





JAYSINGPUR COLLEGE JAYSINGPUR

Religious Jain Minority | DST-FIST Level-I Affiliated to Shivaji University, Kolhapur Reaccredited by NAAC (3rd Cycle) with 'A' Grade (CGPA 3.24)

DBT-STAR COLLEGE SCHEME

ANNUAL PROGRESS REPORT (2024-25)

DEPARTMENT OF PHYSICS

Dr. Prashant P. Chikode Departmental Coordinator

Dr. Sandip Sabale Coordinator DBT-STAR COLLEGE SCHEME Dr. Surat Manjare
Principal
JAYSINGPUR COLLEGE JAYSINGPUR

REPORT

OF

ONE-DAY SEMINAR ON "RESEARCH PERSPECTIVES: ATTITUDE & APTITUDE"



JAYSINGPUR COLLEGE JAYSINGPUR

ORGANIZED BY

DEPARTMENT OF PHYSICS

TUESDAY:20.08.2024



Jaysingpur College, Jaysingpur



Dept. of Physics, 2024-25 One day Seminar on

" Research Perspectives : Attitude & Aptitude" Under

DBT-Star College Scheme

Tuesday, 20th Aug. 2024 @ 11:00 am Venue: Conference Hall

RESOURCE PERSON



Prof. Dr. Dinesh AmalnerkarFormer. Director, C-MET, Govt. of India.

Organizing Committee

Prof. Dr. M.V. Kale Vice-Principal

Dr. S. R. Sabale Coordinator DBT Star College

Dr. R. D. Mane, Head Dept. of Physics

Dr. S.S. Mahajan Convener Dept. of Physics Dr. S. A. Manjare Principal

Dr. P.P. Chikode Coordinator DBT Star ,Dept. of Physics

Dr. R. S. Dhabbe

Mr. P.R. Patil

Dr. S. D. Umdale

Dr. S. R. Patil

Name of Activity: ONE-DAY WORKSHOP ON "RESEARCH PERSPECTIVES: ATTITUDE & APTITUDE"

Year:	2024-25		
Name of the Activity:	ONE-DAY WORKSHOP ON "RESEARCH PERSPECTIVES: ATTITUDE & APTITUDE"		
Date:	20.08.2024		
Venue:	Jaysingpur College, Jaysingpur		
Co-ordinator:	Dr. P.P. Chikode		
Organized for:	UG Students		
No. of Participant students	100		
Teachers	10		
Nature:	Academic		
Chief Guest/s or Resource Person/s	Prof. Dr. Dinesh Amalnerkar Former Director General Centre for Materials for Electronics Technology (CMET) (R&D Institute of Ministry of Electronics&IT, Government of India),Pune, Hyderabad &Thrissur, India		

A workshop on **RESEARCH PERSPECTIVES:** ATTITUDE & APTITUDE was organized on TUESDAY, 20 Aug. 2024 under DBT Star Scheme. Prof. Dr. Dinesh Amalnerkar was the key note speaker for the workshop. Dr. P.P. Chikode welcomed the chief guest and all the dignitaries. Prof. Dr. R.D. Mane, Head of the Dept. introduced Dr. Amalnerkar with his brief bio data. Prof. M.V. Kake, Vice Principal was the chief guest. Dr. S.R. Sabale, coordinator DBT Star College Scheme and all the departmental coordinators were attended the seminar. All science faculty staff was present for the seminar. In very lucid language Prof. Amalnekar introduced the concept of

research and explained the concept of research aptitude. By considering the characters in the 3 idiot's movie he explained the methodologies of research. He elaborated the basic research of Sir Issac Newton and Einstein with certain examples. He told how to develop the research attitude and opened the various pathways of research in front of the students. He gave the example of great scientist of India Sir C V Raman and elaborated his journey of research up to Nobel Prize. At the end of his lecture he interacted with the students and satisfied the various queries of students in the field of research.

The seminar ended with vote of thanks by Dr. S.S. Mahajan.



Felicitation of Dr. Amalnerkar





Invited talk of Dr. Amalnerkar



Participants of seminar

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PROJECT INVESTIGATOR

Dr. Sandip R. Sabale Coordinator

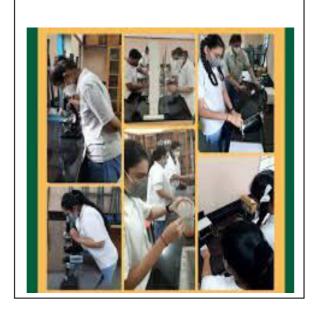
DBT-STAR Coilege Scheme Jaysingpur College, Jaysingpur HEAD OF THE INSTITUTION

Dr. Surat A. Manjare PRINCIPAL

Jaysingpur College, Jaysingpur

REPORT ON

"Hands on Training of Instruments"



JAYSINGPUR COLLEGE JAYSINGPUR

ORGANIZED BY DEPARTMENT OF PHYSICS

THURSDAY: 25.03.2025

Jaysingpur College, Jaysingpur Department of Physics



DBT-Star College Scheme

25 Mar. 2025 @ 11:00 am Venue: Research Lab, Dept. Of Physics



RESOURCE PERSON







Mr. Prakash Borade, Borade Embeded Solution, Kolhapur



Organizing Committee

Prof. Dr. M.V. Kale Vice-Principal

Dr. S. R. Sabale Coordinator DBT Star College

Dr. S.S. Mahajan

Mr. R. D. Shinde

Prof. Dr. R. D. Mane.

Head Dept. of Physics

Dr. S. D. Umdale

Mr. P.R. Patil

Dr. S. A. Manjare Principal

Dr. P.P. Chikode Convener Dept. of Physics

Dr. S. R. Patil

Dr. R.S. Dhabbe

Mr. A.P. Mane

Dr. R.R. Ambi

Name of Activity: WORKSHOP ON HANDS ON TRAINNING IN PHYSICS

Year:	2024-25
Name of the Activity:	Hands on Training of Instruments
Date:	25.03.2025
Venue:	Jaysingpur College Jaysingpur
Co-ordinator:	Dr. P.P. Chikode
Organized for:	UG Students
No. of Participants students	35
Teachers	04
Nature:	Academic
Chief Guest/s or Resource Person/s	Mr. Prakash Borade, CEO, Borade Embeded Solutions, Kolhapur.

The Department of Physics, Jaysingpur College, Jaysingpur, organized a hands-on training session on various scientific instruments. The training was conducted by Mr. Prakash Borade, CEO of Borade Instruments, Kolhapur, who provided practical demonstrations of several essential laboratory instruments on 25th March 2025 in Research Lab at Department of Physics. The event witnessed the participation of 45 undergraduate students eager to enhance their practical knowledge and technical skills.

Mr. Borade demonstrated the working principles, applications, and handling techniques of multiple instruments, including the Spray Pyrolysis system, Chemical Bath Deposition setup, Muffle Furnace, Centrifuge, and pH Meter. Each demonstration was accompanied by an in-depth explanation of its

significance in scientific research and industrial applications.

The session began with an introduction to Spray Pyrolysis, a widely used technique in thin-film deposition for various applications in materials science and nanotechnology. Mr. Borade elaborated on its operational mechanism, advantages, and role in modern research. Following this, he demonstrated Chemical Bath Deposition, an important method for synthesizing thin films, especially in semiconductor and photovoltaic applications.

The training also covered the Muffle Furnace, an essential instrument for high-temperature applications, including material synthesis and heat treatment. Mr. Borade explained the furnace's temperature control mechanism and its role in laboratory experiments. The Centrifuge demonstration highlighted its use in separating components of a solution based on density differences, a crucial process in biochemical and medical research.

Additionally, students were introduced to the pH Meter, a fundamental instrument for measuring the acidity or alkalinity of solutions in various scientific experiments. Mr. Borade provided insights into its calibration process and practical applications.

The hands-on training session proved to be highly beneficial for the students, enhancing their understanding of instrument handling and practical applications. The event concluded with an interactive Q&A session, where students clarified their doubts and expressed their appreciation for the insightful demonstrations. The Department of Physics successfully organized a productive and educational workshop, equipping students with valuable practical experience in laboratory instrumentation.















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Dr. Sandip R. Sabale

Coordinator

DBT-STAR Coilege Scheme

Jaysingpur College, Jaysingpur

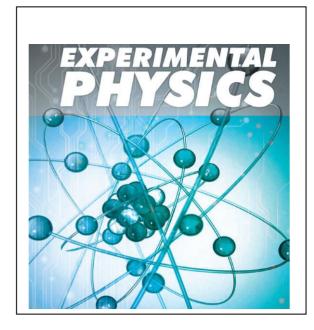
PROJECT INVESTIGATOR

Dr. Surat A. Manjare
PRINCIPAL
Jaysingpur College, Jaysingpur

REPORT

ON

One day workshop on "Experimental Physics"



JAYSINGPUR COLLEGE JAYSINGPUR

ORGANIZED BY DEPARTMENT OF PHYSICS

THURSDAY:04.02.2025

Jaysingpur College, Jaysingpur

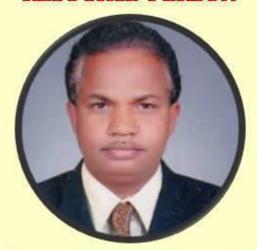
DIAMOND JUBILEE YEAR-2024-25

One day Workshop on "Experimental Physics"

Under **DBT-Star College Scheme**

4 Feb. 2025 @ 11:00 am Venue: Conference Hall

RESOURCE PERSON



Prof. Dr. Shivanand Masti Director, Anveshikha Centre, a Project by IIT, Kanpur Dr. Ghali College, Gadhingalaj

Organizing Committee

Prof. Dr. M.V. Kale Vice-Principal

> Prof. Dr. R. D. Mane. Head Dept. of Physics

Dr. S. A. Manjare Principal

Dr. S. R. Sabale Coordinator **DBT Star College**

Dr. P.P. Chikode Convener Dept. of Physics

Dr. S.S. Mahajan

Dr. S. D. Umdale

Dr. S. R. Patil

Mr. R. D. Shinde

Mr. P.R. Patil

Dr. R.S. Dhabbe

Mr. A.P. Mane

Dr. R.R. Ambi

NameofActivity: WORKSHOPONHANDS ON TRAINNING IN PHYSICS

Year:	2024-25		
NameoftheActivity:	Workshoponhands on Training		
Date:	04.02.2025		
Venue:	JaysingpurCollegeJaysingpur		
Co-ordinator:	Dr.P.P. Chikode		
Organizedfor:	UGStudents		
No. ofParticipantsstudents	56		
Teachers	05		
Nature:	Academic		
Chief Guest/s or ResourcePerson/s	Prof. Dr. S.A. Masti, Director, Anveshika Centre, A Project by IIT, Kanpur. (Dr. Ghali college, Gadhingalaj)		

Learning by doing plays an important role in understanding the key concepts, laws, rules, principles and hypothecations in all sciences. Physics subject can understand mostly by learning by doing. Hence Dept. of Physics invited to Prof. Dr. S.A. Masti, Director, Anveshika Centre, A Project by IIT, Kanpur (Dr. Ghali college, Gadhingalaj) to elaborate basic concepts in physics for B.Sc. students by conducting hands on experiments on 04/02/2025. Dr. P.P. Chikode welcomed the guest Dr. S.A. Masti. Prof. Dr. R.D. Mane given brief introduction of the guest. Principal Dr. S.A. Manjare felicitated the guest. He explained the scope of the physics syllabus in accordance with the Industry and explained various terms and conditions related to understand conceptual physics. He also focused on basic physics experiments which are useful to

understand various concepts in thermodynamics, electricity, magnetism, angular momentum and classical Physics. He explained almost 50 experiments which elaborates basic concepts in physics such as angular momentum, eddy currents, reflection, refraction, propagation of waves, Newton's laws, experiments on electricity and magnetism etc. He engaged number of students while demonstrating each experiment. Students keenly understood the concepts with lots of joy. Students performed number of hands on training of the experiments.

Prof. Dr. S.S. Mahajan proposed vote of thanks.

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PROJECT INVESTIGATOR

Dr. Sandip R. Sabale

Coordinator

DBT-STAR College Scheme

Jaysingpur College, Jaysingpur

HEAD OF THE INSTITUTION

Dr. Surat A. Manjare
PRINCIPAL
Jaysingpur College, Jaysingpur

Photos of the event









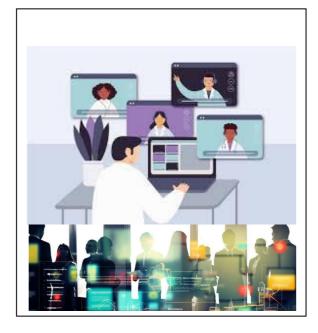
Dr. Masti performing experiments





REPORT ON

"Scientist Interaction Meet"



JAYSINGPUR COLLEGE JAYSINGPUR

ORGANIZED BY DEPARTMENT OF PHYSICS

THURSDAY:17.02.2025

Jaysingpur College, Jaysingpur

Department of Physics

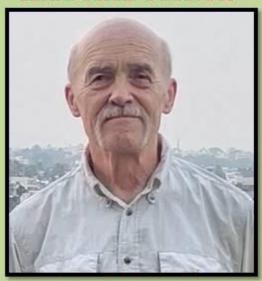
organizes

"Scientist Interaction Meet"

Under DBT-Star College Scheme

17 Feb. 2025 @ 1:00 pm Venue: Conference Hall

RESOURCE PERSON



Prof. MichelUniversity of Chemistry and Technology, Prague

Organizing Committee

Prof. Dr. M.V. Kale Vice-Principal		Dr. S. A. Manjaro Principal
Dr. S. R. Sabale Coordinator DBT Star College	Prof. Dr. R. D. Mane, Head Dept. of Physics	Dr. P.P. Chikode Convener Dept. of Physics
Dr. S.S. Mahajan	Dr. S. D. Umdale	Dr. S. R. Patil
Mr. R. D. Shinde	Mr. P.R. Patil	Dr. R. S. Dhabbe
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Mr. A.P. Mane Dr. R.R. Ambi

NameofActivity: Scientist Interaction Meet

Year:	2024-25		
NameoftheActivity:	Scientist Interaction Meet		
Date:	17.02.2025		
Venue:	JaysingpurCollegeJaysingpur		
Co-ordinator:	Dr.P.P. Chikode		
Organizedfor:	UGStudents		
No. ofParticipantsstudents	30		
Teachers	05		
Nature:	Academic		
Chief Guest/s or ResourcePerson/s	Prof. Michael Neumann Spallart, University of Chemistry ar Technology, Prague		

Teaching, learning and evaluation plays an important role in the life of student. A concept can be understand by the student by various means such as learning, doing, observing, performing experiment, discussion, debating etc. If a role model is presented in front of them then it really boosts the spirit of students to learn and understand new things. By considering this thing, department of Physics organized Scientist Interaction Meetwith Prof. Michael Neumann SpallartfromUniversity of Chemistry and Technology, Prague.Prof. Michael is a senior researcher in the field of radiation physics, radiation chemistry, photoelectron chemistry and catalysis. He was a research scientist at the CNRS, France. He has visited Dept. of Physics, Shivaji University Kolhapur

for month of Feb. 2025. By considering this opportunity we have invited him to

do the interaction with UG students. Principal Dr. S.A. Manjare felicitated Prof.

Michael with shawl and bouquet. Dr. P.P. Chikode introduced Prof. Michael

with his brief bio data to the students and informed the nature of interaction

students has to do with him. Initially, Prof. Michael spooked in brief about his

research areas and equally started to interact with students by understanding

their interest in various research areas of Physics and chemistry. He guided

students how to think over a research project and find the results in proper and

specific way. As discussion progresses, more no. of students started to interact

with him. They told the current research projects they are doing and also tried to

explain what difficulties they were facing to complete it. Prof. Michael

discussed the key factors of research projects they were doing to complete their

UG degrees. Some teaching faculty of Physics and chemistry also interacted

with him regarding the research areas in which they were working. At last he

also discussed the various research opportunities for students in abroad after

completion of their UG and postdoctoral degrees.

The interaction ended with vote of thanks from HOD, Prof. R.D. Mane.

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Dr. Sandip R. Sabale

PROJECT INVESTIGATOR

DBT-STAR Coilege Scheme Jaysingpur College, Jaysingpur HEAD OF THE INSTITUTION

Dr. Surat A. Manjare PRINCIPAL

Jaysingpur College, Jaysingpur

Photos of the event













Jaysingpur College, Jaysingpur Field Visit/Study Tour Report

Organised By: Department of Physics

Year:	2024-25		
Name of the Activity:	Study tour of B.Sc. III year students		
Date:	1st March 2025		
Venue:	Shivaji University, Kolhapur, 5 Star MIDC		
	Gokul shirgaon, MF Radar centre, Kolhapur		
Co-ordinator:	Dr. P.P. Chikode		
Organised for:	B.Sc. III students		
College/class/staff			
No. of Participants	10		
Nature:	Academic		
(e.g. Academic, cultural, sports			
etc) Objectives of the Activity	To anvil the Industry Experience and Study		
Objectives of the Activity	Characterization techniques		
Industry and Director	Head, Department of Physics, Director MF		
madsily and Bricetor	Radar Centre, Kolhapur		
Short Report of visit	Department of Physics, Jaysingpur College, Jaysingpur had organized Industrial tour/Field visit/study tour of B.Sc.III year students at Shivaji University, Kolhapur, 5 Star MIDC Gokul shirgaon, MF Radar centre, Kolhapur on 1st March 2025. As per the curriculum of B.Sc.III Physics Shivaji University, Kolhapur, field visit /Industrial visit/ Study tour is compulsory. Research plays an important role in development of knowledge as well as basic concepts. Hence students visited various labs in Department of Physics, Shivaji University, Kolhapur. They visited Material Science, Solid State, Spectroscopy, Modern Physics and Thin film Physics lab. They understood the various synthesis and characterization techniques such as spray pyrolysis, hydrothermal and spin coating techniques. In the later half students MF RADAR center and understand collection of signal, data analysis and how to present the data.		
Outcome	Students understand synthesis techniques, data collection system and analysis		





Dept. of Physics, Shivaji University, Kolhapur















Dr. Sandip R. Sabale
Coordinator

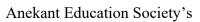
Coordinator

DBT-STAR Coilege Scheme

Jaysingpur Coilege, Jaysingpur

Dr. Surat A. Manjare
PRINCIPAL

Jaysingpur College, Jaysingpur





Jaysingpur College, Jaysingpur Field Visit/Study Tour Report

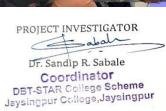
Organised By: Department of Physics

Year:	2024-25	
Name of the Activity:	Study tour of B.Sc. II year students	
Date:	5 th February 2025	
Venue:	Warana Science Centre, Warananagar and	
	Panhala Space Science Centre	
Co-ordinator:	Dr. P.P. Chikode	
Organised for:	B.Sc. II student	
College/class/staff		
No. of Participants	17	
Nature:	Academic	
(e.g. Academic, cultural, sports etc)		
Objectives of the Activity	To understand the basics concepts of physics,	
	astronomy and astrophysics	
Industry and Director	Warana Science Centre, Warananagar and	
	Panhala Space Science Centre	
Short Report of visit	Department of Physics, Jaysingpur College, Jaysingpur had organized Field visit/study tour of B.Sc.II year students at Warana Science Centre, Warananagar and Panhala Space Science Centre on 5th February 2025. B.Sc. II nd year students were selected to this study tour to avail the basic concepts in physics at Warana Science Centre, Warananagar and Panhala Space Science Centre. There are various sections in Warana Science Centre such as Basic Concepts, Planetarium and experiments of learning by doing. First of all, students visited Planetarium and enjoyed a 30 minutes show of Big Bang to Black Holes. It was wonderful experience for them. Then in the next session they visited to 3D section, where they watched a 15 minute 3D movie using polarized goggles. They have enjoyed 3D effect. In the later half students seen number of experiments related with basic concepts and performed the hands on training. After visiting science Centre students visited Panhala Space Science Centre and they hey understood concepts of gravity, space, milky way galaxy and GPS technique. Collection of RADAR data and analysis of collected data.	
	Students understand basic concepts using hands	









Dr. Surat A. Manjare
PRINCIPAL
Jaysingpur College, Jaysingpur





Guest Lecture on Research Perspectives







Hands on Training on Instrumentation









Scientist Interaction Meet





Guest Lecture on Astronomy and Astrophysics



Dr.S.R.Polit

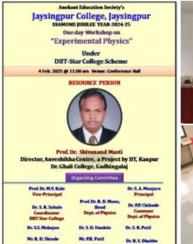
DLR.S.Dlate

Mr. PR. Post





Workshop on "Experimental Physics"



Mr.A.P. Mas









