

MHRD, DST, DBT & IISER, PUNE SUPPORTED PEDAGOGY WORKSHOP
For Undergraduate and Post Graduate Science and Mathematics Teachers

June 26 - 28, 2018

Organized at: Shri Shivaji Science College, Amravati, Maharashtra

WORKSHOP COMPLETION REPORT

:Organizer:

**Centre of Excellence in Science and Maths Education (CoESME)
IISER, Pune, MS, INDIA**

:Sponsor:

Department of Biotechnology, Govt. of India

:Knowledge Partner:

Newton Bhabha Fund and British Council

:Local Organizer:

Shri Shivaji Science College, Amravati, MS, INDIA

PARTNERS:





Shri Shivaji Education Society, Amravati's
SHRI SHIVAJI SCIENCE COLLEGE
SHIVAJI NAGAR, AMRAVATI, MS, INDIA

NAAC accredited by 'A' grade with a CGPA of 3.13 (Third Cycle)
UGC Awarded College With Potential For Excellence (Second Phase)
Identified by DST for grants under FIST and
Sant Gadge Baba Amravati University as "Lead College"

shivajiscamt@gmail.com 0721-2660855 / 2665485

Salient Features :-

Curricular aspects :

B.Sc. :- 13 combinations (Botany, Chemistry, Computer Science, Geology, Environmental Science, Mathematics, Microbiology, Physics, Statistics, Vocational Biotechnology, Vocational Computer Application, Zoology.)

BCA :- (Bachelor of Computer Application)

M.Sc. :- Botany, Chemistry, Computer Soft Ware, Env. Science, Physics, Zoology & Bioinformatics

UGC Sponsored Innovative Course:- P.G. Diploma in Ground Water Exploration & Water Shed Management.

Career Oriented Program (UGC)

Cosmetology
Clinical Laboratory Technology
Modern Horticulture & Landscaping.
Astronomy & Astrophysics
Eco-Tourism & Wild Life Photography

Infrastructure Facilities

Separate UG /PG / Research Labs with state of art facility.
Enriched Library with 22,000 books.
Internet B/B connectivity throughout campus
Well Furnished Girls Hostel
Badminton Court with facility of flood lights
Fully equipped air conditioned Sir C. V. Raman Hall
Ambient campus with mapped flora
Medico - Botanical Garden

Research

Botany, Chemistry, Geology, Mathematics, Microbiology, Physics, Statistics, Zoology.

Central Instrumentation Cell

Consultancy for
PCR, HPLC, FTIR, AAS, UV-Vis
Gel Doc, and Microphotography

Best Practices

Guardian Teachers Scheme, Academic Audit.
Dress Code, Campus Monitoring.
Functional IQAC, Students representatives on important college committees.

Ambiance Learning Environment

Lush Green Garden / Lawns.
Eye catching landscaping.
Medicinal park with poly net house.



Hon'ble Harshavardhan Deshmukh
President
Shri Shivaji Education Society, Amravati

Dr. V. G. Thakare
Principal
Shri Shivaji Science College, Amravati

**Regional Pedagogy Workshop for Undergraduate and Post Graduate
Science and Mathematics Teachers**

26th-28th June 2018

Local Organizer: Shri Shivaji Science College, Amravati, Maharashtra

WORKSHOP COMPLETION REPORT

The national policy on Education was framed in 1986 and modified in 1992. Since then several changes have taken place that calls for revision of the policy. The Government of India would like to bring out a National Education Policy to meet the changing dynamics of the population's requirement with regards to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with the necessary skills and knowledge and to eliminate the shortage of manpower in science, technology, academics and industry.

Education means all round development of students. Actually, the teaching should be an interesting thing for the teachers and the students as well. Our colleges should be an interesting place for teaching- learning experiences, but it seems that today's education is totally examination oriented. The students mug up the contents of the syllabus and write it down in the examination to score marks. These days there is a rat race amongst the students for marks. In this education system the most challenging part in front of us is do the students acquire knowledge? Are they becoming skilled personnel? Are they using their creativity while learning? Are they applying knowledge in real life? So, to resolve these problems the teachers should update themselves to fulfil the changing needs of students with regard to education. They should adapt new methodologies in order to help students because students should become active learners rather than passive recipients of information.

The Shri Shivaji Education Society is one of the prestigious educational hubs in Maharashtra. It is established by Hon'ble Panjabrao Deshmukh in 1931 and today, its branches are widespread in entire Vidarbha fulfilling the dreams of the founder president for a better life of the Vidarbha peasantry. Likewise, from its inception, Shri Shivaji Science College, Amravati has played a pioneer role in academics, research and extension activities. It is actively involved in organizing conferences, workshops and seminars to enhance our education system and provide the opportunity to our students to explore by their own. There

is a dearth of good teachers who can ensure quality education and come forward to face the challenges in education. With this context “The Regional pedagogy workshop for undergraduate and post graduate science and mathematics teachers” was organized at Shri Shivaji Science College, Amravati, Maharashtra from 26th to 28th June. This workshop was supported by MHRD, DST, DBT and IISER Pune. The workshop was designed to train the teachers to use research based pedagogical tools (RBPT) in the classrooms to augment critical thinking and research skills. It has introduced research based pedagogical tools that focus on the process of science rather than facts. This new approach to teaching can improve the quality of undergraduate and postgraduate education. This was also an opportunity for professional development of all the teachers and chance to interact with their counterparts from various colleges and educational experts from India and learn from each other’s experiences.

The participants were selected by IISER, Pune. The applicants were also asked to submit the abstract about why they want to attend this workshop? After the scrutiny in total 60 lecturers from five different universities of Maharashtra have been selected to attend the workshop and they have participated in three days of training programme. The participants trained in previous national level workshops by a team of experts from UK were the trainers for this workshop.

LIST OF TRAINERS

1. **Lead trainer:** Dr. Varaprasad Kolla, Prof and Head, School of Life Sciences, ITM University, Raipur
2. Dr. Sanjay Chakane, Arts, Science and Commerce College, Indapur, Tal: Indapur, Dist: Pune.
3. Dr. Rashmi Sharma, Acharya Narendra Dev College, Delhi University, Delhi.
4. Dr. Parvathi Rangasamy, Vellalar College for Women (Autonomous), Thindal, Erode, Tamil Nadu- 638012
5. Dr. Shilpa Jain, Programme Manager, CoESME, IISER, Pune
6. **Observer:** Dr. Anupma Harshal, K. C. College, Mumbai

WORKSHOP SCHEDULE

Day 1: Introduction of RBPT– State goals for the workshop; identify characteristics we want to develop in our students; present fundamentals of the RBPT approach

Time	Activity	Format & Venue	Trainer
9:00	Registration		
10:00	Inaugural session - Remarks by organizers and coordinators		
10.30	Three in three -Expectations & learning outcomes from the workshop	Presentation	Dr. P. Kolla
10:45	Effective Pedagogy -Various pedagogical methods to foster the skills and attitudes we expect in our students.	Presentation	
11:15	Coffee/Tea		
11:30	Ideal student (Prepare and display poster) Participant groups prepare posters to list interests, attitudes, work habits, and ambitions of a perfect student.	Presentation and Group activity	Dr. Chakane
12.30	Learning through Questioning Review the goals of RBPTs in terms of learning and Questioning	Presentation	Dr. Parvathi
1:00	Lunch		
2.00	Paper Planes activity (Prepare and display a poster) Framing questions that require classroom activity: designing empirical methods, recording and reporting observations.	Presentation and Group activity	Dr. Rashmi
3.15	Learning's from Paper Planes activity Feedback from peers and trainers. Coffee/Tea	Trainer led discussion	Dr. Rashmi
3:45	Tea/coffee		
4:00	Student research and autonomy: Background, concept of student research and autonomy	Presentation	Dr. Chakane
4.30	Introduction to RBPTs Background, concept of student research and autonomy, what is RBPT, 5Rs & goals of RBPT, difference between RBPT & project	Presentation	Dr. Rashmi
5:00	Preparing to create an RBPT Form subject-wise groups and select topic for RBPT preparation	Group activity Subject Rooms	All trainers

Day 2 – Development of RBPT– Create a draft RBPT; seek and give peer feedback

Time	Activity	Format	Trainer
9:30	Elements of RBPT Revise structure of RBPT and its six elements	Presentation	Dr. P. Kolla
10.30	RBPT Examples Discussion about RBPT exemplars and presentation on one example of RBPT from each subject	Group activity and Presentation	(Exemplars) All trainers (one example each from their respective subject)
11:30	Coffee/Tea		
12.00	Preparing RBPTs Participants to list topics from the syllabus where RBPT can be implemented. Participant groups select and develop a concept for a RBPT suitable for their subject and resources.	Group activity Subject Rooms	All trainers
1.00	Lunch		
2.00	Teaching tools for the learning - Panda Activity	Presentation	Dr. Parvathi
2.30	Prepare a Poster for the RBPT Each group prepares a poster to describe their RBPT	Group activity Subject Rooms	
3.30	Coffee/Tea		
4.00	Preliminary review of Posters Feedback from peers and trainers. Review posters based on six elements and provide feedback to refine and improve their RBPTs:	Group activity; Trainer-led discussion Subject Rooms	All trainers
5.00	Coffee/Tea		
5.30	CoESME talk and Funding opportunities (Open to all Undergraduate Science teachers)	Presentation	Dr. Shilpa

Day 3 – Presenting the RBPT - Display posters for RBPTs, Plan strategies and action for implementation of RBPTs in the classroom

Time	Activity	Format	Trainer
9:30	Refining RBPTs Review of insights arising from Day 1&Day 2. Participant groups refine RBPTs based on learnings review, Finalize their posters.	Group activity Subject wise	All trainers
11.00	RBPT Poster presentation	Participant interaction Display area	All trainers
11.00	Coffee/Tea		
11.30	Presentation of RBPT by each group and Evaluation by peers (5-minute presentation + 2-minute feedback)	Plenary	All trainers
1.00	Lunch		
2:00	Listing the possible RBPTs from curriculum List out at least 2-3 RBPTs from your syllabus and discuss implementation strategies.	Group activity	All trainers
2.30	RBPT implementation at colleges – Hurdles & Strategies Discuss blockers for implementation of RBPT. IISER Suggest enablers for achieving the goals of empowered students.	Trainer-led discussion	Dr. Shilpa Dr. Anupama
3.00	Summing up; Setting SMART targets (Action planning) Assess the goals set from the workshop. Prepare action plan for adopting RBPT. Form support groups and resource banks.	Plenary	Dr. P. Kolla
3.30	Closing and group photo	Plenary	-
4.00	Coffee/Tea		

Day One:

On 26th June 2018 the registration of the participants started at 9:00 am in the morning. All the participants even though travelled from distant places were present on time at the venue.



Registration Process



Breakfast arrangements for Participants

The workshop was inaugurated at the hands of Hon'ble Dr. Muralidhar Chandekar, Vice-Chancellor, Sant Gadge Baba Amravati University, Amravati in the Sir C. V. Raman Hall of Shri Shivaji Science College. The inaugural ceremony was chaired by Hon'ble Dilip babu Ingole, Treasurer of Shri Shivaji Education Society, Amravati and among the other dignitaries on the dais were Dr. Varaprasad Kolla, Professor and Head, School of Life Sciences, ITM University, Raipur as a Lead trainer, Dr. Shilpa Jain, Programme manager, CoESME, Pune, Dr. V. G. Thakare, Principal, Shri Shivaji Science College and Dr. Dinesh Khedkar, organizing secretary RBPT workshop. The Convener of the workshop Dr. V. G. Thakare delivered his welcome speech which was followed by an introductory speech by Dr. Shilpa Jain, to brief about the role of CoSME and aim of organizing the workshop. In his inaugural speech Dr. Muralidhar Chandekar, Vice-Chancellor, Sant Gadge Baba Amravati University, Amravati reiterated the need to find solutions to the challenges in the field of education. He had given emphasis on student centered education system. In his presidential address Hon'ble Dilip babu Ingole, Treasurer of Shri Shivaji Education Society, Amravati had focused on the issues related with the current education system and specially emphasized on role of teachers to face the challenges and improve our education system. The inaugural ceremony was anchored by Dr. Dinesh Khedkar, organizing secretary of RBPT workshop.



Inaugural Session started with University Anthem



Introductory Remarks: Dr. V. G. Thakare, Principal, Shri Shivaji Science College, Amravati.



About CoESME: Dr. Shilpa Jain, CoESME, IISER, Pune



Inaugural Address: Dr. Muralidhar Chandekar, Vice-Chancellor, Sant Gadge Baba Amravati University, Amravati



Presidential Speech: Hon'ble Dilipbabu Ingole, Treasurer, Shri Shivaji Education Society, Amravati



Anchoring and Vote of Thanks: Dr. Dinesh Khedkar, Organizing Secretary RBPT workshop

The inaugural session was followed by the presentation of Dr. Varaprasad Kolla on the topics “Three in three”-elaborating Expectations and learning outcomes from the workshop and “Effective Pedagogy”-details of various pedagogical methods to foster the skills and attitudes we expect in our students. The participants were asked to write the reason for attending the workshop. Many of them wanted to acquire RBPT skills and implement it in their own colleges to enhance their teaching methods and professional development too. They wanted to adopt a more student-centred approach and seek to change existing practice.



Dr. Varaprasad Kolla on the topics “Three in three”

After a tea break presentation and Group activity on “Ideal student” was conducted by Dr. Sanjay Chakane. In this session the groups of participants were asked to create a simple poster to show characteristics of their Ideal students and enlist interests, attitudes, work habits, and ambitions of a perfect student. This activity was planned to make the teachers aware regarding skills and attitudes of the students and they should consider it before dealing with any topic which should not be simply aimed to cover the syllabus.



“Ideal student” Session conducted by Dr. Sanjay Chakane.

Participants preparing poster depicting Ideal Student.

Participants after discussion had presented their posters. Following features of ideal students were mainly focused on many posters:

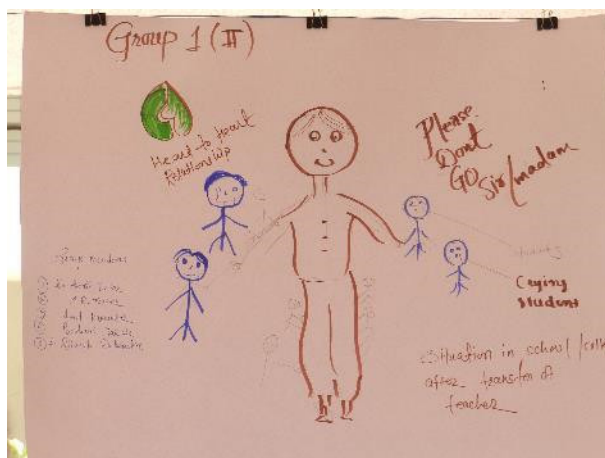
- Creative, Well rounded, Self-confident, Hungry for knowledge, Punctual, Communication skill (interactive), Social/cultural activities (co-curricular activities), Hardworking, Listener, sensible, curious, trustworthy, rebel, logical thinker, critic, good human.



“Ideal student” Presentation by participants



Poster Presentation



Ideal Student: Posters by Participants

The other part of the activity was to focus “what would the perfect teacher look like from the point of view of our students”

Here the participants highlighted following characters of Teacher:

- Knowledgeable, flexible, caring, committed, role model, visionary, passionate, good listener, simplify the subject, approachable, well disciplined, good sense of humour, work for betterment of students.

Entire discussion culminated into the common thought that “Education works best when Teaching matches learning. Teachers match students”.

This activity was followed by talk of Dr. Parvathi on “Learning through Questioning” (Review the goals of RBPTs in terms of learning and Questioning). She has explained the importance of asking questions to guide students from known to unknown. She has given some examples of RBPT and maths software’s. RBPT should be content driven, process driven and student oriented i.e. to make students autonomous during learning. It must contain 5Rs- Recognize, Require, Refine, Reward and Report.



Dr. Parvathi:
“Learning through Questioning”



Dr. Rashmi:
Paper Planes activity

After lunch, Presentation and Group activity was directed by Dr. Rashmi on Paper Planes (Prepare and display a poster). All the participants enthusiastically participated in this activity by designing various types of paper planes with the use of material supplied to them and prepared the poster of the activity showing features of the paper plane like longest distance travelled in three attempts, take-off and landing, focused on durability etc. followed by discussion on it where participants narrated the whole story involving curious comments in much depth. The main aim of this activity was to know that such a small activity has great meaning about framing questions that require classroom activity: designing empirical methods, recording and reporting observations.

Excellent presentation was given by Dr. Chakane on the topic “Student research and autonomy” with examples of RBPTs he had implemented in his college. The goal was to know about the background, concept of student research and autonomy. In continuation with it Dr. Rashmi also showed examples of RBPTs, 5Rs and goals of RBPT. Many a times there is confusion between RBPT and research projects hence she had clearly pointed out the differences. Later on, all the trainers formed subject-wise groups of the participants and asked them to select topic for RBPT preparation.

Day Two:

The second day of the workshop had started with the Presentation by Dr. P. Kolla on “Elements of RBPT” he had revised the structure of RBPT and its six elements. This was followed by RBPT Examples in which the group activity and Presentation on one example of RBPT from each subject was done with at length discussion.

After tea break for the group activity Participants were asked to list topics from the syllabus where RBPTs can be implemented. Participant groups were separated in their Subject Rooms to develop a concept for a RBPT suitable for their subject and resources. This group activity was followed by delicious Lunch.

An interesting activity was conducted by Dr. Parvathi with her Presentation on -Teaching tools for the learning - Panda Activity. All the participants enjoyed to do this activity in which a sketch of bear was given and the participants were asked to draw panda from it. All the drawings of Panda were displayed for reviewing and discussion was focused on how to guide the students on the path from known to unknown.



Panda Activity: Participants viewpoint

Dr. Anupama, Summarizing Activity

Prepare a Poster for the RBPT

Each group was then split to respective Subject Rooms for preparing a poster to describe their RBPT. After Coffee the preliminary review of Posters was done followed by feedback from peers and trainers. Actually, there was Trainer-led discussion to review posters based on six elements and provide feedback to refine and improve their RBPTs.



Life Science



Mathematics



Chemistry



Physics

After a Tea break, very important information was delivered by Dr. Shilpa with her Presentation on- CoESME talk and Funding opportunities (Open to all Undergraduate Science teachers)

She had given every detail information regarding various training programmes organized by CoESME and different agencies which provide grants for the projects. Many queries were raised by the participants regarding research projects submitted to UGC which were very well answered by the trainers.

Day Three:

The third day started for Refining RBPTs. Mainly from the review of insights from Day one and Day two. The Participant groups refined their RBPTs based on learning reviews and finalized their posters as per subject. All the groups enthusiastically presented their posters in the display area. During tea all the trainers reviewed them and after photograph they were displayed one by one for presentation by each group and evaluation by peers. Five minutes time was given for the presentation and two minutes for discussion/feedback to each group. All the presentations were thoroughly observed by the peers and some suggestions were given to the respective groups. After lunch break the participants listed at least 2-3 possible RBPTs from curriculum followed by discussion on its implementation strategies.

RBPT POSTERS WITH THE GROUP OF PARTICIPANTS





RBPT PRESENTATIONS BY THE GROUP OF PARTICIPANTS





The main task of the workshop was to discuss blockers for implementation of RBPTs. The delegates were asked to consider all the factors that would affect their progress towards producing a perfect student. The factors were split into two groups as Hurdles that impeded the progress and Strategies which promoted progress. The main hurdles included:

- Teachers not ready to change.
- Students seem to be uninterested.
- Limited time span.
- English/Language constrain.
- Summative pattern dominates.
- Lack of basic knowledge.
- Principal/Authority need to be convinced.
- All topics cannot be covered by RBPT.
- Disparity in students understanding.
- RBPT must be implemented from school level.
- Adaptability by teachers.



The best suggestions were given by Dr. Shilpa and Dr. Anupama as enablers in achieving the goals of empowered students.

While Summing up the workshop Lead trainer Dr. P. Kolla talked about Setting SMART targets (Action planning) and also assessed the goals set from the workshop to prepare action plan for adopting RBPT. This workshop was a step in the direction of changing science teaching to resemble more the process of doing science. The trainers emphasized that students must do an activity by themselves to learn and to motivate them one has to give them an attractive context. After Closing and group photo a valedictory programme was conducted. Dr. Vinod Bhatkar, Head, Department of Physics was the chairman and Dr. Prasad Wadegaonkar was the chief guest. The valedictory programme was also anchored by Dr. Dinesh Khedkar, organizing secretary RBPT. The feedback from the participants had shown that all of the participants were excited to implement RBPTs in their colleges and they were thinking how they could kindle the inherent curiosity of their students. Such workshops need to be organized frequently to update the skill of teachers. Some selected participants will get an opportunity to participate in a Level one workshop later that will focus on making them trainers for conducting similar trainings.



Dignitaries on dais for Valedictory function



Feedback by: Ms. Shadi



Feedback by: Dr. Kavita Gour



Feedback by: Dr. Vishal Deshmukh



Feedback by: Dr. Banginwar



Feedback by: Dr. Shaukat Shah



Feedback by: Dr. Qureshi



Address by: Dr. Anupama



Address by: Dr. Shilpa



Address by: Dr. H. S. Lunge, IQAC Coordinator



Address by: Dr. Sanjay Chakhane



Address by: Dr. Parvathi



Dr. Prasad Wadegaonkar, Chief Guest



Dr. Prasad Wadegaonkar, Chief Guest



Presidential Address: Dr. Vinod Bhatkar



Vote of Thanks: Dr. Dinesh Khedkar

: List of Participants:

S.N.	NAME	NAME OF THE COLLEGE
1.	ARSAD SWAPNIL	MAHATMA FULE MAHAVIDYALAYA, WARUD
2.	AWAGHADE S. W.	VIDYA VIKAS COLLEGE, SAMUDRAPUR
3.	BAGADE S. M.	ARTS AND SCIENCE COLLEGE PULGAON
4.	BANGINWAR Y. S.	ARTS AND SCIENCE COLLEGE, PULGAON
5.	BANSOD A. D.	RAJASHREE SHAHU SCIENCE COLLEGE, CHANDUR RLY
6.	BORKAR S. J.	GOVT. INSTITUTE OF SCIENCE, NAGPUR.
7.	CHOPDE S. A.	LAD COLLEGE, NAGPUR
8.	DABHADKAR DINESH	GOPIKABAI SITARAM GAWANDE COLLEGE, UMARKHED
9.	DESALE S. V.	R.C.PATEL INSTITUTE OF TECHNOLOGY, SHIRPUR
10.	DESHMUKH V. P.	JAGADAMBA MAHAVIDYALAYA, ACHALPUR CITY
11.	DHORAN VARSHA	SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI
12.	DHURATKAR M. D.	S. S. JAISWAL COLLEGE, ARJUNI MORGAON, DIST: GONDIA
13.	FUKE MAYURI ASHOKRAO	S.S.S.K.R.INNANI MAGHAVIDYALAYA, KARANJA (LAD)
14.	GOUR KAVITA SANDIP	PRIYADARSHINI J L COLLEGE OF ENGINEERING, NAGPUR
15.	GUDADHE SMITA	ARVINDBABU DESHMUKH MAHAVIDYALAYA, BHARSINGI
16.	INGALE SHYAM	SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI
17.	INGOLE S. P.	SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI
18.	KADAM P. M.	SHRI VYANKATESH ARTS, COMMERCE AND SCIENCE COLLEGE, DEULGAON RAJA, DIST. BULDANA
19.	KALE GOKUL BABARAO	G. S.COLLEGE, KHAMGAON DIST. BULDANA 444303
20.	KANERKAR U. R.	G S TOMPE ARTS COMMERCE & SCIENCE COLLEGE, CHANDUR BAZAR
21.	KASHMIRI Z. N.	DADA RAMCHAND BAKHRU SINDHU MAHAVIDYALAYA, NAGPUR
22.	KHALATKAR S. D.	SHRI MATHURADAS MOHOTA COLLEGE OF SCIENCE, NAGPUR
23.	KHEDKAR H. R.	S.S.S.K.R. INNANI MAHAVIDYALAYA, KARANJA LAD
24.	KHODKE S. P.	VINAYAK SCIENCE COLLEGE, NANDGAON (KH.)
25.	KUTEMATE N. B.	G.S.COLLEGE, KHAMGAON DIST.BULDANA 444303
26.	LANDE SMITA	LATE PUNDLIKRAO GAWALI ARTS & SCIENCE MAHAVIDYALAYA, SHIRPUR (JAIN), TQ. MALEGAON, DIST. WASHIM
27.	MAGGIRWAR R. C.	SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI

28.	MASRAM A. S.	L.A.D. & SMT. R.P. COLLEGE FOR WOMEN, NAGPUR
29.	METE V. G.	R.D.I.K & K.D. COLLEGE, BADNERA-AMRAVATI
30.	NAGPURE P. A.	SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI
31.	PADOLE PRAMOD	SHRI SHIVAJI SCIENCE COLLEGE, AMRAVATI
32.	PANCHBHAI D. S.	ANAND NIKETAN COLLEGE, WARORA
33.	PATIL S. P.	ADARSHA SCIENCE, BIRLA COMMERCE MAHAVIDYALAYA, DHAMANGAON RLY
34.	PATIL Y. S.	SHRI. D. M. BURUNGALE SCI. & ARTS COLLEGE, SHEGAON
35.	PODDAR A. R.	DRB SINDHU MAHAVIDYALAYA, NAGPUR
36.	QURESHI S. O.	ADARSH SCIENCE J B ARTS AND BIRLA COMMERCE MAHAVIDYALAYA, DHAMANGAON RLY.
37.	RATHOD S. B.	HON. BALASAHEB JADHAV ARTS, COMMERCE AND SCIENCE COLLEGE, ALE, DIST . PUNE
38.	RAUT N. M.	ARVINDBABU DESHMUKH MAHAVIDYALAYA, BHARSINGI
39.	RAWANKAR A. S.	JAGADAMBA MAHAVIDYALAYA, ACHALPUR
40.	SAYARE P. P.	GOVT. INSTITUTE OF SCIENCE, NAGPUR.
41.	SHADI P. J.	R.D.I.K. AND K.D. SCIENCE COLLEGE, BADNERA.
42.	SHAH SHAUKAT	ANAND NIKETAN COLLEGE OF SCIENCE, ARTS AND COMMERECE, WARORA
43.	SWARGIYE S. D.	SUNDARABAI GOPALSWAMI MAHILA JUNIOR COLLEGE, ACHALPUR CAMP, PARATWADA
44.	TAYADE R. R.	GOVT. INSTITUTE OF SCIENCE, NAGPUR
45.	UKE S. J.	J. D. PATIL SANGLUDKAR MAHAVIDTALAYA, DARYAPUR
46.	VERMA S. R.	ANAND NIKETAN COLLEGE, ANANDWAN WARORA
47.	WADEGAONKAR V. P.	DEPARTMENT OF BIOTECHNOLOGY, SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI
48.	WAGH P. J.	ANAND NIKETAN COLLEGE, ANANDWAN
49.	WAKULKAR A. P.	ANAND NIKETAN COLLEGE, ANANDWAN, WARORA, DIST. CHANDRAPUR
50.	YAWALE P. R.	G. S. TOMPE ARTS, COMMERCE & SCIENCE COLLEGE, CHANDUR BAZAR
51.	YEOTKAR M. R.	SMT. R. S. COLLEGE, ANJANGAON
52.	YEOTKAR S. D.	VIDYA VIKAS ARTS, COMMERCE & SCIENCE COLLEGE SAMUDRAPUR, DIST. WARDHA