwellings of Bangalore City, India: A Review	<a href="#">Physical Review and Research International: 2(2): 2012</a>	0.98	



Name of the Faculty	TITLE OF THE PAPER	JOURNAL	IMPACT FACTOR	CITATIONS
Dr. S. Sundareshan	Environmental Background Radiation and People	<i>International Journal of Environmental Research and Development</i> , (2012). 2(1), 49-67.		
Dr. A. S. Govind	Simple Molecular Theory for the Effect of Light on Nematic to Isotropic Phase Transition	<i>Actaphy. Polonica A.</i> , <b>2011</b> , 120, 462-467	0.467	4
Dr. A. S. Govind	A Simple Molecular theory for Photo-induced Smectic Phase	<i>Euro physics Journal E.</i> , <b>2011</b> , 34, 111-117	2.096	3
Dr. S. Sundareshan	Distribution of indoor radon and thoron levels,	<i>Journal of Environmental Research and Development</i> Vol 6(1), 2011	0.21	
Dr. S. Sundareshan	Volumetric Variations of indoor radon and thoron	<i>Arab J SciEng</i> , (2011).Vol 36:671-676		
Dr. S. Sundareshan	Radon and thoron concentrations in indoor environment,	<i>Indoor and build environment</i> (2011). Vol-20(2); pp 278 - 283.		
Dr. S. Sundareshan	Spatial Variations of Indoor radon,	<i>Journal of Environmental Research and Development</i> (2011). Vol 5(3), pp 524-531.		
Dr R S Geetha	Temperature and energy derivatives of DBF using Steffensen Inequality technique	<i>Annals of nuclear Energy</i> , July 2010 37 985-990	1.2	
<b>TOTAL</b>	<b>22</b>		<b>1.11</b>	

Publications in **National Journals**

Name of the Faculty	TITLE OF THE PAPER	JOURNAL	IMPACT FACTOR	CITATIONS
Dr. S. Sundareshan	Thoron and its progeny levels in Dwellings	<i>Journal of Environmental Research and Development</i> Vol. 6(3A), 2012	0.21	
Dr. P. Nagaraju	An experimental study of Natural convection in porous media heated from below.	Mapana, J Sci vol 10, No. 2, July- Dec 2011		

20.	Areas of consultancy and income generated	NIL
21.	Faculty as members in	
	a. National Committees	NIL
	b. International Committees	NIL
	c. Editorial Boards	01
	<b>Dr. A.S. Govind</b> Member, <b>Government of Karnataka Text Book Committee</b> , as <b>Scrutiniser</b> for 9th Standard Text Book, 2012	
	d. <b>Membership in Academic Bodies</b> <ul style="list-style-type: none"> <li>• Indian Association of Physics Teachers</li> <li>• Indian Physics Association</li> <li>• Bangalore University First Grade College Physics Teachers' Forum</li> </ul>	All All All
22.	Student projects	
	a) Percentage of students who have done in-house projects including inter departmental/programme	NIL



	b) Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/ other agencies	NIL
23.	Awards / Recognitions received by faculty and students	
	➤ <b>Dr. P. Nagaraju</b> is awarded <b>The BEST TEACHER AWARD</b> 2013 – 2014 by International school of Business and Research, Bangalore	
	➤ <b>V. Anuradha</b> was felicitated (Sept 2013) for contribution in educational and social sector on the occasion of birth anniversary of Sir. M. Vishweshwaraiah by Akhila Karnataka Brahmana Sabha, Mandya, Karnataka	
24.	<b>List of eminent academicians and scientists / visitors to the department</b>	
a.	<b>Prof. Akira Nakayama</b> , Professor, University of Japan	
b.	<b>Prof. G. S. D. Babu</b> , Director, Birla Institute of fundamental Research. Bangalore	
c.	<b>Prof. M. S. Hegde</b> , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
d.	<b>Dr Naren</b> , H R Max Planck Institute of Physics, Germany	
e.	<b>Prof. K J Rao</b> , Professor Emeritus, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
f.	<b>Prof. T N Guru Row</b> , Professor , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
g.	<b>Prof. S Ramasesha</b> , Professor , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
h.	<b>Dr. Anshu Pandey</b> , Assistant Professor , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
i.	<b>Prof. S Yashonath</b> , Professor , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	





j.	<b>Prof. B Gopal</b> , Professor , Molecular Biophysics Unit, Indian Institute of Science, Bangalore	
k.	<b>Prof. M R N Murthy</b> , Professor , Molecular Biophysics Unit, Indian Institute of Science, Bangalore	
l.	<b>Prof. Govardhan Reddy</b> , Assistant Professor , Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore	
m.	<b>Prof. Sharath Anantha Murthy</b> , Professor and Former Chairperson, Dept. of Physics, Bangalore University	
n.	<b>Prof. Ramakrishna Damle</b> , Professor and Chairperson, Dept. of Physics, Bangalore University	
o.	<b>Prof. Anavekar</b> , Professor and Former Chairperson, Dept. of Physics, Bangalore University	
p.	<b>Prof. B N Meera</b> , Professor, Dept. of Physics, Bangalore University	
q.	<b>Prof. D S Shankar Rao</b> , Professor and Scientist E, Center for Nano and Soft Condensed Matter Research, Department of Science and Technology	
r.	<b>Prof. George Thomas</b> , Professor and Head, Department of Physics, Christ University	
s.	<b>Prof. Guddenavar</b> , Professor, Department of Physics, Christ University	
t.	<b>Prof. V A Raghunathan</b> , Professor, Raman Research Institute, Bangalore	
u.	<b>Mr. Naveen K</b> , Programme Director, Head – Orchard at Mind Tree Ltd., Bangalore	
v.	<b>Prof. Keshava Murthy</b> , Head, Materials Department, Indira Gandhi Centre for Atomic Research, Kalpakkam, Chennai	
25.	<b>Seminars/ Conferences/Workshops organized &amp; the source of funding</b>	
a.	Title of the Conference	UGC Sponsored <b>National level Conference</b> on “Atomics Physics, Molecular Physics and X-ray Crystallography”
	Dates held	8 <sup>th</sup> , 9 <sup>th</sup> and 10 <sup>th</sup> Jan 2015



No. of Participants	131
No. of outstation participants	67
No. of Papers and posters presented	42
Main Sponsor	UGC
Co - Sponsors	<ul style="list-style-type: none"> <li>• BHS Higher Education Society</li> <li>• Indian Association of Physics Teachers, RC 12A</li> <li>• iSol Talent Consulting Limited</li> <li>• Syndicate Bank</li> <li>• B.Sc. (PME) Alumni of 1986 - 89 batch and 1994 - 97 batch</li> </ul>

**b. Regional Level Workshops Organized**

Title of conference /workshop/ seminar hosted	Date	No. participated	Source of Funding
Experimental Physics for High School teachers.	Feb 11-12, 2011	50	Indian Association of Physics Teachers, RC 12 A
Inspire Internship programme for II PU students	March 7 - 11, 2011	150	Department of Science and Technology
Workshop on "Computational Physics" for Physics teachers of Bangalore university	NOV. 11 <sup>th</sup> to 13 <sup>th</sup> , 2014	105	BHS Higher Education Society
Inspire Internship programme for II PU students	July 8 <sup>th</sup> to 12 <sup>th</sup> 2014	150	Department of Science and Technology
Workshop on "Crystallography, Quantum Mechanics and Statistical Physics"	Sep. 19 <sup>th</sup> and 20 <sup>th</sup> 2014	125	Indian Academy of Sciences



### c. Conferences Attended by Faculty

#### i. International Conferences

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date from to	Organized by (Name of the institution or university)	Title of the paper presented
1	Dr. P. Nagaraju	5 <sup>th</sup> International conference on Porous Media and applications in Science	June 22 <sup>nd</sup> - 27 <sup>th</sup> 2014	Engineering Conferences International, Kona, Hawaii, U.S.A.	"Effect of variable porosity on composite heat transfer in a boundary layer flow
2	Dr. A. S. Govind	Recent Advances in Materials Science	8th, 9th and 10th Nov 2012	Karnataka State Higher Education Council in association with Tumkur University	A Simple Molecular Theory for the Effect of Light on Liquid Crystals
3	Dr. P. Nagaraju	4 <sup>th</sup> International conference on Porous Media and applications in Science	June 17 <sup>th</sup> - 22 <sup>nd</sup> , 2012	Engineering Conferences International, Germany	"Experimental study of natural convection in a rectangular Cavity packed with porous media and its applications in Science, engineering and Industry
4	Dr. R. S. Geetha	Asian Physics Olympiad	30 <sup>TH</sup> April to 7 <sup>th</sup> May 2012	Grader, Government of India	-----



## ii. National Conferences Attended

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date from to	Organized by (Name of the institution or university)	Title of the paper presented
1	Dr. P Nagaraju	29 <sup>th</sup> Annual Convention of Indian association Of Physics Teachers (IAPT)	Oct, 10 – 12 <sup>th</sup> 2014	Indian Association of Physics teachers (IAPT), Chandigarh	Measurement of thermo emf of Iren-copper, copper-nickel and chromel-alumel as a function of temperature
2	Dr. P Nagaraju	National conference on perspective of physics in reducing environmental pollution.	Feb 22 <sup>nd</sup> 2014	Kalpatharu FGC, Tiptur	Physics of atmosphere
3	Dr. P Nagaraju	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----
4	H S Balakrishna	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----
5	Dr. K C Radha	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----
6	Dr. K S Suresh	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----
7	Dr. R S Geetha	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----
8	Prof. S Subhadramma	Seminar on Recent trends in photonics	2-4 Nov. 2012	International School of Photonics (IAPT), Cochin University	-----



Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Date from to	Organized by (Name of the institution or university)	Title of the paper presented
9	Dr. P Nagaraju	26 <sup>th</sup> Annual Convention of Indian association Of Physics Teachers (IAPT)	Oct, 09 - 12 2011	University of Rajasthan, Jaipur	Why only a torch filament for Stefan's verification and not a Higher wattage bulb?
10	Dr. P Nagaraju	25 <sup>th</sup> Annual Convention of Indian association Of Physics Teachers (IAPT)	Oct, 21 - 23 <sup>rd</sup> 2010	Indian Association of Physics teachers (IAPT), Gujarath	Experimental study of Natural convection in a rectangular enclosure packed with porous media
11	Dr. P Nagaraju	Cosmology	2012 -13	Bangalore University and IUCAA Pune	-----
12	Dr. A S Govind	Cosmology	2012 -13	Bangalore University and IUCAA Pune	-----

### iii. State and Regional Level Conferences

Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Level	Date from to	Organized by (Name of the institution or university)
1	Dr. A. S. Govind	Innovations and Best Practices in Higher Education	State Level	11 <sup>th</sup> Sept. 2014	MES College, Bangalore
2	Dr. P. Nagaraju	Atmospheric physics and Material science	Regional	19 <sup>th</sup> - 20 <sup>th</sup> Feb. 2014	VV Puram Science College
3	H. S. Balakrishna	Atmospheric physics and Material science	Regional	19 <sup>th</sup> - 20 <sup>th</sup> Feb. 2014	VV Puram
4	Dr. P. Aswini	Atmospheric Physics and Material science	Regional	19 <sup>th</sup> & 20 <sup>th</sup> Feb 2014	VVpura college of Science
5	Dr. S. Sundareshan	Atmospheric Physics and Material science	Regional	19 <sup>th</sup> & 20 <sup>th</sup> Feb 2014	VVpura college of Science



Sl. No.	Name of the faculty	Title of the Workshop/ Seminar/ Conference	Level	Date from to	Organized by (Name of the institution or university)
6	Dr. K. S. Suresh	Atmospheric Physics and Material science	Regional	19 <sup>th</sup> & 20 <sup>th</sup> Feb 2014	VVpura college of Science
7	Dr. A. S. Govind	Computational physics	Regional	11 <sup>th</sup> , 12 <sup>th</sup> & 13 <sup>th</sup> November 2013	Vijaya College, Bangalore
8	Dr. P. Nagaraju	Workshop on V Sem B.Sc. Physics syllabus blow - up.	Regional	16-Feb-13	RBANM's College, Bangalore
9	Dr. A. S. Govind	Optical fibres	Regional	14 <sup>th</sup> Feb, 2013	Bangalore University First Grade College Physics Teachers Forum and MLACW
10	Dr. A. S. Govind	Writing text books for B.Sc.	Regional	24 <sup>th</sup> December 2012	Bangalore University First Grade College Physics Teachers Forum and KLE College
11	H. S. Balakrishna	Framing of syllabus for V and VI sem B.Sc. Course	Regional	31 <sup>th</sup> Mar. 2012	MES College
12	Dr. K. S. Suresh	Framing of syllabus for V and VI sem B.Sc. Course	Regional	31 <sup>th</sup> Mar. 2012	MES College
13	H. S. Balakrishna	Framing of syllabus for V and VI sem B.Sc. Course	Regional	24 <sup>th</sup> Feb. 2012	KLE College, Bangalore
14	Dr. K. S. Suresh	Framing of syllabus for V and VI sem B.Sc. Course	Regional	24 <sup>th</sup> Feb. 2012	KLE College, Bangalore
15	Dr. R S Geetha	Framing of syllabus for V and VI sem B.Sc. Course	Regional	24 <sup>th</sup> Feb. 2012	KLE College, Bangalore
16	Dr. P. Aswini	Smart Materials	State	Jan-13	SJRC college Bangalore
17	Dr. K. C. Radha	Optical fibre	Regional	2012-13	Bangalore University First Grade College Physics Teachers Forum and MLACW



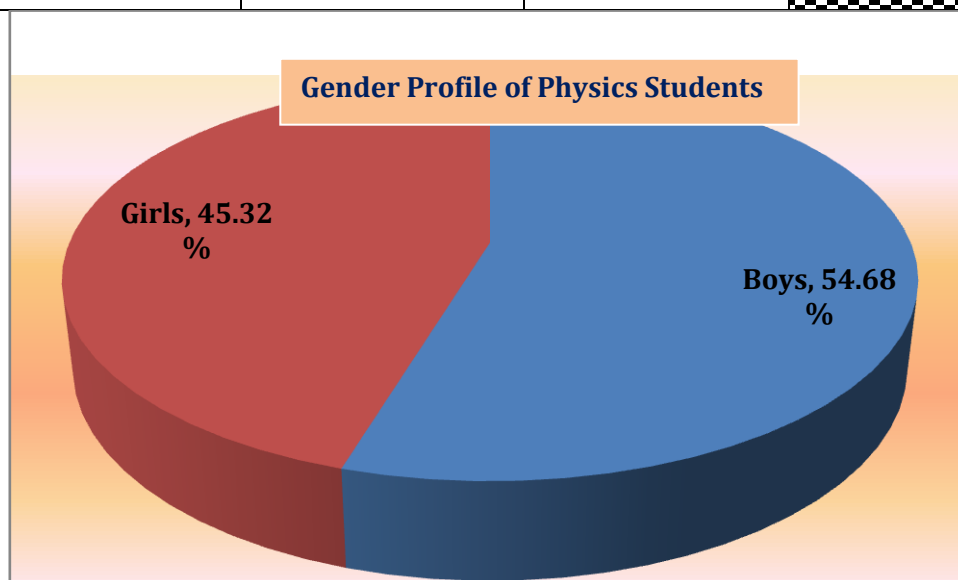
26. Student profile programme/course wise

Year	Name of the Course / Programme	Applications Received	Selected	Enrolled I Year		TOTAL All Years	Pass Percentage (outgoing students)
				Male	Female		
2010 - 11	B.Sc.	187	187	104	83	451	88.60%
2011 - 12		139	139	68	71	473	63.33%
2012 - 13		123	123	79	44	421	88.70%
2013 - 14		181	181	106	75	406	57.66%
2014 - 15		160	160	79	81	452	

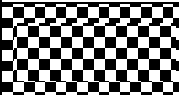
VIJAYA COLLEGE

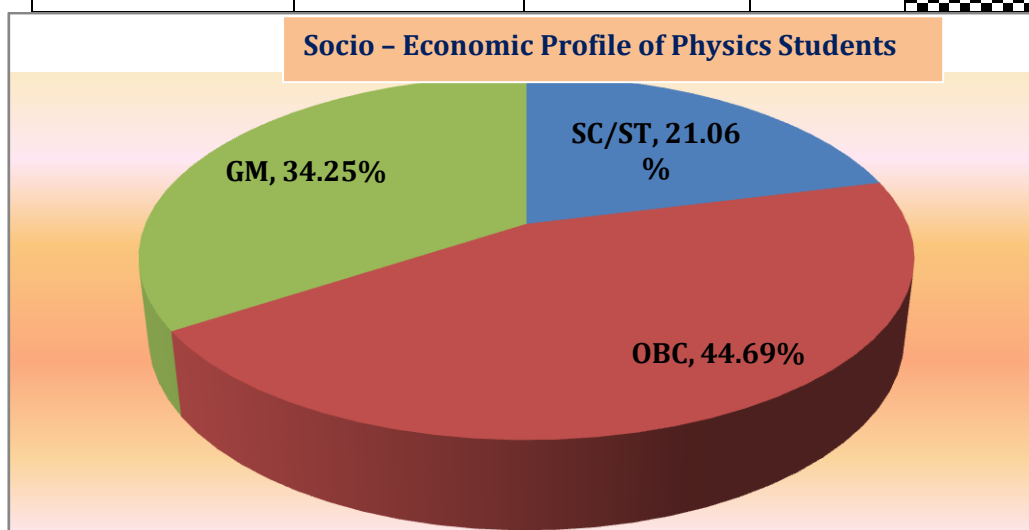
Gender Profile of Students

Academic Year	Boys	Girls	Total
2011 – 12	236	237	473
2012 – 13	234	187	421
2013 – 14	233	173	406
2014 – 15	255	197	452
<b>Average Percentage</b>	<b>54.68%</b>	<b>45.32%</b>	Checkered pattern



### Socio - economic profile of students

Academic Year	SC/ST	OBC	GM	Total
2011 - 12	89	168	216	473
2012 - 13	86	183	152	421
2013 - 14	91	202	113	406
2014 - 15	103	230	119	452
<b>Average Percentage</b>	<b>21.06%</b>	<b>44.69%</b>	<b>34.25%</b>	



### 27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
B.Sc. Physics	100%	0%	0%

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defence services, etc.?

**Vivek Ram** of 2010 - 2013 Batch B. Sc student of PMCs has been appointed as Lieutenant, 52, Bengal regiment, West Bengal sappers during October 2014

Other data not available





29. Student progression

Student progression	Against % enrolled			
	Year	No. enrolled	Total No.	%age
UG to PG	2010 - 11	8	114	7.02%
	2011 - 12	9	151	5.96%
	2012 - 13	12	181	6.63%
	2013 - 14	14	114	12.28%
	<b>Average</b>	<b>10.75</b>	<b>140</b>	<b>7.97%</b>
	PG to M.Phil.	NA		
PG to Ph.D.	NA			
Ph.D. to Post-Doctoral	NA			
<b>Employed</b> • Campus selection	Year	No. recruited	Total No.	%age
	2010 - 11	30	114	26.32%
	2011 - 12	120	151	79.47%
	2012 - 13	50	181	27.62%
	2013 - 14	60	114	52.63%
	<b>Average</b>	<b>65</b>	<b>140</b>	<b>46.51%</b>
• Other than campus recruitment	Data Not Available			
Entrepreneurship/Self-employment	NIL			

VIJAYA COLLEGE

30.	Details of Infrastructural facilities	
a.	LIBRARY	



	<b>Books</b>	Main Library	7104 Books
		Department Library	206 Books
	<b>Journals</b> <ul style="list-style-type: none"> <li>➤ Pramana, Resonance, Journal of Indian Academy of Sciences</li> <li>➤ Current Science, Journal of Indian Academy of Sciences</li> <li>➤ Bulletin of material science</li> <li>➤ Earth System Science,</li> <li>➤ Journal of Astrophysics and Astronomy.</li> </ul>		
b.	Internet facilities for Staff & Students		Available
c.	Class rooms with ICT facility		05 Class rooms and Laboratory
d.	Laboratories		
	Total Number Available		05
	Average Area of Each Laboratory		1200 sq. Ft.
	Total area of Laboratories		About 6000 Sq. Ft.
31.	Number of students receiving financial assistance from college, university, Government or other agencies		Data furnished under student support services

32.	Details on student enrichment programmes (special lectures / workshops /seminar) with external experts		
1.	Guest lecture on " <b>Dynamics of Heat transfer</b> " by <b>Prof. Akira Nakayama</b> , Professor, University of Japan on 23th Aug. 2012		
2.	Guest lecture on " <b>Stellar Evolution</b> " by <b>Prof. G. S. D. Babu</b> , Director, Birla Institute of fundamental Research, Bangalore during 14 <sup>th</sup> Nov 2012.		
3.	Guest lecture on " <b>Crystallography</b> " by <b>Prof. M. S. Hegde</b> , Solid State and Structural Chemistry Unit, Indian Institute of Science., Bangalore during 13 <sup>th</sup> October 2013		
4.	Guest lecture on " <b>Nuclear Demagnetization Refrigerator</b> " by <b>Dr Naren H R</b> , Max Planck institute of Chemical Physics, Germany on 13th January 2012 under ALPHA.		



5.	<b>Experimental Demonstration of Soap Films</b> using thin wire frames by <b>Shri Madhusudan</b> , Scientific officer, Jawaharlal Nehru Planetarium, Bangalore on 16 <sup>th</sup> September 2011
6.	Students participated and presented posters at <b>National Level LASER</b> Fest 10 <sup>th</sup> October 2012.
7.	Physics Students from our College participated and worked as volunteers in <b>“Science in action”</b> , an exhibition open to students and public at <b>Jawaharlal Nehru Planetarium</b> , Bangalore during the years 2011 – 2015 usually held in the month of November.
8.	Lecture on <b>“Use of satellite to society”</b> by <b>Mr Nagaraj Ananth</b> , ISRO Telemetry, Tracking and Command Network (ISTRAC) on 1 <sup>st</sup> Aug. 2013
9.	<p>➤ Workshop on <b>“Crystallography, Quantum Mechanics and Statistical Mechanics”</b> under the financial and professional support from <b>Indian Academy of Sciences</b> where about <b>9 lecture sessions</b> were held which were delivered by Professors of Indian Institute of Science. The workshop was held on <b>19th and 20th Sept 2014</b>.</p> <p>Participants were students of Final B.Sc. and I sem M.Sc. along with students and faculty from other institutions of Bangalore South.</p>
10.	Experiment demonstrations using Ripple Tank and Discharge Tubes

### 33. Teaching methods adopted to improve student learning

- Chalk and Talk Method
- Interaction at the end of every lecture session.
- Use of ICT in class room sessions
- Crystal Model Demonstration and use of charts in classroom sessions
- Assignments and subsequent discussion

### 34. Participation in Institutional Social Responsibility (ISR) and Extension activities

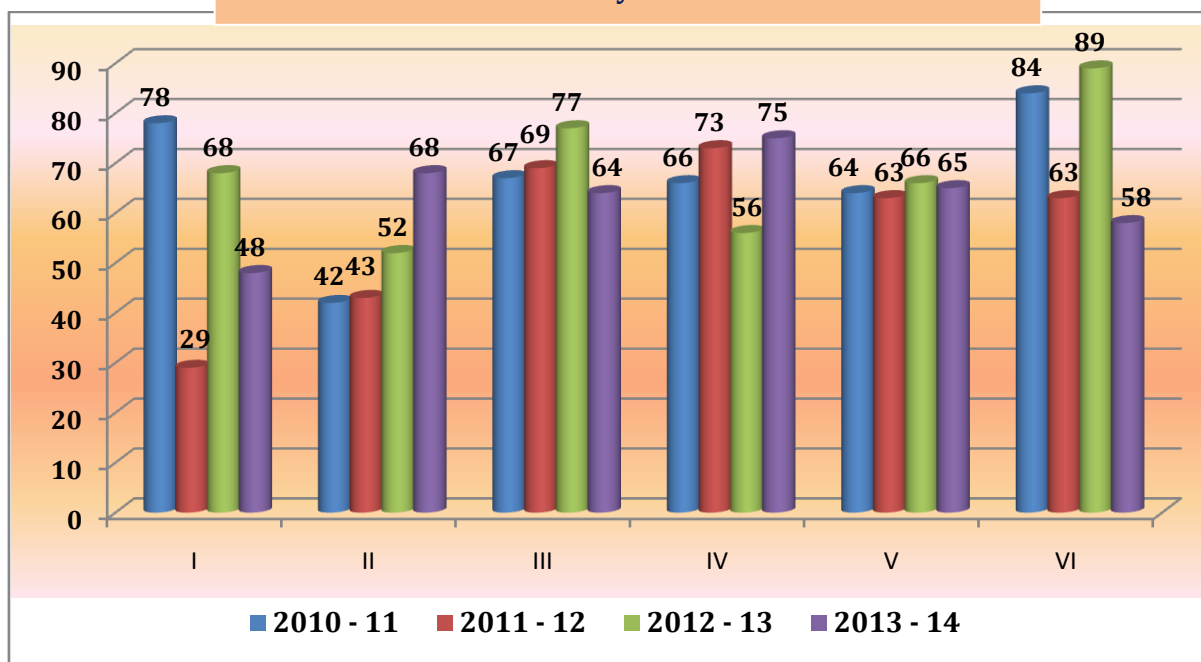
Participation in Environment awareness programmes.  
Participation in NSS and NCC events. Participation in National Festivals.



**I. Trends of Success Rate of Physics Students : 2010 - 2014**

Sem	2010 - 11	2011 - 12	2012 - 13	2013 - 14
I	78	29	68	48
II	42	43	52	68
III	67	69	77	64
IV	66	73	56	75
V	64	63	66	65
VI	84	63	89	58

**Trends in Success Rate of Physics Students : 2010 - 2014**



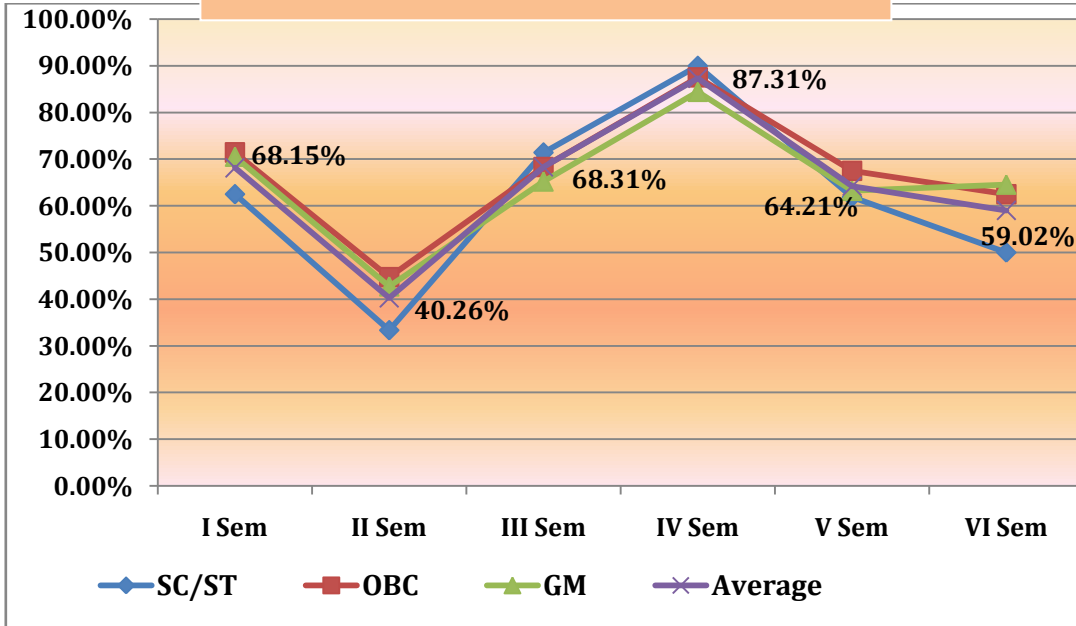
**II. Cohort Performance of Physics Students : 2009 - 2014**

**Batch - I : 2009 - 12**

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	62.50%	33.33%	71.43%	90.00%	61.90%	50.00%
OBC	71.43%	44.74%	68.29%	87.50%	67.50%	62.50%
GM	70.54%	42.72%	65.22%	84.44%	63.22%	64.55%
<b>Average</b>	<b>68.15%</b>	<b>40.26%</b>	<b>68.31%</b>	<b>87.31%</b>	<b>64.21%</b>	<b>59.02%</b>



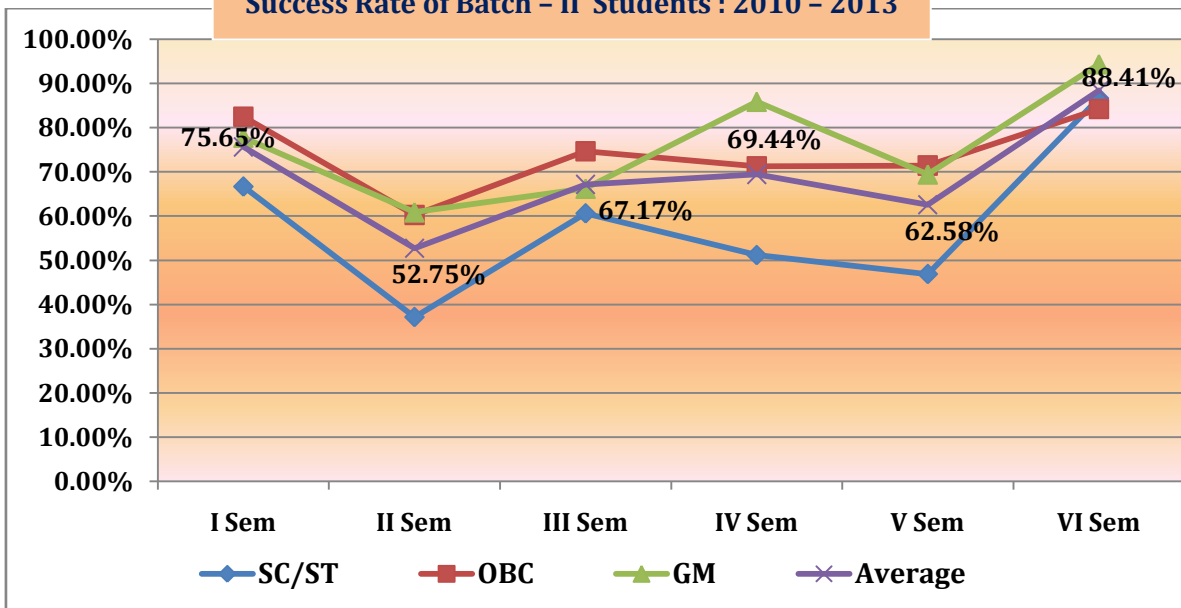
**Success Rate of Batch - I Students : 2009 - 2012**



**Batch - II : 2010 - 13**

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	66.67%	37.14%	60.61%	51.16%	46.88%	86.67%
OBC	82.50%	60.24%	74.67%	71.26%	71.43%	84.21%
GM	77.78%	60.87%	66.23%	85.88%	69.44%	94.37%
<b>Average</b>	<b>75.65%</b>	<b>52.75%</b>	<b>67.17%</b>	<b>69.44%</b>	<b>62.58%</b>	<b>88.41%</b>

**Success Rate of Batch - II Students : 2010 - 2013**

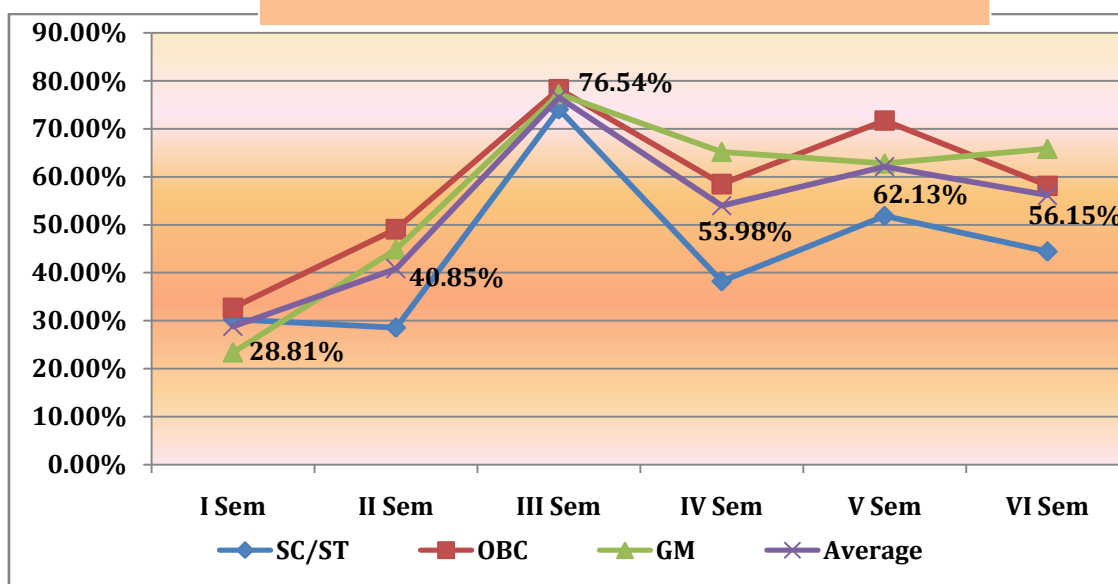




**Batch - III : 2011 - 14**

Category	I Sem	II Sem	III Sem	IV Sem	V Sem	VI Sem
SC/ST	30.30%	28.57%	74.07%	38.24%	51.85%	44.44%
OBC	32.73%	49.09%	78.26%	58.49%	71.74%	58.14%
GM	23.40%	44.90%	77.27%	65.22%	62.79%	65.85%
<b>Average</b>	<b>28.81%</b>	<b>40.85%</b>	<b>76.54%</b>	<b>53.98%</b>	<b>62.13%</b>	<b>56.15%</b>

**Success Rate of Batch - III Students : 2011 - 2014**



**35. SWOC Analysis**

**Strengths**

- ❖ Student enrolment has increased over past 10 years with an average of about 450 students from past 5 years. Enrolment from OBC and SC/ST categories is significant compared to GM. Access to education for socially backward classes has been assured.
- ❖ Faculty members are highly qualified with 6 Ph.Ds, 2 M.Phils and 1 PG out of 9 members. Faculty members have improved their qualification over past four years with 3 of them being awarded with Ph.D. degree
- ❖ A few Faculty members involved in Bangalore University syllabus design.



- ❖ A few faculty members are members of BOS & BOE of various universities and autonomous colleges
- ❖ All the faculty members are life members of IAPT, IPA & Bangalore University First Grade College Physics Teachers' Forum. A few Faculty members are the executive Committee members of IAPT RC - 12A, BUCTA, IPA - Bangalore Chapter
- ❖ Department has a large number of equipment sufficient to carry out minor research projects.
- ❖ The department in the college has established itself as a cut above the rest since a long time and has been pioneering changes in the college. There are many firsts to the department which is unparalleled not only in the college but in the entire Bangalore University
- ❖ The faculty of the department forms an important group to be consulted for any revision of the Physics curriculum at the UG level of Bangalore University.
- ❖ Many of the faculty are invited as resource persons for various orientation workshops for High School and PU college Physics teachers.
- ❖ Frequently **organize department meetings** to discuss various aspects like Maintenance of the department, conduct of practical classes, preparation of laboratory manuals, review of faculty performance and student performance, etc. Strategic decisions regarding academic and administrative issues of the department are taken in such meetings.
- ❖ The department practices a high degree of democracy and transparency in all issues.

### **Weaknesses**

- ❖ Quality of student input to the department is poor due to the availability of seats in professional courses.

- ❖ The impelling teaching workload of 20 hrs/week along with the continuous evaluation of students and other administrative responsibilities hampers the progress of research work.
- ❖ Paucity of funds to subscribe for international journals like American Journal of Physics, the Physics Teacher, etc. and addition of books to the departmental library

### Opportunities

- ❖ As there are good number of Ph.D. holders in the department :
  - A major research project with financial support from UGC can be undertaken.
- ❖ Develop interdepartmental collaborations with the infrastructure available
- ❖ Enhancing the pass percentage of students and to get ranks

### Challenges

- ❖ Limited employment opportunities and higher education prospects
- ❖ Inconsistent work load policy of the government has been affecting the morale of the teachers and hence may lead to underperformance in the system.
- ❖ Funding for acquiring latest equipment in adequate numbers for experimentation

### Future Plans

- ❖ Host an international conference during academic year 2017-18
- ❖ Initiating student projects like building power supplies, oscillators that can be used to perform regular experiments in 2015-16

### Best Practices of the Department:

- *Laboratory manuals* are provided by the department to the students to have an organized approach to experimentation. This ensures uniformity in the procedural details of the experiment.
- *Question bank* is provided in all the topics at the beginning of the semester to orient the student to the examination. These questions are treated as assignment which the students are



expected to answer and submit well before the schedules mentioned at the beginning of each semester. Thus, it paves way for continuous evaluation since the submission counts for internal assessment.

- If any student were to be absent for a practical class for whatever reasons, these losses are made up through classes arranged during their free time or during the repetition classes. Thus, the department ensures no student-learner is left behind or disadvantaged.
- **Remedial classes** are arranged for the slow and academically weak learners.
- The department has been enforcing the certification of Practical Class records only at the time of practical preparatory examination, subject to satisfactory performance. This practice has been found to yield results since the failures in practical examinations has been almost zero.
- In an attempt to encourage the students perform well and a healthy competitive spirit is instilled, the department has instituted **cash Prizes** to each of those **students who score highest marks in Physics** in each of the semesters. These prizes will be distributed on the Annual College Day Celebrations. Further, the students who secure 100% in Physics and/or a rank in the University examination will be felicitated.
- **Teaching content** of a few topics has been uploaded on to the **college website**. Plans are in progress to upload the full teaching content of Physics curriculum progressively and to install an interactive problem solver in physics.

\*\*\*\*\*