Maulana Azad College of Arts, Science & Commerce
Dr. Rafiq Zakaria Campus
Post Box No. 27, Dr. Rafiq Zakaria Marg, Rauza Bagh, Aurangabad - 431 001 Maharashtra.
Tel: 0240-2381102 • Web: http://maca.ac.in • Email:macprincipal@gmail.com
MINORITY INSTITUTE
NAAC Re Accredited Grade 'A' | UGC'S status of "COLLEGE WITH POTENTIAL FOR EXCELLENCE"

Ref. No. MAC: 12 /2022-2023/ 1954 Date: 29/07/2022

To,
The Director,
Indian Council of Social Science (ICSSR),
Western Region, Mumbai,
Kalina Campus, Mumbai University,

Subject : Financial Assistance for organising Two days National Offline Seminar.

Respected Sir/Madam,

Our college is going to organise Two days National offline Seminar on **"Importance of Survey method and Sampling in Social Science Research."** on **10th, 11th September 2022**.You are requested to grant the financial assistance for organising such a fruitful, intellectual and research oriented Two days National Offline Seminar.

Thank You.

(Dr. Mazahir Ahmad Farooqui)
Principal
Maulana Azad College
Aurangabad

Date: 29/07/2022
Place: Aurangabad

Govt. College of Arts & Science Aurangabad

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Aurangabad

PERFORMA FOR SEEKING FINANCIAL ASSISTANCE FOR ORGANISING OFFLINE 2 DAYS NATIONAL SEMINAR

1. **Name and address of the organisers:**

Dr. Shahela Yasmeen, Dr. Afroz Begum, Department of Sociology, Maulana Azad College of Arts, Commerce and Science, Aurangabad and Surrendra G. Thakur, Department of Sociology, Government college of Arts and Science, Aurangabad-431001.

2. **Themes of the workshop/Seminar/Conference :**

National Offline Seminar on

" Importance of Survey method and Sampling in Social Science Research."

3. **Sub- Themes:**

i. Data and Data sources in Social Science Research.
ii. Concept of Survey in Social Science Research.
iii. Construction of questionnaire in Social Science Research.
iv. Sampling Technique in Social Science Research.
v. Levels of central tendency

4. **Proposed Dates:**

10th - 11th September, 2022.

5. **Venue**

At Maulana Azad college of Arts, Science and Commerce, Aurangabad- 431001.

6. **No. of participants**

1. Local -70 2. Outstation -10 Total - 80

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7. **Detailed budget indicating amount to be incurred on TA/DA, Hospitality, Transport, Stationary secret arial assistance, typing and cyclostyling work and other contingent expenditure etc.**

(Republication of the proceeding are entertained separately)

S.N.	ITMES	AMOUNT
1	Remunerations for Guest with T.A.	32,000. 00
2	Miscellanies	6,500. 00
3	Contingent expenditure	5,000.00
4	Files and folders	18,000.00
5	Photos, postage	3,500.00
6	Stationary and invitation cards	4,000.00
7	Guests files and Momentous	6,000.00
8	Lodging	22,000.00
9	Lunch and breakfast	36,000.00
	Total	**Rs. 133000/-** **(ONE LAKH THIRTY THREE THOUSAND RUPEES.)**

8. **Amount expected from the ICSSR/WRC- Rs. 1,18000/-**

9. **Other sources of funding** : Through Registration Amount expected – 15000/-

10. **Justification for organising the proposed program:**

A new research scholar, academicians and students has many questions with respect to survey method and sampling in social science research. Many researcher are eager to know the limitations of secondary data, what are the main sources for data collection in social science research. Through this seminar scholar will get the answer of entire data sources in social science research and limitation of primary data with the importance of it. In this seminar, Resource person will highlight scientifically and in-depth on concept of survey, construction of questionnaire. We will understand the sampling techniques ant types of it in thoroughly. The question of basic statistics and measures of central tendency will solved during this scientific and intellectual

seminar through the knowledge of intellectual resource persons and their experiences in this field.

Therefore it was felt to have a seminar that could clarify these questions in a proper, scientific and simple manner. This seminar would help the researcher and academic scholar to learn and handle their entire research in a systematic, simple but scientific way.

11. Kindly enclose the following:(as Appendix)

(A) Authors of key papers and other papers with their themes.

Name of resource persons:

i) Concept and history of field work in Social Sciences.

I. Prof. Dr. Shruti Tambe

Professor & Head, Department of Sociology, Savitribai Phule Pune University, Pune.

ii) Stages of field work in Social sciences:

II. Prof. Dr. Jagan Karade

Professor and Head, Department of Sociology, Kolhapur University, Kolhapur.

iii) How to collect field notes in our research.

III. Dr. Manasi Bawdekar

Vice- President, Research and Monitoring and evaluation. Salaam Bombay Foundation , Mumbai.

iv) Action Research: Meaning and application in social Science Research.

Prof. Dr. Balaji Kendre

Professor and Head, Department of Sociology, Mumbai University, Mumbai.

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(B) List of Participants:

1. Dr. Baburao jadhav, Nanded
2. Prof. Patricia D'souza,Mumbai
3. Prof. Akshata Gawde, Kolhapur
4. Dr.Raje Vinayak,Thane, Mumbai.
5. Prof. Deepak Bansod, Mumbai.
6. Dr, Birendra Pandey, Raipur
7. Dr. Ganesh Rathore,Ratlam
8. Dr. Premsagar Shankar, Jalgaon
9. Prof Rajmani Badnekar, Bhopal
10. Prof. Rajni Kawreti, Chhindwara
11. Prof. Reena Basu, Sagar(Gujrat)
12. Prof Suneeta Meshram, Chhindwara
13. Prof. Mujtaba Quadri (Aurangabad)
14. Dr. Prashant Wananjay(Jalna)
15. Prof.Ganga Bhushan (Assam)
16. Dr.Pratibha Ahire (Nanded)
17. Dr. Zartab Ansari (Akkalkua)
18. DR. Sabiha Shaikh (Pune)
19. Prof. Md Mazharuddin (Nanded)
20. Pfof.Shaheeda bano (Hydrabad)
21. Prof. Khawaja Ziya (Hydrabad)
22. Dr Shaheed Shaikh(Pune)
23. Prof.Tanmay Paithankar (Aurangabad)
24. Prof.Rahul Hazare (Badnapur)
25. Prof.Rehana Begum (Hydrabad)

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(C) **Programme details giving Data wise and session wise break-up of theses including inaugural and closing address. Programme details attached as follows.**

Date	Session	Time	Themes
Two Day Offline National Seminar 10^{th}- 11^{th} September,2022	**DAY FIRST 10th Sept.2022**		
	Inaugural function and keynote address	10.00am-11.30am	Keynote Address
	Session I	11.30 am 1.00pm	Data and Data Sources: Need of Primary Data, Limitations of Secondary data.
	Lunch Time 1.00pm to 2.00 pm		
	Session II	2.00am to 3.30pm	Concept of Survey: Concept of Survey, Historical background of survey.
	Session III	3.30 pm- 5.00pm	Construction of questionnaire: wording of questionnaire, open ended and closed ended question, mailed questionnaire, response category format.
	DAY SECOND 11th Sept.2022		
	Session I	10.30pm-12.00pm	Sampling Techniques: Probability sampling techniques, Non- probability sampling techniques.
	Session II	12.00pm- 1.30 Pm	Levels of Measurement.
	Lunch Time 1.30pm to 2.00 pm		
	Session III	2.00pm- 4.00pm	Types of survey methods in social sciences.
	Closing Address	4.00pm-5.00pm	Valedictory Session.

(A) Date: 28/07/2022
(B)Place: Aurangabad

SIGNATURE

Prof. Mazahar AhmedFarooqui
Principal,
Maulana Azad College of Arts, Science and Commerce,
Aurangabad-431001

Principal
Maulana Azad College
Aurangabad

ERFEA

Environmental Research Foundation & Educational Academy

Date – 11/03/2023

To,

Hon. Principal,

Government Arts and Science college,

Kille Ark, Chatrapati Sambhajinagar – 431004.

Subject – Regarding visit to Jayakwadi Bird Sanctuary on Dated – 4th February 2023.

Respected sir,

I am writing to provide you with an update on the recent visit to the Jayakwadi Bird Sanctuary, Paithan. Which was organized under the Memorandum of Understanding (MoU) with our Environmental Research Foundation and Educational Academy (ERFEA).

Sir, as you may recall, our NGO and College entered into an MoU. which included a provision for organizing educational visits to the Wildlife Parks. The aim of these visits was to educate our students about the importance of preserving natural resources and to sensitize them towards the wildlife.

On the 4th of February 2023, a group of 20 students, accompanied by teachers, visited the Sonewadi Point of Jayakwadi Bird Sanctuary, Paithan with NGO representative. The visit was well-organized, and the students actively participated in the activity that were planned. They had the opportunity to observe the natural habitat and the wildlife, as well as the management of such a vast sanctuary in the area. Representatives from ERFEA (NGO) were very cooperative and informative, and they ensured that the students gained a thorough understanding of the importance of maintaining the ecological balance in the area.

The visit was a great success. We believe that such educational visits are essential in fostering a sense of responsibility towards the environment among students. We are hoping that such visits will be organized in future too.

- Attaching list of birds observed during Visit.

Thank you.

Sincerely,

Kunal Vibhandik.

(NGO Representative)

Government of Maharashtra

Government College Of Arts & Science, Aurangabad

Phone No. 0240-2331476 gasca1923@gmail.com Fax No. 0240-2331476

Notice

All the students of B.sc I,II,III are hereby inform that the Department of Zoology has organised, **Bird Watching Activity Under MoU** Dated on 25/02/2023 the interested students those who want to participate contact Department of Zoology.

Date - 25/02/2023

Venue – Department of Zoology – Paithan

Signature of HOD

Signature of Principal

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Aurangabad

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ACTIVITY REPORT Department Of Zoology

1) Title of Activity ; MOU under visit to Jayaklwadi Bird Sanctuary.
Date:04/02/2023

2) Nature of Activity- A

A) Curricular (Academic) OR

B) Co curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc)

3) Name of thc Department/Committee- ZOOLOGY

4) Activity coordinator/In charge- Dr. Mrs. S.A.Saraf and Dr. S.B.Dongre

5) Objectives of Activity-

1.To explore the enterprunership.

2.Student are knowing the production of silk.

6. Is the activity planned at the beginning of the session? --YES----------

C. If yes, is it mentioned in the departmental calendar of current academic year?

---Octoer to Jan 2023----------

7. Brief description about activity Conducted – A group of 20 students , accompanied by teachers , visited the Sonewadi point of Jaikwadi Bird Sanctuary, Paithan with NGO representatives. The visit was well organized ,and the students actively participated in the activity that were planned. They had the opportunity to observed the natural habitat and the wildlife , as well as the management of such a vast sanctuary in the area.Representatives from ERFEA (NGO) were very cooperative and informative and they ensured that the students gained a through

understanding of the importance of maintaining the ecological balance in area.

Birds Species Observed during visit to Jayakwadi Bird Sanctuary, Paithan

1. Great Cormorant

2. Little Cormorant

3. Indian Cormorant

4.Black Headed Ibis

5.Glossy Ibis

6. Common coot

7. River Tern

8. Whiskerd tern

9. Black Winged Stilt

10. Asian openbill Stork

11. Grey Heron

12. Black Headed Gull

13. Brown Headed Gull

14. Pond Heron

15. Median Egret

16. Spot Billed Duck

17. Purple Heron

18. Oriental Darter

19. Long Tailed Shrike

20. Northern Shoveler

21. Red Wattled Lapwing

22. Little Grebe

23. Green Bee-Eater

24. Black Tailed Godwit

25. Purple Rumped Sunbird

26. Yelloe Footed Green Pigeon

27. Red Vented Bulbul

28. Ashy Prinia

29. Pied Bushchat

30. Siberian Stonechat

31. Large Grey Burble

32. Shirkra

33. Wire Tailed swallow

34. Lesser Whistling Duck

35. Red Crested Pochard

36. Northern Pintail

37. Lesser Whitling Teal

*** B.Sc.1 st,2nd,3rd YEAR students participate every year done by dept.**

***Many other zoology topics cover the students.**

8. Resources used for activity (Economic/non economic)

9. Output of the activity-To intrest in the subject and to work on this.

10. Feedback-

11. Total no. of students participated-=20

12. Total no. of girls students participated – 12

13. Total No. of females involved in the organization of activity -04

14. Problems encountered-

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept. calendar and action taken report)

Dr.Mrs.S.B.Dongre &

Dr.Mrs.S.A.Saraf

Name & Signature

Activity Coordinator

Dr.Mrs.S.A.Saraf

Name & Signature

HOD/ In charge of the committee

IQAC

ACTIVITY REPORT DEPARTMENT Of ZOOLOGY

1) Title of Acitvity: NATIONAL E- PHOTOGRAPHY COMPETETION, Date: 2ND OCT 8TH OCT 2021

2) Nature of Activity- B

A) Curricular (Academic) OR

B) Co curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc)

3) Name of the Department/Committee- ZOOLOGY

4) Activity coordinator/In charge- Dr. Mrs. S.B . DONGRE

5) Objectives of Activity- To develop among the students the skill of photography, to learn about the interaction of flora and fauna and to develop the biodiversity.

1. To motivate the students.

2. To study the role of flora and fauna.

6. Is the activity planned at the beginning of the session? --YES----------

C. If yes, is it mentioned in the departmental calendar of current academic year?

---October to Jan 2021-

7. Brief description about activity Conducted- Wildlife Week is annually celebrated across India between 2nd to 8th October the main objective of this National e- Photography Competition National E Photography Competition, organized by Government College of Arts and Science Aurangabad., IQAC and Department of Zoology In Collaboration with CRANES NGO Gadchirole and Satpuda Foundation (Maharashtra).

It is to provide the students with the platform to depict interaction between the wildlife fauna and flora through photographs. The main aim behind the organization is to make people more aware of the conservation and protection of the wild life. This week is celebrated because; wildlife plays a crucial role in maintaining the ecological balance of nature. Any harm to it can pose threat to entire ecosystem. Thus, it becomes important to preserve flora and fauna.
zoogasca@gmail.com
Important Note: The Selected Photographs will be published in e- book entitled **"Wildlife and its Conservation".**

8. Resources used for activity (Economic/non economic)

9. Output of the activity- To develop interest in the subject &enhance the skill.

10. Feedback-Yes

11. Total no. of students participated- 82

12. Total no. of girls' students' participated- 20

13. Total No. of females involved in the organization of activity -01

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept. calendar and action taken report)

Dr.Mrs.S.B DONGRE

Name & Signature

Activity Coordinator

Dr.Mrs.S.A.Saraf

Name & Signature

HOD

Head of the Department
Govt. College of Arts & Science
Aurangabad.

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Govt. College of Arts & Science
Aurangabad

2021-22

प्रति,
मा. प्राचार्य,
शा.ज्ञा.वि. महाविद्यालय,
औरंगाबाद.

डॉ. सौ. सराफ एस.ए.
प्राणीशास्त्र विभाग प्रमुख,
शा.ज्ञा.वि.म.
औरंगाबाद.
दि. 20/03/2022

विषय : International Forest Day celebration under MOU. परवानगी मिळणे बाबत.

मा. महोदय,

उपरोक्त विषयी सविनय अर्ज करते की, प्राणीशास्त्र विभागात MOU अंतर्गत International forest day celebration घेण्याची परवानगी देण्यात यावी ही विनंती.

धन्यवाद

Govt. College of Arts & Science, Aurangabad.

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Govt. College of Arts & Science

आपली विश्वासू

(Dr. Mrs. Saraf S.A.)
Head of the Department
Govt. College of Arts & Science
Aurangabad.

Government of Maharashtra

Government College Of Arts & Science, Aurangabad

Phone No. 0240-2331476 gasca1923@gmail.com Fax No. 0240-2331476

Government College of Art and Science , Aurangabad

Notice

All the students of B.sc I,II,III are hereby inform that the Department of Zoology has organised, **International Forest Day Celebration Activity Under MoU** Dated on 21/03/2022 the interested students those who want to participate contact Department of Zoology.

Date - 21/03/2022

Venue – Department of Zoology

Signature of HOD

Head of Department
Govt. College of Arts & Science
Aurangabad.

Signature of Principal

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Dated

IQAC

ACTIVITY REPORT:PROFESSIONAL ACADEMIC STAFF DEVELEOPMENT.

In collaboration with department of zoology, professional academic staff development, science forum and vidayathinimanch committee.

1) Title of Activity:International Forest Day Celebration online webinar Dated: 21 March 2022. Topic: Recent Trends in Science, Environment and Technology.

2) Nature of Activity- B

A) Curricular (Academic) OR

B) Co curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc)

3) Name of the Department/Committee-Professional Academic Staff Development,Department of zoology,Science Forum and Vidayathinimanch committee.

4) Activity coordinator/In charge- Dr. Mrs. S.B. DONGRE

5) Objectives of Activity- .To Enhance the faculty and students in related to environment its conservation.

1. To motivate the students and faculty to aware about conservation of forest & environment.

2. To study different ecosystem development for sustainable development

3. To enhance the knowledge of forest and recent trends and tools used.

6. Is the activity planned at the beginning of the session? --YES----------

C. If yes, is it mentioned in the departmental calendar of current academic year?

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7. Brief description about activity Conducted

*International Forest Day Celebration online Webinar Dated: 21 march 2022. Topic: **Recent Trends in Science, Environment and Technology,** in collaboration of Disha Foundation Amravati, Chief Guest of the program Dr. TarteYadavPatil, member of State Board of Wild Life Maharashtra State, and the resource person was Dr. KalpanaPadaghalmal, Assistant Professor Botany, Shri P.V, Patil College Ahmednagar. Chairman of the program prof. R.HSatpute, Principal Government College of Arts and Science.Anchoring was done by DR S, B. Dongre.104 students and faculty participated in the webinar.

8. Resources used for activity (Economic/non economic)

9. Output of the activity-All new trends in forest environment and sustainable development was known by the participants.

10. Feedback-Done

11. Total no. of students participated-40 Faculty: 64

12. Total no. of girls' students' participated- 12

13. Total No. of females involved in the organization of activity -01

14. Problems encountered-NIL

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept. calendar and action taken report)

Dr.Mrs.S.B .DONGREDr.Mrs.S.A.Saraf

Name & Signature **Name & Signature**

Activity Coordinator **HOD**

Govt. College of Arts & Science Aurangabad.

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Aurangabad

Dr. Palghadmal Kalpana Vamanrao is Assistant Professor and Research guide for Post Graduate Department of Botany and Research Centre at Padmashri Vikhe Patil College of Art's,Commerce and Science Pravaranagar. She has 18 years teaching experience. She has completed her B.Sc from Savitribai Phule Pune University in the year April 2000 in Botany, Msc from Savitribai Phule Pune University in the year 2003 in specialized subject Plant physiology and Ph.D. from as well from Savitribai Phule Pune university in the year 2008 in specialized subject Botany. She has published 33 total number of research papers in reputed national and International journals till 2021. She has been awarded by Virangana Savitribai Phule Fellowship Award in the year 2011 by Bhartiya Dalit Sahitya Academy.She is recognised Ph.D and M.Phil. guide of Savitribai Phule Pune University and now four Ph.D. Students working under her guidance She is Author of T.Y.BSc. Botany Text books.

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Aurangabad

Chairman of the committee

Government of Maharashtra's

Government College of Arts and Science, Aurangabad

(NAAC Reaccredited "A")

In Collaboration With

Disha Foundation Amravati

21st March International Forest Day

On The Eve of International Forest Day Celebration a Webinar has been organized by Department Of Zoology, Professional Development and staff Academy, Science Forum and Vidyarthini Manch, of Our College, We invite you all to join the Webinar on the -**Topic: Recent Trends in Science, Environment and Technology. Chief Guest: Shri Yadav Tarte Patil** ,Member State Board for Wild Life (MH).The Chairman of the Program **Dr.R.H Satpute** (Principal).**Resource Person of the Program Dr Kalpana .V. Palghadamal.**,P.V . Patil College Ahmednagar.

Co-ordinator: Dr Sangeeta B Dongre

Time 2.30Pm Date 21/03/2022:

Google Meet Link: https://meet.google.com/gba-eezh-ger (Lecture)

Registration Link: https://forms.gle/nWiSebEAti9cNnLR7

Organizing Committee Member: Dr Arcahana Ghapolekar, Dr Surekha Saraf, Shri P Shinde, Dr. S.V Sandekar, Dr. B. R Usare, Dr. U.G Miniyar, Dr B.B Patekar, Smt S.S. Shanbhag And Dr S.S.Bansod Students Representative: Disha Bhusari And Chaitanya Ingle.

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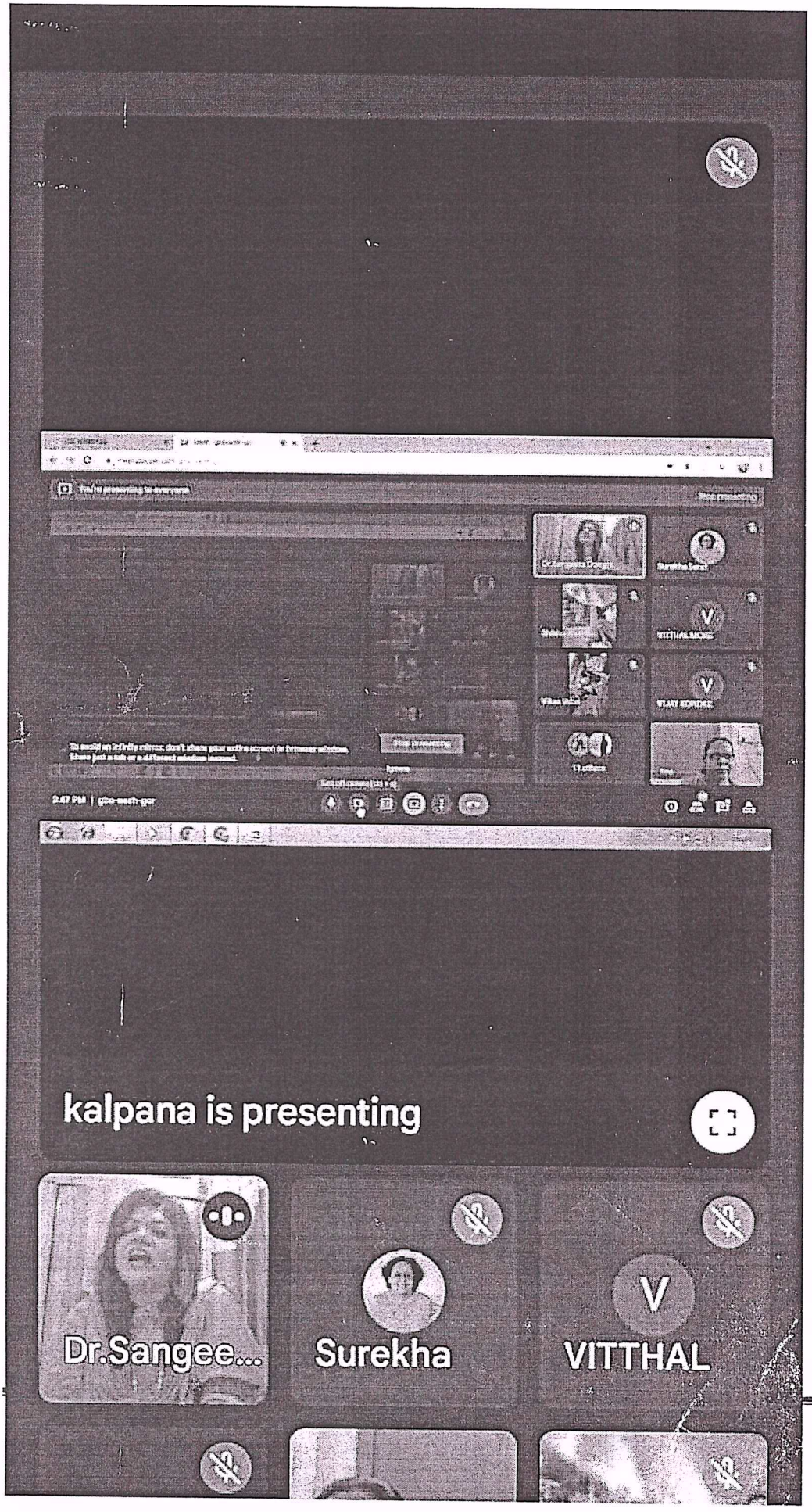
Aurangabad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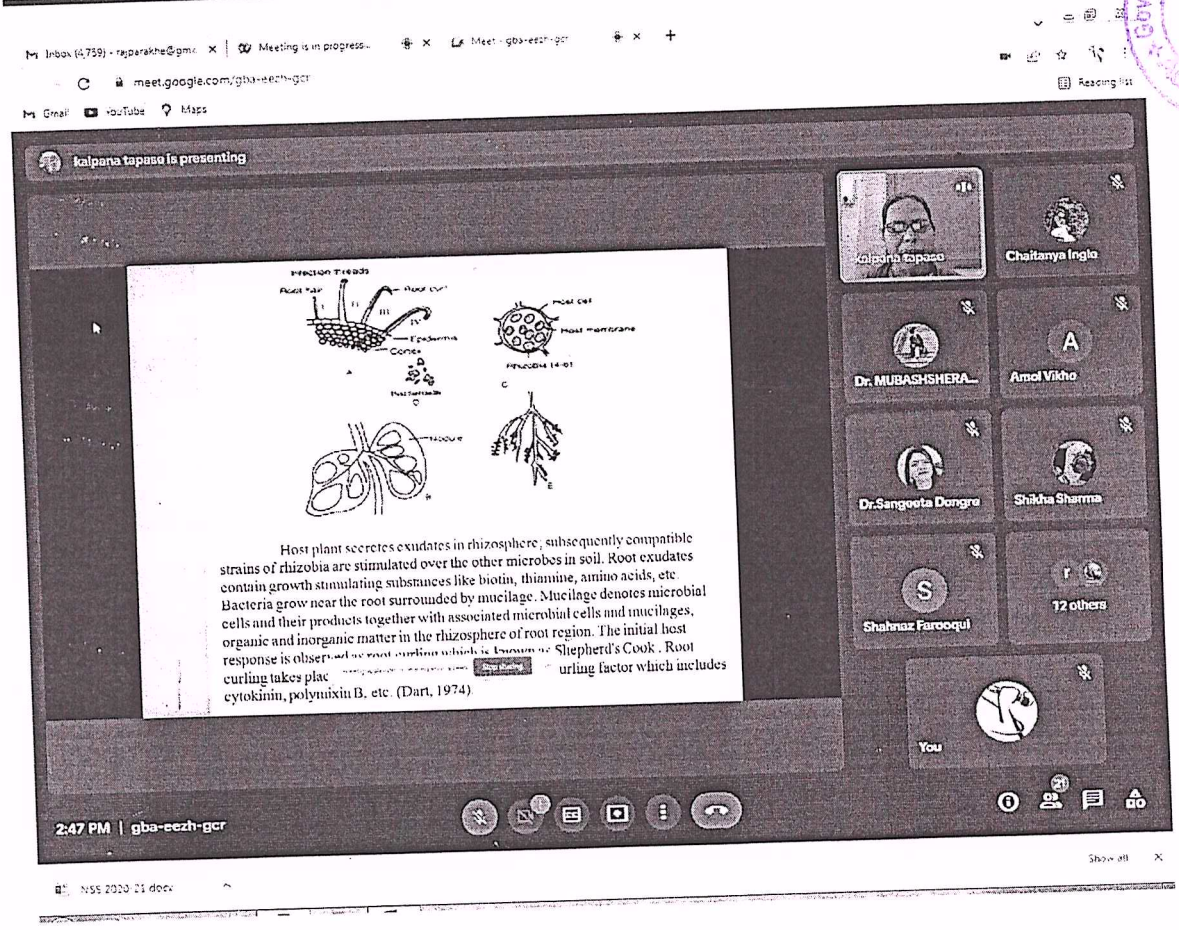
Dr.Sangee...
Surekha
VITTHAL



List of webinar registration

Timestamp NAME OF THE STUDENTE/TMEAAICL H AEDRDRESS NAME OF THE INSTITUTEMOBILE NUMBER CLASS
3/21/2022 0:34:46 Dr Sangeeta B Dongre sangeetadongre24@gmailG.coovmernment College of arts and scienc9e4s2 A3u7r4a3n9g5a0bad Maharashtra India
3/21/2022 0:35:10 Dr. Sunil N. Khade skhade680@gmail.com PhulsingNaikMahavidyalayaPusad 9960454684 -
3/21/2022 0:42:32 ShreyaJagtap shreyajagtap7@gmail.comGovernment College of arts and scienc7e066548256 BSc 1st year
3/21/2022 0:47:02 Mr. IshwarNandkishor Shisnhdiendeishwar9527@gmail.CcoFmT AshtiDistBeed +919404758617
3/21/2022 0:48:01 Dr. Syed Atheruddin Quadraithersirazad@gmail.com Maulana Azad College Aurangabad 9969765674
3/21/2022 0:57:38 Dr. MUBASHSHERA ANSAmRulbskhann@gmail.com MAULANA AZAD COLLEGE OF ARTS,9 S3C70IE1N11C1E1 A5NRDes CeOarMchMSEcRhColEa,r AURANGABAD, M.S
3/21/2022 1:20:45 Drshaikhunaiza nazneensunaiza57@gmail.com Maulana Azad college Aurangabad 8421829080 Ph.D
3/21/2022 1:43:56 Dr. ShaikhMohdAzhar shaikhmohdazhar2@yahoSo.icr oSmayyad College, Aurangabad 8275325459 Physics
3/21/2022 1:55:47 Dr. KulkarniRajenderRao raok1963@gmail.com Government College of Arts Science an9d9 6C0o3m7m92e0r7ce FQauceupltey m Goa
3/21/2022 2:41:34 Dr. PrakashTanajiWankhewdaknakrhedkarpt@gmail.comMJM ACS College Karanjali Tal Peth D8is8t 8N8a8s5h0ik105 Nil
3/21/2022 5:46:12 Vijay RR Kondke Vijaykondke50@gmail.comG ovt college of Art and Sci Aurangabad8 261843615 Bscfy
3/21/2022 6:09:16 Niranjan Ramesh Giri niranjangiri.2013@gmail.coMm.J.M.ACS.College.Karanjali 9822764970 S.Y.BSC
3/21/2022 6:20:48 FarihaAsif Sheikh sheikhfariha210@gmail.coSmantGadge baba Amravati University, A94m2r9a4v1a9ti410 M.Sc.II
3/21/2022 6:26:21 VISHAL S GAWAI vishalgawai2012@gmail.coDmr B A M U Aurangabad 9552379677
3/21/2022 6:44:08 Mr. AmitSantoshOlambe amitsolambe@gmail.com S.P.M Science and Gilani Arts Commer8c6e0 C04o2lle6g8e1 8Ghatanji DistYavatmal
3/21/2022 7:01:07 Saddam moosasyedsaddamsyed318@gmail.coGmovernment college off art's and scienc8e6s68524120 BATY
3/21/2022 7:04:34 BhagyashriSantoshraoChbahuadghyaarsihrichaudhariShriShivajiCollogeAkot 788821238 PhD
3/21/2022 7:09:39 DrSangitaKanawade Danddawnadtweate.sangita7@gmailS.c.Mom.B.S.T.College Sangamner 9922158268 Teacher
3/21/2022 7:13:56 MedhaviWakle whalesura07@gmail.com Government College of Arts and Scienc7e4s4 7477550 BAFY
3/21/2022 7:18:31 Dr. DhanrajBalbhim Bhuredrajbhure82@gmail.com YeshwantMahavidyalaya, Nanded 8149407814
3/21/2022 7:35:06 Dr.SalveChandrakant Jansaardlvheacn2 010@gmail.com Shriram Junior College Kada 9421349330
3/21/2022 7:42:48 Dr.AshokJagannathPatil yashapat@yahoo.in Pratap College Amalner 9421583120 Professor
3/21/2022 7:50:23 Dr.KashinathAmbadas Maksaksehyadao@gmail.com Government College of education Ratn9a4g0ir3i 627327 I
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3/21/2022 14:37:23 Shraddhavikaskulkarni shraddhanandgaonkar2@gGmovati.acortms and science college aurangab9a8d90295924 Lecturer
3/21/2022 14:37:30 MadhuriNirve Madhurinirve@gmail.com Government College of Arts and Scienc9e4,2 A1u6r5a9n8g1a9baTde acher
3/21/2022 14:37:54 ShravaniThakare shravani.thakare02@gmaiGl.coovmer nment College of Arts and Scienc9e0,6 A7u4r6a4n7g8a0baBds.c2nd Year
3/21/2022 14:40:07 MadhuriNirve Madhurinirve@gmail.com Government College of Arts and Scienc9e4 2A1u6ra5n9g8a1b9adT eacher
3/21/2022 14:40:33 JoytibhimraoNirval Joytibnirval@gmail.com Government College of arts and scienc8e2 A0u8r4a4n3g4a6b9adTeacher
3/21/2022 14:45:07 MadhuriHimmatNirve.Madhurinirve@gmail.com Government College of Arts and Scienc9e4.2 A1u6r5a9n8g1a9baTde acher.
3/21/2022 14:47:18 LavateKalpana Uttreshwakralpanalavate03@gmail.coAmrt's Science and Commer0c9e6 C04o5lle6g7e4 7ln7dapur
3/21/2022 15:05:05 HasinaEbrar Ansari hasinaansari14@gmail.comKTHM college nashik 9511204044 PhD
3/21/2022 15:16:01 DrVikhePratibhaSopanravoikhepratibha@gmail.comPVP College Pravaranagar 7709336956 No
3/21/2022 15:23:53 Vaishnavi Ganesh SolankeVaishnavisolanke234@gmGaiol.vceormnment college, Aurangabad. 7499357423 BSC. T. Y
3/21/2022 16:51:49 AmbreenHashmiambreen.quadriat@gmail.cMoamulana Azad college, Aurangabad 8483878432 Research student
3/21/2022 21:14:19 AratiBabanSonune aratisonune2001@gmail.cGomovemment College Aurangabad 9146812352 BSC .TY.
3/21/2022 22:38:23 MangateManoj mangatemanoj11@gmail.cMomanoj Mangate 8411838685 BA.TY.
3/22/2022 0:13:27 Dr. FEROZ AHMAD DAR ferozahmaddar702@gmailG.cOomVE RNMENT VIDARBHA INSTITUT9E8 O58F3 S75C5IE55NCREe sAeNaDrcHheUrMs ANITIES AMRAVATI
3/23/2022 10:14:18 Pralhadprakashmahale Pralhadmahale043@gmailS.ccoinmce 9699241477 Bsc2years 3systmer
3/30/2022 14:15:21 BhaleraoSurbhiBhausahebbh aleraosurbhi0605@gmaPil.VcPom C ollegepravaranagar, Loni 7709833447 Staff

GOVT.COLLEGE OF ARTSAND SCIENCE , AURANGABAD

Students Feed Back Form

Zoology Forum (20

International forest day Celebration - Webinar

Dt. 21/03/2022

Name of the student :- Jagruti Rajesh Shingne

Class :- BSC. TY

Ph.No. & Email ID :- 8669616844 (shingrejagruti@gmail.com)

Questions	Excellent	Good	Ordinary
Subject Knowledge		✓	
Quality of Lecture			
Contect of Lecture	✓	✓	
Effectiveness of Learning Experience		✓	
Presentation		✓	
Communication and Language		✓	
Duration of the Lecture/ Session		✓	
Suggest Specific topic/ activity that you would like	Educational visit.		

Govt. College of Arts & Science Aurangabad.

Student's Signature

GOVT.COLLEGE OF ARTSAND SCIENCE , AURANGABAD

Students Feed Back Form

Zoology Forum (20

International forest day Celebration - Webinar

Dt. 21/3/22

Name of the student :- Kalpana Nagve

Class :- B Sc III year

Ph.No. & Email ID :- 7507767656 , kalpananagve99@gmail.

Questions	Excellent	Good	Ordinary
Subject Knowledge	✓		
Quality of Lecture	✓		
Contect of Lecture	✓		
Effectiveness of Learning Experience	✓		
Presentation	✓		
Communication and Language	✓		
Duration of the Lecture/ Session	✓		
Suggest Specific topic/ activity that you would like			

Kalpana

Student's Signature

Govt. College of Arts & Science Aurangabad.

Government of Maharashtra

Government College of Arts and Science, Aurangabad

Established: 1923 NAAC Reaccredited 'A' Grade

e-mail: gasca1923@gmail.com Phone/Fax No.: 0240-2331476 Web. Site: www.gasca.ac.in

Internal Quality Assurance Cell (IQAC)

Activity/Program/Event/Annual Report, etc. Tracking Form

(Note: Make two copies: One copy with report and another take as OC maintain record separately)

Name of the event : World health Day, health checkup / food Enrichment Methods.

Name of the Department/Committee: MoU collaboration.

Date/s of Activity : 7 April 2022

Level of the Activity : (International/National/State/University or District/College) College. level

Type of the Activity : (Curricular/Co-curricular/Extracurricular/Extension) Co-curricular activity

Funding Agency : Self. if any **Audited State submitted**: (Y/N) _____

Dr. Vandana Bankar & Sub-Wanjare

Sign of Program Co-ordinator

Wanjare

Head of Dept
Dept. Of Homescience
Govt. College of Art's & Science
Aurangabad

Sign of HoD

Sign of Principal

Date of Submission to IQAC : _____

Activity of the Criteria (Metric) : _____

File Number: : (Year/Criteria/matric/Date (DDMM)

Document submitted (√):

1. Report
2. Photos (Geo-Tag)
3. Notice/Broacher (meeting/event)
4. Registration details (sign/Excel for online)
5. Collaboration/Funding details (all letters copies)
6. Schedule of event/Meeting agenda/Minutes
7. Feedback and action taken report
8. Sanction letters from concern authority
9. Photocopies of certificates, resume of resource person
10. Other information: _____

Name & Sign of Criteria In-charge : _____

Sign of IQAC Co-ordinator : _____

Government College of arts & Science Aurangabad

Home Science

IQAC

ACTIVITY REPORT(MOU)

1) Title of Activity- **World Health day.**

2) Nature of Activity- MOU collaboration

A) Curricular (Academic) OR

B) Co-curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc) OR

D) Extension activity

3) Name of the Department/Committee-

4) Activity coordinator – **Maya Wanjari Madam**

5) Activity in charge - **Vandana Bankar**

5) Objectives of Activity-

1. Awareness about **Health**
2. Awareness about **BMI.**
3. Identify the **students health status.**

6. Is the activity planned at the beginning of the session? ---No----------

C. If yes, is it mentioned in the departmental calendar of current academic year?

---

7. Brief description **about activity Conducted** –This activity is conducted on April 7,2022 in association with Government College of Arts and science. Aurangabad and college of Arts and science chincholi , in which the weight and height of the students were measured, their BMI was taken and diet counseling was given to them specially and the blood pressure of the students was also measured

8. Resources used for activity (Economic/non economic)- non economic

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Aurangabad

9. Output of the activity- Knowledge about BMI

10. Feedback – Excellent.

11. Total no. of students participated- 30

12. Total no. of girls' students participated-30

13. Total No. of females involved in the organization of activity -

14. Problems encountered-

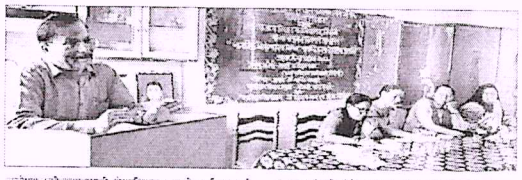
(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept. calendar and action taken report)

केसरी
09 Apr 2022

वर्तमान
शनिवार, 9 एप्रिल 2022 । पान 10

अन्न समृद्धी प्रदर्शनातून कुपोषणमुक्ती शक्य : डॉ. सातपुते



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Aurangabad

Name & Signature Name & Signature

Activity Coordinator HOD/ In charge of the committee

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Aurangabad

M.O.W Activity

Dept of Nursing

जागतिक आरोग्यदिनानिमित्त आरोग्य तपासणी

		age.	वजन	उंची	BMI	BP
1)	श्री. सातपुते सर	58	78	169cm	27.3	
2)	सौ. बनकर मॅडम	45	68	151	29.8	
3)	सौ. प्रतिमा हांडे मॅडम	~~40~~	74	156	30.4	
4)	भक्ती आढाव (आहाडे)	22	62	157	25.8	
5)	नेहा कातकर	22	64	155	26.6	
6)	प्रतिक्षा नागोडे	25	49	160	25.00	
7)	योगिता नागोडे	19	47	164	17.5	
8)	भाग्यश्री खरात	19	51	157	20.7	
9)	तबस्सुम	22	68	162	25.9	
10)	स्नेहा काकडे	21	50	163	18.8 (62.1 आहाडे)	
11)	वर्षा साबळे	22	~~69~~ 59	156		
12)	सांगळे सर	28	74	168	~~26~~ 26.2 (64.9)	
13)	दिपक सर	45	74	171	25.3 (66.5)	
14)	माधुरी निर्की मॅडम	~~58~~ 58	61	158	24.4 (59.3)	
15)	किर्ती कुंभारकर	23	46	155	~~19~~ 19.1 (57.6)	
16)	अर्चना मॅडम	42	52	162	19.8 (61.5)	
17)	Shila Mam.	28	46	158	18.4 (59.)	
18	Shikha Mam	31	68	156	27.9 (58.0)	
19	Shradha Mam	32	40	154	16.9 (57.K)	
20	माया Mam	~~58~~ 58	60	146	28.1 (52.6)	
21	ज्योती	43	68	156	27.9 (58.2)	
22	~~अर्चना~~/लीला	31	58	151	25.4	
23	संध्या →					
24	प्रियंका →	26	~~16~~ 70	149	31.5 : 1	
25	कु शालना →	~~26~~ 26	~~46~~ 46	163	17.3	
26	कु विना					
27	प्राची →	36	82	164	30.5	
28	वीना →	~~40~~ 41	44	151	19.3	
29	शोभा →	58	52	155	21.6	
30						

	संपूर्ण नाव	पत्ता	मोबाईल क्र.	स्वाक्षरी
1	कुलकर्णी मानसी विलास	भट्ट गल्ली, अंबाजोगाई	7083961041	Man
02	कु. कुलकर्णी वैभवी मिलिंद	(औरंगाबाद) Hostel	9822970527	Vaib
03	विमल भिमराव गडवे	औरंगाबाद	9158912638	Vima
4	रेखा राहुल म्हस्के	औरंगाबाद	9823541770	Rek
5)	शोभाबाई बनसोडे	औरंगाबाद	9923619456	शोभा
6)	यशोदा सुभाष कोळी	नूर कॉलनी औरं.	9881412382	यश
7	परवीन बाग	नूर कॉलनी औरंगाबाद	9922979364	[signature]
8)	संगीता विनोद उबाळे	हर्षनगर	9579309028	संगी
9)	दिपा ज्ञानेश्वर सोंदे	हर्षनगर	मोबाईल नाही	दिपा
10)	आरती राजेंद्र सोंदे	हर्षनगर		आ.
11)	संतोषी साळवे	हर्ष नगर		संतोष
12	अनिता राजकुमार नरवडे	हर्ष नगर	9637975949	Ani
13	नर्गिस बिस्मिल्ला शाह	हिना नगर	8484031930	Narg
14	रुपाली गौतम कोंडे	हर्षनगर	8208557841	Rupa
	शालिनी प्रतापसिंग चौहान	टिव्ही सेंटर	9637168167	Shal
15	संगीता गोविंदसिंग साला	टिव्ही सेंटर	8669003248	संगीता
16	ज्योती बनसोडे	हर्षनगर	9552434152	ज्योति
17	रजनी भिसाळ	हर्षनगर	7721903974	रजनी
18	संगीता भिसाळ	हर्ष नगर	8381009239	संगीता
19	शितल किशोर कुलथे	शासकीय ज्ञान विज्ञान महाविद्यालय	9673704337	Shi
20	वैष्णवी सुभाष सोसे	गजानन मंदिर	7875248081	Vai
21	धनश्री			
22	आयेशा			
23				
24				

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GOVERNMENT COLLEGE OF ARTS AND SCIENCE , KILLE AR

Feed back on the programmes organized by the Department of

(Workshop / Conference/ Seminar / Demonstration

Govt. College of Arts & Science Aurangabad.

Date 7/4/22

Name of the programme World health day

Content of the programme ---------- Satisfactory / Unsatisfactory

The overall arrangement of the programme : Satisfactory / Unsatisfactory

Are you satisfied with the Resource Person Yes / No

(With respect to skills, knowledge , style)

How the programme is helpful to you ? I met to lear

Recommendations for the future programme I wish will be a

Name of the student Neha Kathee Signature

GOVERNMENT COLLEGE OF ARTS AND SCIENCE , KILLE ARK , A

Feed back on the programmes organized by the Department of Hon

(Workshop / Conference/ Seminar / Demonstration)

Date 07-04-2022

Name of the programme World Health day (Science)

Content of the programme ---------- Satisfactory / Unsatisfactory

The overall arrangement of the programme : Satisfactory / Unsatisfactory

Are you satisfied with the Resource Person Yes / No

(With respect to skills, knowledge , style)

How the programme is helpful to you ? I met to learn a

Recommendations for the future programme Yes, I wish

Name of the student Manisha Nagode Signature

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Aurangabad

RNMENT COLLEGE OF ARTS AND SCIENCE , KILLE ARK , AURANGABAD

eed back on the programmes organized by the Department of Home science

(Workshop / Conference/ Seminar / ~~Demonstration~~)

7/4/22

programme Science day / World Health day,

ne programme Demonstration Satisfactory / Unsatisfactory

arrangement of the programme : Satisfactory / Unsatisfactory

sfied with the Resource Person Yes / No

ct to skills, knowledge , style)

gramme is helpful to you ? knowledge

ations for the future programme Arrange more programme

student Vaidehi Barde Signature

RNMENT COLLEGE OF ARTS AND SCIENCE , KILLE ARK , AURANGABAD

ced back on the programmes organized by the Department of Home science

(Workshop / Conference/ Seminar / Demonstration)

07/04/22

programme World Helth day (science)

e programme ---------- Satisfactory / Unsatisfactory

arrangement of the programme : Satisfactory / Unsatisfactory

fied with the Resource Person Yes / No

t to skills, knowledge , style)

ramme is helpful to you ? I met to learn a lot about food

tions for the future programme yes, I wish

tudent Kirti Kandare Signature

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Government of Maharashtra

Government College of Arts and Science, Aurangabad

Established: 1923 NAAC Reaccredited 'A' Grade

e-mail: gasca1923@gmail.com Phone/Fax No.: 0240-2331476 Web. Site: www.gasca.ac.in

Internal Quality Assurance Cell (IQAC)

Activity/Program/Event/Annual Report, etc. Tracking Form

(Note: Make two copies: One copy with report and another take as OC maintain record separately)

Name of the event : chocolate Making

Name of the Department/Committee: MoU Collaboration.

Date/s of Activity : 9/1/2023

Level of the Activity : (International/National/State/University or District/College) College. level

Type of the Activity : (Curricular/Co-curricular/Extracurricular/Extension) Co-curricular activity

Funding Agency : Self. if any **Audited State submitted**: (Y/N) _____

Sign of Program Co-ordinator	Sign of HoD	Sign of Principal
Dr. Vandana Bankar & Mangare	Mangare	

Head of Dept
Dept. Of Homescience
Govt. College of Art's & Science
Aurangabad

Date of Submission to IQAC : _____

Activity of the Criteria (Metric) : 3

File Number: : (Year/Criteria/matric/Date (DDMM)

Document submitted (√):

1. Report
2. Photos (Geo-Tag)
3. Notice/Broacher (meeting/event)
4. Registration details (sign/Excel for online)
5. Collaboration/Funding details (all letters copies)
6. Schedule of event/Meeting agenda/Minutes
7. Feedback and action taken report
8. Sanction letters from concern authority
9. Photocopies of certificates, resume of resource person
10. Other information: _____

Name & Sign of Criteria In-charge : _____

Sign of IQAC Co-ordinator : _____

Government College Of Arts & Science, Aurangabad

IQAC

Department Of Home Science

ACTIVITY REPORT (MOU)

1) Title of Activity- Chocolate Making Workshop

2) Nature of Activity- MOU collaboration.

A) **Curricular (Academic) OR**

B) Co-curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc) OR

D) Extension activity

3) **Name of the Department/Committee-** Home science

4) **Activity coordinator** – Maya Wanjare madam

5) **Objectives of Activity-** Vandana Bankar madam

1. Skill development
2. Entrepreneurship development
3. Empowering women.

6. Is the activity planned at the beginning of the session? ----No--------

C. If yes, is it mentioned in the departmental calendar of current academic

year?

7. **Brief description about activity Conducted-** Chocolate making workshop was conducted on 9 Jan 2023 in home science Department of Government science College, Radha Wagh choure madam as the subject expert showed the students how to make different types of chocolates like crunch ,vanilla chocolate, pan masala chocolate, modak chocolate, coconut bomb chocolate etc. and asked the students to make them too. Thus this chocolate making workshop was successfully conducted.

8. Resources used for activity (Economic/non economic)- Economic

9. **Output of the activity-** Empowering women.

10. Feedback- Excellent.

11. Total no. of students participated- 51

12. Total no. of girls' students participated-51

13. Total No. of females involved in the organization of activity -

14. Problems encountered-

(Pl submit list of students, photographs, letters related with activity (if any)

in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action

plan of the department, dept. calendar and action taken report)

Govt. College of Arts & Science Aurangabad

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Govt. College of Arts & Science
Aurangabad

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date 9 Jan 2023.

Name of the program chocolates making Workshop

Content of the program ....satisfactory..... Satisfactory/ Unsatisfactory

The overall arrangement of the program .Satisfactory Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ....yes.....

Recommendation for the future progamme ..benifites

Name of the students komal salve... Signature.....

GOVERNMENT COLLEGE OFARTS AND SCIENCE, KELE,ARK ,AURANGABAD

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date 9/1/2023.....

Name of the program chocalates making workshop

Content of the program ...satisfactory..... Satisfactory/ Unsatisfactory

The overall arrangement of the program .Satisfactory Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ....yes.....

Recommendation for the future progamme ..benifites

Name of the students ..Bhagyashri.... Signature.....

Kharat

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT COLLEGE OFARTS AND SCIENCE, KELE,ARK ,AURANGABAD

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date 9.-Jan.-2023

Name of the program chocolate making Workshop

Content of the program ...satisfactory..... Satisfactory/ Unsatisfactory

The overall arrangement of the program .satisfactory. Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ....yes.....

Recommendation for the future progamme .benifites

Name of the students ...Sandhya Sonwane..... Signature Sonwane

GOVERNMENT COLLEGE OFARTS AND SCIENCE, KELE,ARK ,AURANGABAD

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date ...9.1.1.2023

Name of the program .chocalates making workshop.

Content of the program .....it satisfactoey... Satisfactory/ Unsatisfactory

The overall arrangement of the program ..satisfactoey Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ....Yes.....

Recommendation for the future progamme .b.e.n.i.f.i.t.e.s.

Name of the students Bhakti Adhav Signature. Bhakti

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Aurangabad

GOVERNMENT COLLEGE OFARTS AND SCIENCE, KELE,ARK ,AURANGABAD

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date 9/01/2023..

Name of the program Chocolates Making woekshop

Content of the program .Satisfactoey..... Satisfactory/ Unsatisfactory

The overall arrangement of the program .Satisfactoey Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ....yes.....

Recommendation for the future progamme ..nice ...

Name of the students Seema Gaikwad Signature. Gaikwad

GOVERNMENT COLLEGE OFARTS AND SCIENCE, KELE,ARK ,AURANGABAD

Feed back on the programs Organized by the department of home science

(Workshop/ Conference/ Seminar /Demonstration)

Date 9-Jan-2023

Name of the program chocolates making Workshop

Content of the program ..Satisfactory..... Satisfactory/ Unsatisfactory

The overall arrangement of the program .Satisfactory.. Satisfactory/ Unsatisfactory

Are you satisfied with the Resource person Yes /No

(With respect to skill , knowledge , style)

How the proamme is helpful to you ? ..yes.....

Recommendation for the future progamme benifits

Name of the students Totu bharati Sundarsing..... Signature... Patil.....

Govt. College of Arts & Science Aurangabad

Dr. Rafiq Zakaria College For Women

Dr. Rafiq Zakaria Campus - II
Dr. Rafiq Zakaria College For Women
Maulana Azad Education Society

Ref. No.: Dr. RZCW/2022-23/5135/04 Date: 13-01-2023

To,

The Head
Department of Chemistry
Govt. College of Arts & Science
Aurangabad.

Respected Sir/Madam

It gives us great pleasure to inform you that we are conducting one day workshop on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" in the subject of B.Sc. Chemistry CBCS curriculum -2022. This workshop to be carried out under MoU between our colleges.

The aim of workshop is to provide opportunity to apply their acquired skills and knowledge in work field. The workshop will induce courage, general observations, thinking power to minimize the use of chemicals and behave ecofriendly.

We solicit your cooperation in this workshop by deputing 5 students from your college of B.Sc. Chemistry students. The program is scheduled on 28th January -2023 at Dr. Rafiq Zakaria College for Women, Aurangabad from 10.00 a.m. to 5.00 p.m.

Dr. Ayesha Durrani
HOD

Dr. Maqdoom Farooqui
Principal

Jubilee Park, Aurangabad - 431 001 (MS)

Dr. Rafiq Zakaria College for Women, Aurangabad

Affiliated to

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

CERTIFICATE

This certificate is awarded to ***Ms. Mazna Shaikh*** *of* ***Government College of Science and Arts, Aurangabad*** *has participated in one day workshop* on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" Chemistry CBCS University curriculum-2022 *conducted by the department of Chemistry & Analytical Chemistry, Dr. Rafiq Zakaria College for Women, Aurangabad on Saturday, 28.01.2023.*

Dr. Mohammad Mohsin	Dr. Megha Rai	Dr. Uzma Parveen	Dr. Ayesha Durrani	Dr. Maqdoom Farooqui
Organizing Secretary	**Convener**	**Co-Convener**	**Head**	**Principal**
			Dept. of Chemistry	

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Govt. College of Arts & Science
Aurangabad

Dr. Rafiq Zakaria College for Women, Aurangabad

Affiliated to

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CERTIFICATE

This certificate is awarded to ***Ms. Shravani Thakre*** *of* ***Government College of Science and Arts, Aurangabad*** *has participated in one day workshop* on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" Chemistry CBCS University curriculum-2022 *conducted by the department of Chemistry & Analytical Chemistry, Dr. Rafiq Zakaria College for Women, Aurangabad on Saturday, 28.01.2023.*

Dr. Mohammad Mohsin	Dr. Megha Rai	Dr. Uzma Parveen	Dr. Ayesha Durrani	Dr. Maqdoom Farooqui
Organizing Secretary	**Convener**	**Co-Convener**	**Head** **Dept. of Chemistry**	**Principal**

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Aurangabad

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CERTIFICATE

This certificate is awarded to ***Ms. Anupriya Kushwaha*** *of* ***Government College of Science and Arts, Aurangabad*** *has participated in one day workshop* on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" Chemistry CBCS University curriculum-2022 *conducted by the department of Chemistry & Analytical Chemistry, Dr. Rafiq Zakaria College for Women, Aurangabad on Saturday, 28.01.2023.*

Dr. Mohammad Mohsin	Dr. Megha Rai	Dr. Uzma Parveen	Dr. Ayesha Durrani	Dr. Maqdoom Farooqui
Organizing Secretary	Convener	Co-Convener	Head Dept. of Chemistry	Principal

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Aurangabad

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CERTIFICATE

This certificate is awarded to ***Mr. Khan Shoeb Anwar*** *of* ***Government College of Science and Arts, Aurangabad*** *has participated in one day workshop* on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" Chemistry CBCS University curriculum-2022 *conducted by the department of Chemistry & Analytical Chemistry, Dr. Rafiq Zakaria College for Women, Aurangabad on Saturday, 28.01.2023.*

Dr. Mohammad Mohsin	Dr. Megha Rai	Dr. Uzma Parveen	Dr. Ayesha Durrani	Dr. Maqdoom Farooqui
Organizing Secretary	**Convener**	**Co-Convener**	**Head Dept. of Chemistry**	**Principal**

Govt. College of Arts & Science Aurangabad

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Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

CERTIFICATE

This certificate is awarded to ***Mr. Shubham B Dhamune*** *of* ***Government College of Science and Arts, Aurangabad*** *has participated in one day workshop* on "***Microscale Experiments & Maximum Dilution for UG Lab Course***" Chemistry CBCS University curriculum-2022 *conducted by the department of Chemistry & Analytical Chemistry, Dr. Rafiq Zakaria College for Women, Aurangabad on Saturday, 28.01.2023.*

Dr. Mohammad Mohsin	Dr. Megha Rai	Dr. Uzma Parveen	Dr. Ayesha Durrani	Dr. Maqdoom Farooqui
Organizing Secretary	**Convener**	**Co-Convener**	**Head Dept. of Chemistry**	**Principal**

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Government College Of Arts & Science, Aurangabad

Name of the Department - Music

ACTIVITY REPORT

Title of an Activity- Study of sound and recording techniques through studio field Visit on 11-9-2021

Nature of Activity & Date- Co curricular Date: 11-9-2021

Objectives of Activity-
1. **To study sound techniques**
2. **Hands on training on studio recording techniques**
3. **To study recording activity**
4. **To study audio visual recording techniques**

Brief description about activity Conducted

Students from M.A Music part I and II visited the recording studio named as AMD situated at Khivansara Park, Aurangabad. To study sound and recording techniques was the objective behind this activity.

Students learnt about various instruments in the studio like Mixer, Microphone. Mr. Atul Dive guided the students that how to use studio instruments. He also explained the sound recording techniques with theoretical explanation.

Feedback

Students were satisfied through the training.

Some students suggested to develop recording studio in the institution.

AMD RECORDING STUDIO
Proprietor

Director and Resource Person

Mr. Atul Dive

Head

Department of Music

IQAC

ACTIVITY REPORT

1) Title of Activity : Gandhi Jayanti & world Non Violence Day Dt. 2/10/21
2) Nature of Activity : Co-Curricular (supporting to academics)
3) Name of the Department Committee : Department Of Music
4) Activity Co-ordinator / in Charge: Dr. Vaishali S. Deshmukh
5) Objective of Activity :
   1. To Give Tribute to Mahatma Gandhi On his Birth Anniversary by Performing patriotic Songs by the students of the Music Department
6) Is the activity planned at the beginning of the session ? No.

C. If yes, is it mentioned in the departmental calendar of current academic year ?

---

1) Brief description about activity Conducted : Detailed Report attached
2) Resources used for activity (Economic / non economic): Economic
3) Output of the activity: All the Students of the Department performed all the songs nicely And The audience Was impressed by the singing Of the Students.
4) Feedback: Has been taken through forms
5) Total No. of students participated: 17
6) Total No. of girl's students participated: 8
7) Total No. of females involved in the organization of activity : 13
8) Problem encountered : nil

(PI submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

(PI maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept, calendar and action report)

Name & Signature
Activity Co-Ordinator

Name & Signature
HOD/ In Charge of the Committee

Government of Maharashtra

Government College of Arts & Science, Aurangabad (M.S)

(Established in 1923)
NAAC Re-accredited with 'A' Grade (2016)
(Kile Ark. Near Subhedari Guset House, Aurangabad)

E mail id gasca1923@gmail.com Phone/Fax-0240-2331476 Website-www.gasca.ac.in

Marathwada Shikshan Prasarak Mandal's

DEOGIRI COLLEGE, AURANGABAD

REPORT ON COLLABORATIVE ACTIVITY

Name of the Teacher: Dr. Deepti D. Dhere

Department: Microbiology

Name of the Institution: Deogiri College, Aurangabad

Type of Collaborative Activities: Research Publication

Name of the Collaborator: Dr. Rohini Pandhare Kulkarni

Name of the Institution: Government College of Arts and Science, Aurangabad

Brief Details:

Collaborative Research Publication:

Sr. No.	Title of the Collaborative Activity	Name of the Collaborating Agency with Contact Details	Name of the Participant/s	Year of Collaboration	Duration
I	Isolation and Screening of Carotenoid Producing Bacteria	Government College of Arts and Science, Aurangabad	1]Dr. Deepti D. Dhere 2] Dr. Rohini Pandhare Kulkarni	2019-2020	Five years

Principal Investigator

Dr. Deepti D.Dhere

Encl: the Article cover

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College with Potential for Excellance

PRINCIPAL
Dr. Shivajirao N. Thore
Ph.D.

Marathwada Shikshan Prasarak Mandal's
DEOGIRI COLLEGE
Aurangabad - 431 005, Maharashtra, India

Esta. : 1960
AQMCS JAS,ANZ
C.N. EF0BDE/0BDE : 1215

Affiliated to : Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
Centre No. : Senior - 003 Junior - 101
Jr. Index No.: 56-01-001 U-DISE No. : 27191109505

Phone : 0240-2367333, 2367330 I Fax : 0240 - 2367301
Website : www.deogiricollege.org
E-mail : principal@deogiricollege.org I deogiri@mspmandal.in

Date: - 23/11 /2020

TO WHOM IT MAY CONCERN

This is to certify that there have been collaborative research activity between faculty members of **Deogiri College, Aurangabad** and **Government College of Arts and Science, Aurangabad.** The details of the collaborative research activities carried out are as follow:

Collaborators:

1. Dr. Deepti D. Dhere, Asst. Prof. of Microbiology, Deogiri College, Aurangabad
2. Dr. Rohini Pandhare Kulkarni, Associate Professor of Microbiolgy, Government College of Arts and Science, Aurangabad

It is hence certified that there have been successful collaboration in term of research and resulted in the research paper publication during 2019-2020.

No. of Publication: 01
Journal Name: International Journal of Developmental Research

Signature
Head/Director/ Concerned of the Institutions/Dept
Principal
Deogiri College,
Aurangabad.

Signature
Head/Director/ Concerned of the Institutions/Dept
Principal
Govt. College of Arts & Science
Aurangabad.

Activity Report

Date: 4/08/2022

Activities organized under Collaboration

Brief Description of an activity:

Faculties from both institute work in the field of Computer-Aided Drug Discovery. Dr. Rajendra Gode Institute of Pharmacy, Amravati have an advance research infrastructure such as Computational Facility, Research Laboratory, etc. Collaborative research in the CADD Various Drug Discovery software namely Desmond, Schrodinger, etc. are being used. QSAR Modelling, Molecular Docking, Molecular Dynamic Simulation etc. CADD approached are deployed. Quality Research Articles are published in reputed journals of high impact factor.

Details:

SN	Title of Collaborative Activity	Date and Year	Name of the Teacher/Researcher participated with college name
01	QSAR based virtual screening derived identification of a novel hit as a SARS CoV-229E $3CL^{pro}$ Inhibitor: GA-MLR QSAR modeling supported by molecular Docking, molecular dynamics simulation and	2022/1/1	**Mr. Rahul Jawarkar,** Associate Professor Dr. Rajendra Gode Institute of Pharmacy, Amravati And **Mr. Ajaykumar Gandhi,** Assistant Professor Government College of Arts and Science, Aurangabad
02	QSAR, Molecular Docking, MD Simulation and MMGBSA Calculations Approaches to Recognize Concealed Pharmacophoric Features Requisite for the Optimization of ALK Tyrosine Kinase Inhibitors as Anticancer Leads	2022/8/3	

Principal
Government College of Arts and Science,
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Principal/Director/Head
Dr. Rajendra Gode Institute of
Pharmacy, Amravati

Principal
Dr. Rajendra Gode Institut
of Pharmacy, Amravati

Govt. College of Arts & Science, Aurangabad.

Coordinator, IQAC
Government College of Arts and Science,
Aurangabad

Coordinator, IQAC
Government College of Arts
& Science, A'bad (M.S.)

Coordinator, T & P Cell
Dr. Rajendra Gode Institute of
Pharmacy, Amravati

GOVERNMENT OF MAHARASTRA
GOVERNMENT COLLEGE OF ARTS & SCIENCE,
AURANGABAD

Phone No. 0240- 2331476 gasca1923@gmail.com Fax No. - 0240- 2331476

GASCA/2020-21/ Date: 01/07/2021

To,

Dr. Vandan Gothaskar
Assistant Professor
Department of Microbiology
Shivchhatrapati College,
Aurangabad

Subject: Invitation for a Guest lecture
Dear Madam,

It's our pleasure to invite you for Guest lecture in Department of Microbiology, Government College of Arts And Science, Aurangabad.

I am requesting you to accept our invitation and enlighten our students on "Fermentation Industry Layout and its functioning" by sharing your deep knowledge.

Awaiting for your confirmation
Thanking you

Date: 5th -7th July 2021
Time: 01:00 pm

Venue: Google meet

Yours Sincerely

Principal
Govt. College of Arts and Science,
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT OF MAHARASTRA
GOVERNMENT COLLEGE OF ARTS & SCIENCE,
AURANGABAD

Phone No. 0240- 2331476 gasca1923@gmail.com Fax No. - 0240- 2331476

GASCA/2020-21/ Date: 07/07/2021

To,

Dr. Vandan Gothaskar
Assistant Professor
Department of Microbiology
Shivchhatrapati College,
Aurangabad

Subject-Appreciation letter

Sir,

We are very much thankful to you for accepting the invitation and extending your expertise as a resource person for enlightening our students on "Fermentation Industry Layout and its functioning" in Guest lecture at Department of Microbiology, Government Institute of Science, Aurangabad and Government college of Arts and Science, Aurangabad.on 5th -7th July.

Looking forward for such positive interactions in future.

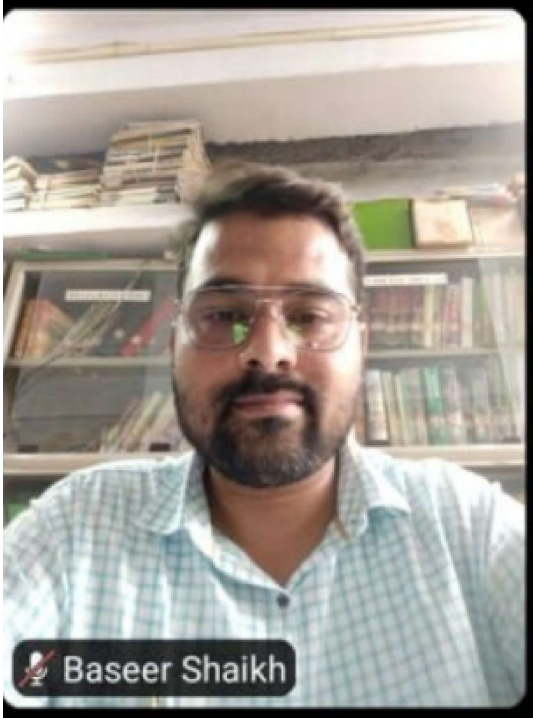
Thanking you,

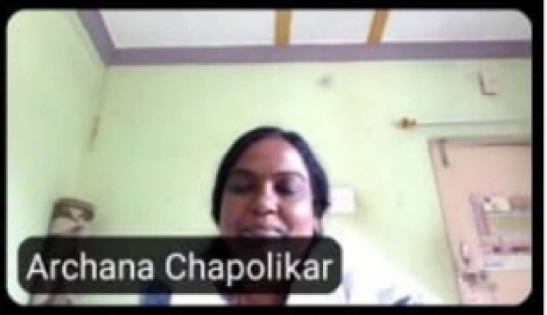
Yours Sincerely

Principal
Govt. College of Arts and Science,

College of Arts & Science

PRINCIPAL
Govt. College of Arts & Science
Aurangabad


Baseer Shaikh


Archana Chapolikar


Hussain Sayyed


Nishat Parveen

Baseer Shaikh

Archana Chapolikar

N

Nishat Parveen

Hussain Sayyed

Close

Participants (22)

Search


Baseer Shaikh (me)

N
Nishat Parveen (Host)

AC
Archana Chapolikar


Afiya Sayed

BB
Bushra begum Akhtar khan

FK
Faiza khanam


Hussain Sayyed

IN
Iram Naaz


Khan Bushra ❤️

KK
Khan Khadija

KT
Khan Tarannum

QN
Quadri Navishta Fatema

Invite

Close

Participants (22)

KK Khan Khadija

KT Khan Tarannum

QN Quadri Navishta Fatema

QF Qureshi farha

SM Saba meraj

S Sayyed Mahek

S Shaikh mubeen

 shaikh naaz fatema

SB Sumayya begum

 SURENDRA TAKALE

 Syed Shahzeeb

T Tabrez

 Shadab Khan

Invite

ON THE OCCASION OF WACHAN PRERNA DIN

Govt.College of Education and Govt. College of Arts & Science, Aurangabad

jointly organises

One Day State Level Webinar on

Maintenance of Standards in Higher Education with reference to CAS

On 16th Oct 2020

at 2.30 P.M. to 4.00 P.M.

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HON. DR. DHANRAJJI MANE
Diirector, Higher Education Pune , M.S.

Resource Person

DR. DHARMRAJJI VEER
Director, Knowledge Resource Centre,
Dr.Babasaheb Ambedkar Marathwada University, Aurangabad.

REGISTRATION LINK : https://forms.gle/GXCz9HWMbTfKB8dF6

ORGANIZER

@ DR.SANJIVANI MULEY,
Principal, GCE, IASE

@ MRS.VANDANA AMBHORE
(CO-CONVENOR)

@ DR.ROHINI Kulkarni- PANDHARE,
I/C Principal, GASCA

@ DR.SHUBHANGI BIDARKAR
(CONVENOR)

and ALL FACULTY MEMBERS OF GCE & GASCA, Aurangabad.

शासकीय अध्यापक महाविद्यालय औरगाबाद व शासकीय ज्ञान विज्ञान महाविद्यालय औरंगाबाद यांच्या संयुक्त विद्यमानाने

On the occasion the Birth Anniversary of

Bharat Ratna Dr.APJ Abdul Kalam

STATE LEVEL WEBINAR ON
MAINTENANCE OF STANDARDS IN HIGHER EDUCATION
WITH REFERENCE TO CAS

कार्यक्रम - पत्रिका

Date 16/10/2020

कार्यक्रमाची वेळ : 2:30 ते 4:00

- स्वागत :- सर्व मान्यवर
- प्रास्ताविक :- प्राचार्य,डॉ.एस.एस.मुळे
- प्रमुख अतिथी परीचय :- सौ.वंदना अंभोरे
- प्रमुख अतिथी मार्गदर्शन :- मा.डॉ.धर्मराज वीर
- प्रश्न उत्तरे व चर्चा :- सर्व सहभागी
- ऋणनिर्देश:- डॉ.एस.पी.बिदरकर
- सुत्रसंचालन :- समन्वय डॉ.एस.पी.बिदरकर
- आभार प्रदर्शन :- डॉ.एन.आर.चौंडेकर

Government of Maharashtra
Govt. College of Education, IASE, Aurangabad.
NAAC "A" Grade Accredited
Padam-Pura, Station Road, Near Deogiri College, Aurangabad (M.S.) – 431 005.
Principal Dr.P.R.Gaikwad.
Off -Tele-Fax : 0240-2334840,
Email ID: Govtiase@gmail.com
Res : 0240-2334141

जा,क्र.शाअम/औ/ग्रंथालय/२०२२-२३/ 431

दिनांक १२/१०/२०२२
13

प्रती,
प्राचार्य
शासकीय ज्ञान विज्ञान महाविद्यालय
औरंगाबाद

विषय : आंतरग्रंथालयीन देवघेव सेवेअंतर्गत पुस्तके पाठविणे बाबत.

संदर्भः आपले दिनांक ११/१०/२०२२ चे पत्र.

उपरोक्त विषयी वरील संदर्भीय पत्रानुसार आपल्या महाविद्यालया सोबत झालेल्या सामंजस्य कराराअंतर्गत (MOU) व आपण मागणी केल्याप्रमाणे वाचन प्रेरणा दिनानिमित्त पुस्तक प्रदर्शनाकरिता डॉ. ए.पी.जे अब्दुल कलाम यांच्या जीवनकार्यावर उपलब्ध असलेली पुस्तके प्रस्तुत महाविद्यालयाच्या ग्रंथालयातून सोबतच्या यादीप्रमाणे उसनवारीवर पाठवीत आहोत. पुस्तकाचे काम झाल्यावर आपल्या पत्रात नमूद केल्याप्रमाणे पुस्तके परत करावीत. पुस्तके मिळाल्याची पोहच द्यावी .

धन्यवाद

for B 13/10/22
प्राचार्य
शासकीय अध्यापक महाविद्यालय
(आयएएसई),औरंगाबाद

सोबत : यादीप्रमाणे पुस्तके

डॉ.ए.पी.जे अब्दुल कलाम यांच्या जीवनकार्यावर पाठविण्यात येत असलेल्या पुस्तकाची यादी

Sr.No	Book no.	Books of Title – Author	Copies
1.	19218	प्रेरणादायी सुविचार - एपीजे अब्दुल कलाम	01
2.	19734	अग्निपंख आत्मचरित्र डॉ. एपीजे अब्दुल कलाम	01
3.	19735	भारत 2020 – नव्या सहस्त्राकाचा भविष्यवेध - एपीजे अब्दुल कलाम	01
4.	19736	एपीजे अब्दुल कलाम एक व्यक्तिवेध -आर रामनाथन	01
5.	20150	एपीजे अब्दुल कलाम माझा भारत उज्ज्वल भारत – सर्जनशील पाल सिंग	01
6.	20272	Target 3 Billion - A.P.J.Abdul Kalam	01
7.	20485	प्रज्वलित मने एपीजे अब्दुल कलाम – शुभदा पटवर्धन	01
8.	20486	एपीजे अब्दुल कलाम आणि पोतराज परिवर्तनाचा जाहीरनामा – अशोक पाध्ये	01
9.	20487	माझ्या स्वप्नातील भारत –पिल्ले	01
10.	20488	उद्दिष्ट तीन अब्ज - एपीजे अब्दुल कलाम	01
11.	20489	माझी जीवन यात्रा स्वप्न साकारताना - सुप्रिया वकील	01
12.	20490	अदम्य जिद्द भारताचे राष्टपती भारतरत्न डॉ. एपीजे अब्दुल कलाम यांचे अनमोल विचारधन – सुप्रिया वकील	01
13.	20491	Ignited Minds - A.P.J.Abdul Kalam	01
14.	21151	एपीजे अब्दुल कलाम विज्ञानाच्या उज्वल वाटा- प्रणव सुखदेव	01
15.	21158	A.P.J.Abdul Kalam Wings of Fire an Autobiography –Arun Tiwari	01
16.	21239	बियॉन्ड २०२०व्हिजन उद्याच्या भारतासाठी - एपीजे अब्दुल कलाम	01
17.	21240	एपीजे अब्दुल कलाम संपूर्ण जीवन – अरुण तिवारी	01
18.	21241	उन्नयन (Transcendence) - अरुण तिवारी	01
19.	21245	माझा भारत उज्वल भारत- डॉ. एपीजे अब्दुल कलाम	01
20.	21246	तुम हो अद्वितीय डॉ. एपीजे अब्दुल कलाम – पुनम कोहली	01
21.	21622	झोप उडवणारी स्वप्ने (डॉ. अब्दुल कलाम यांच्या जीवन व्यवस्थापन आधारित) –रमेश पोखरीयाल	01
		Total	21

for Bhumkar 13/10/22

प्राचार्य

शासकीय अध्यापक महाविद्यालय

(आयएएसई),औरंगाबाद

महाराष्ट्र शासन

शासकीय ज्ञान विज्ञान महाविद्यालय औरंगाबाद

नॅक पुर्नमूल्यांकित "अ " दर्जा

प्राचार्य : डॉ.आर.एच.सातपुते

ई-मेल : gasca1923@gmail.com

फोन नं.: ०२४०- २३३१४७६

फक्स नं.: ०२४०- २३३१४७६

जा.क्र शा.ज्ञाविमऔ/२०२२-२३ 2006

दिनांक २८/१०/२०२२

प्रति,

मा.प्राचार्य,

शासकीय अध्यापक महाविद्यालय,

औरंगाबाद

विषय : आंतरग्रंथालयीन देवघेव सेवेअंतर्गत प्राप्त झालेली पुस्तके परत करणेबाबत.

संदर्भ: आपले पत्र क्रमाक शाअमविऔरंगाबाद/२०२२-२३/ ४३१;दिनांक १३/१०/२०२२.

उपरोक्त विषयी वरील संदर्भीय पत्रानुसार महाविद्यालयासोबत झालेल्या सामंजस्य करारांतर्गत (MoU) वाचन प्रेरणा दिनानिमित्त पुस्तक प्रदर्शनाकरिता डॉ. ए.पी.जे अब्दुल कलाम यांच्या जीवनकार्यावर सोबतच्या यादीतील २१ पुस्तके प्रस्तुत महाविद्यालयास उसनवारीवर मिळाली होती. पत्राप्रमाणे पुस्तकाचे काम झाले असल्यामुळे परत पाठवीत आहोत. सहकार्याबद्दल आपले आभार व्यक्त करण्यात येत आहेत .

धन्यवाद !

सोबत : यादीप्रमाणे पुस्तके

डॉ .आर.एच .सातपुते

प्राचार्य

शासकीय ज्ञान विज्ञान महाविद्यालय,

औरंगाबाद

O/C

S.P.Ridalav

Receipt

Government of Maharashtra

Govt. College of Education, IASE, Aurangabad

NAAC reaccredited "A" Grade (3.27 CGPA)

Padam-Pura, Station Road, Near Deogiri College, Aurangabad (M.S.) – 431 005.

Principal - Dr.Smt. S.S.Muley Off-Tele-Fax: 0240/2334840 - 2334141

Website: www.iaseaurangabad.org E-mail: govtiase@gamil.com

जा.क्र.शाअमविऔरंगाबाद/ 326 दि.१५/०७/२०२२.

प्रति,
डॉ.शुभांगी पी. बिदरकर
ग्रंथपाल
शासकीय ज्ञान विज्ञान महाविद्यालय
औरंगाबाद.

विषय : एम.एड. संशोधनकृती सत्रात विद्यार्थांना मार्गदर्शन करण्याबाबत.

वरील विषयी महाविद्यालयासोबत झालेल्या सामंजस्य कराराअंतर्गत (MOU) आमच्या शासकीय अध्यापक महाविद्यालय, औरंगाबाद, येथे दि.१८/०७/२०२२ रोजी एम.एड. प्रशिक्षणार्थी साठी आयोजित केलेल्या संशोधन कृतिसत्रात आपण " How to Review of related Researches " या विषयावर व्याख्यान देण्यासाठी आमंत्रीत आहात. तरी आपण ठीक १२ वाजता महाविद्यालयात उपस्थित राहून मार्गदर्शन करावे.

डॉ. मुळे एस.एस.
प्राचार्य/संचालक
शासकीय अध्यापक महाविद्यालय,
आय.ए.एस.ई.,औरंगाबाद

प्रत:- प्राचार्य, शासकीय ज्ञान विज्ञान महाविद्यालय औरंगाबाद यांना माहितीस्तव.

DOCUMENT FOR COLLABORATIVE ACTIVITIES

(In the area of Extension, Outreach, and Skill Development Activities)

Government College of Arts & Science, Aurangabad, Maharashtra

1. Internal Quality Assurance Cell, Government College of Arts & Science, Aurangabad
2. Alumni Committee, Government College of Arts & Science, Aurangabad
3. NSS Unit, Government College of Arts & Science, Aurangabad
4. NCC (Girls & Boys) Unit, Government College of Arts & Science, Aurangabad

In Collaboration with

Prerna Trust, NGO for Divyang, Aurangabad, Maharashtra

Government College of Arts and Science, Aurangabad and Prerna Trust, NGO for Divyang will organize collaborative activities in the field of extension, Outreach and skill development activities during the year 2020 to 2023.

It will be beneficial for both the institutions to work in the field of social sector and responsibility towards society. Students will also be benefitted through social activities as well as file making training as a part of skill development.

Principal
Government College of Arts & Science
Aurangabad (M.S.)

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Director,
Prerna Trust, NGO, A'bad
of Maharashtra

Coordinator, IQAC
Government College of Arts & Science, Aurangabad (GASCA)

1. In charge, Alumni Committee,
   GASCA

2. Programme Officer, NSS Unit
   GASCA

3. CTO, NCC Unit
   GASCA

4. Library, In charge
   GASCA

प्रेरणा ट्रस्ट औरंगाबाद

ISO CERTIFIED INSTITUTE
9001:2008 Certificate No.140821019156 Dt.21.08.2014
संचलित
निवासी अपंग प्रशिक्षण केंद्र (कार्यशाळा) औरंगाबाद
(महाराष्ट्र राज्य कौशल्य विकास परीक्षा मंडळ मान्यता क.एयूजी 113) सांकेतांक 170011.
आयुक्त, अपंग कल्याण, महाराष्ट्र राज्य, पुणे अनुज्ञाप्ती कमांक 0436 दि.28.4.99
Email : prernatrust1@gmail.com Website : preranatrust.org.in
रंगीन दरवाजा जवळ, सुभेदारी गेस्ट हाउस समोर, औरंगाबाद–431001. फोन नं.0240–2353311.

प्रति,

जा.क्र.प्रेट्रऔ / 1405 / 2021
दिनांक : 09 / 11 / 2021

मा. प्राचार्य,
शासकीय ज्ञान विज्ञान महाविद्यालय,
औरंगाबाद

विषय :– **वाचन प्रेरणा दिनानिमीत्त घेण्यात आलल्या पुस्तक पेटी योजने बाबत**
संदर्भ :– पत्र क्र.शाज्ञाविमऔ / ग्रंथालय / 2021–22 / 83 दि.12 / 10 / 2021

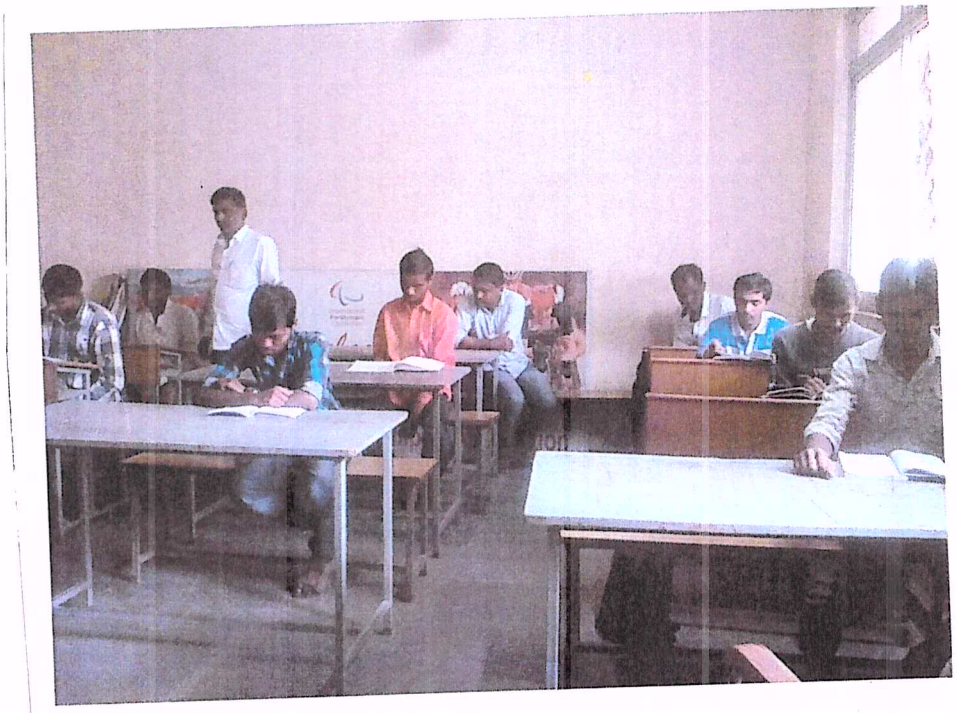
महोदय,

उपरोक्त संदर्भिय पत्रानुसार आपणास सविनय कळविण्यात येते की, वाचन प्रेरणा दिनानिमीत्त घेण्यात आलेल्या ''पुस्तक पेटी'' योजनेचा लाभ आमच्या कार्यशाळेतील सर्व दिव्यांग विद्यार्थ्यांना झालेला आहे.

राबविण्यात आलेला उपक्रम स्तुत्य असून यापुढेही वेळोवेळी राबविण्यात यावा जेणे करुन वाचन संस्कृतीचे संवर्धन करण्यास निश्चितच मदत होईल.

धन्यवाद !

आपला विश्वासु



MSBVE

Student Register

Admission Month July Year 2021

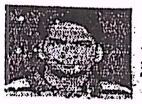
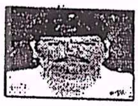
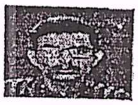
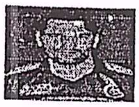
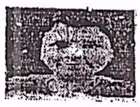
District Code 17 District NameAURANGABAD

Institute Code 170011 Institute NamePRERANA TRUST APANG KARYASHALA

Manyata/Renewation Number and Date: मरावप्रशिपम/का.२/स्थायी मान्यता/२००५-०६/४९२० दि. २७/८/२००७

Course Code & Name: 409203 HANDCRAFT & WORK EXPERIENCE TEACHER

Duration: 1 YEAR

No	Name Of Student	Sex	Education Qalification	Photo	Signature
	AVSARE NITIN LAXMAN अवसरे नितीन लक्ष्मण	M	HSC		
	BHAMARE SACHIN LAXMANRAO भामरे सचिन लक्ष्मणराव	M	HSC		
	CHAVAN ANITA RAMDHAR चव्हाण अनिता रामधान	F	HSC		
	CHAVAN ARUN SUKHADEV चव्हाण अरुण सुखदेव	M	HSC		
	DESHMUKH CHINMAY BABULAL देशमुख चिन्मय बाबुलाल	M	HSC		
	MAPARI GANESH DADASAHEB मापारी गणेश दादासाहेब	M	HSC		
	MAHALANKAR YASHWANT PRASHANTRAO महाळंकर यशवंत प्रशांतराव	M	HSC		
	MOMIN MOHD. DANISH MOHD. NASIM मोमीन मोहंमद दानीश मोहंमद नासीम मोहंमद	M	HSC		
	NEHRI SYED ZAINUDDIN AKBAR नेहरी सय्यद जैनुदीन अक्बर	M	HSC		
	PACHLORE GANESH DAULAT पचलोरे गणेश दौलत	M	HSC		
	PARDESHI RENUKA KAILAS परदेशी रेणुका कैलास	F	HSC		

प्रमाणित करण्यात येते की वरील
क्रं. ०१ ते ११ विदयार्थ्यांचे प्रवेश शैक्षणिक
अर्हतेनुसार असुन ते बरोबर आहेत.

प्राचार्य । संस्थाप्रमुख सही शिक्का

Principal
Prerana Trust Divyang Karyashala
Aurangabad.

प्रमाणित करण्यात येते की वरील
क्रं. ते विदयार्थ्यांचे शैक्षणिकअर्हतेनुसार
असल्याने संस्थेने केलेल्या प्रवेशास मान्यता आहे.

जिल्हा व्यवसाय शिक्षण व प्रशिक्षण अधिकारी
सही शिक्का

MSBVE

Student Register **Admission Month January Year 2022**

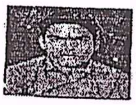
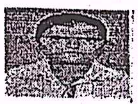
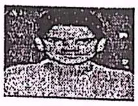
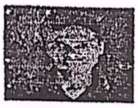
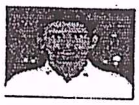
District Code 17 **District Name**AURANGABAD

Institute Code170011 **Institute Name**PRERANA TRUST APANG KARYASHALA

Manyata/Renewation Number and Date महाव्यशिपम/अ.प./स्थायी मान्यता/2005-06/4970 दि. 27/8/2007

Course Code & Name 302102 ELECTRICAL WIREMAN

Duration 6 MONTH

Sr.No	Name Of Student	Sex	Education Qalification	Photo	Signature
1	AGHAV AANAND DATTARAO आघाव आनंद दत्तात्रय	M	HSC		आघाव. आ.
2	BADAK NAGORAO RAMRAO बडक नागोराव रामराव	M	HSC		[illegible]
3	DHAKNE PARMESHWAR LAXMAN ढाकणे परमेश्वर लक्ष्मण	M	SSC		P.L. DHAKNE
4	DHEPLE VISHNU NARAYAN ढेपले विष्णु नारायण	M	SSC		Vishnu
5	HADOLE AMOL RAJENDRA हाडोले अमोल राजेंद्र	M	SSC		Amol
6	ROTHE RITESH RAMESH रोठे रितेश रमेश	M	SSC		रितेश रोठे
7	MATE BHAUSAHEB RAMESHWAR मते भाउसाहेब रामेश्वर	M.	VOCATIONAL		भाऊसाहेब
8	MAGRE AKASH DATTU मगरे आकाश दत्तु	M	BELOW SSC		आकाश
9	MORE SURESH RAMRAO मोरे सुरेश रामराव	M	HSC		[illegible]
10	MORE RAHUL BHIMRAO मोरे राहुल भिमराव	M	SSC		राहुल
11	PAWAR RAM RAGHUNATH पवार राम रघुनाथ	M	HSC		[illegible]

प्रमाणित करण्यात येते की वरील क्रं. 01 ते 11 विदयार्थ्यांचे प्रवेश शैक्षणिक अर्हतेनुसार असुन ते बरोबर आहेत.

[signature]

प्राचार्य / संस्थाप्रमुख सही शिक्का

Principal
Prerana Trust Divyang Karyashala
Aurangabad.

प्रमाणित करण्यात येते की वरील क्रं. ते विदयार्थ्यांचे शैक्षणिकअर्हतेनुसार असल्याने संस्थेने केलेल्या प्रवेशास मान्यता आहे.

जिल्हा व्यवसाय शिक्षण व प्रशिक्षण अधिकारी सही शिक्का

MSBVE

Student Register

Admission Month January Year 2022

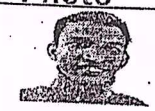
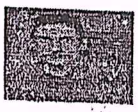
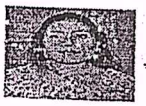
District Code 17 District NameAURANGABAD

Institute Code170011 Institute NamePRERANA TRUST APANG KARYASHALA

Manyata/Renewation Number and Date: मराव्यशिप्रप/का.२/स्थायी संलग्नता/2005-06/4970 दि.27/08/2007

Course Code & Name: 410121 TAILORING &CUTTING

Duration: 6 MONTH

Sr.No	Name Of Student	Sex	Education Qalification	Photo	Signature
1	ANSARI ABDUL MUDASSIR अंसारी अब्दुल मुदस्सीर	M	HSC		
2	BHOSALE NITESH RAVSAHEB भोसले नितेश रावसाहेब	M	SSC		
3	DAHALE JYOTI HEMANT डहाले ज्योती हेमंत	F	SSC		
4	DALIMBE SULAXNA NILKANTH दाळींबे सुलक्षणा निलकंठ	F	SSC		
5	DAREKAR CHHAYA DATTATRAY दरेकर छाया दत्तात्रेय	F	HSC		
6	DHONDKAR PRATIBHA KONDAJI धोंडकर प्रतिभा कोंडाजी	F	BELOW SSC		
7	JADHAV BHAGWAN MURLIDHAR जाधव भगवान मुरलीधर	M	BELOW SSC		
8	JADHAV SHASHIKALA KUNDLIK जाधव शशीकला कुंडलीक	F	HSC		
9	LAVHALE VARSHA KHUSHAL लव्हाळे वर्षा खुशाल	F	SSC		
0	NIKAM AMOL JANARDAN निकम अमोल जर्नाधन	M	SSC		
1	RATHOD NIRMALA SANDU राठोड निर्मला सांडू	F	DEGREE OR		

प्रमाणित करण्यात येते की वरील क्रं. 01 ते 11 विदयार्थ्यांचे प्रवेश शैक्षणिक अर्हतेनुसार असुन ते बरोबर आहेत.

प्राचार्य। संस्थाप्रमुख सही शिक्क्य

Principal
Prerana Trust Divyang Karyashala
Aurangabad.

प्रमाणित करण्यात येते की वरील क्रं. ते विदयार्थ्यांचे शैक्षणिकअर्हतेनुसार असल्याने संस्थेने केलेल्या प्रवेशास मान्यता आहे.

जिल्हा व्यवसाय शिक्षण व प्रशिक्षण अधिकारी
सही शिक्क्य

Activity Report

Date: 10 Oct 2019

Activities organized under Collaboration

Brief Description of an activity:

Faculties from both institute work in the field of Computer-Aided Drug Discovery. Vidya Bharati Mahavidyalaya, Amravati have an advance research infrastructure such as Computational Facility, Research Laboratory, etc. Collaborative research in the CADD Various Drug Discovery software namely PyDescriptor- PyMOL Plugin, etc. are being used. QSAR Modelling, Molecular Docking, Molecular Dynamic Simulation etc. CADD approached are deployed. Quality Research Articles are published in reputed journals of high impact factors

Details:

SN	Title of Collaborative Activity	Date and Year	Name of the Teacher/Researcher participated with college name
01	Extending the identification of structural features responsible for anti-SARS-CoV activity of peptide-type compounds using QSAR modelling	2020/9/1	**Dr. Vijay Masand.** Associate Professor Vidya Bharati Mahavidyalaya, Amravati And **Dr. Archana Chapolikar.** Assistant Professor Government College of Arts and Science, Aurangabad
02	Structure features of peptide-type SARS-CoV main protease inhibitors: Quantitative structure activity relationship study	2020/11/15	

Principal
Government College of Arts and Science,
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Principal
Vidya Bharati Mahavidyalaya,
Amravati

Principal
Vidya Bharati Mahavidyalaya
Amravati.

VIDYA BHARATI MAHAVIDYALAYA * AMRAVATI * College

Coordinator, IQAC
Government College of Arts and Science,
Aurangabad

Co-ordinator IQAC
Government College of Arts & Science, A'bad (M.S.)

Govt. College of Arts & Science * Aurangabad.

Coordinator, IQAC
Vidya Bharati Mahavidyalaya,
Amravati

Prof. P. G. BANSOD
Co-ordinator
Internal Quality Assurance Cell
Vidya Bharati Mahavidyalaya
Camp Amravati-444602 (M.S.)

Document for Collaborative Activities

Date:1-3-2019

Organization of Collaborative Activities regarding Assessment and Accreditation Process of NAAC under IQAC

Government college of Arts and Science, Aurangabad and Dr.(Sow).Indirabai Bhaskarrao Pathak Mhila kala Mahavidyalay, Aurangabad will organize collaborative activities in the field of Assessment and Accreditation of NAAC through IQAC. It will be beneficial for both the institutions to achieve excellence in the field of academic and educational administration.

Principal

Govement College Of Arts and Science,
Aurangabad (M.S)

Principal

Dr.(Sow).Indirabai Bhaskarrao
Pathak Mahila kala
Mahavidyalay, Aurangabad(M.S)

Coordinator,IQAC

Government College Of Arts and Science,
Aurangabad (M.S)

Coordinator,IQAC

Dr.(Sow).Indirabai Bhaskarrao
Pathak Mahila kala
Mahavidyalay, Aurangabad (M.S)

Activity Report

Guidance on NAAC preparation and documentation

Organized by

Dr.(Sow). Indirabai Bhaskarrrao Pathak Mahila Kala Mahavidyalay, Aurangabad

IQAC of Dr. Sow. I.B.P. Mahila Kala Mahavidyalay, Aurangabad organized a guidance session on NAAC preparation and documentation for the members of IQAC on 2nd March 2019 as a collaborative activity with Government College Of Arts & Science, Aurangabad.

The session began with the introduction and foreword by IQAC, Coordinator Dr. Saw. I.B.P. Mahavidyalaya, Aurangabad

Dr. Mrs. Yugandhara Topare, Coordinator IQAC was the resource person for training programme. IQAC members and office bearers were present for this training session.

Preparation and documentation during NAAC peer team visit were the issues addressed during the programme.

Brief Details of the programme are-

Sr. No	Collaborative activity	Date and Time	Speaker/Trainer	No. Of Participants
1.	Guest lecture	2-3-2019 3 pm	Dr. Yugandhara Topare	10

Principal
Dr.Sow.I.B.P.Mahial Kala Mahavidyalay
Aurangabad (M.S)

Coordinator, IQAC
Dr.Sow.I.B.P.Mahial Kala Mahavidyalay
Aurangabad (M.S)

Principal
Government College of Arts And Science,
Aurangabad (M.S)

Coordinator, IQAC
Government College of Arts And Science,
Aurangabad (M.S)

Dr. (Sow). I.B.P. Mahila Kala Mahaviday, A'bad.

List of Attendee

1) [signature]

Dr. M. N. Shigiriwar, — Staff - Teaching

[signature]

2) Dr. S. B. Chakranarayan — Staff - Teaching

[signature]

(Dr. S. A. Bajpai) — Staff - Teaching

4) [signature]

(Dr. Deo M.R.) — Staff - Teaching

5) [signature]

Dr. Premala Naukhedkar — Staff - Teaching

6) [signature]

Dr. Dodke R.S. — Staff - Teaching

7) Ms. Chaudhari [signature] — Staff - Teaching

Dr. P. S. Chaudhari

8) [signature]

Dr. Mahananda C. Dalvi

Asso Prof, Head, Dept. of English. — Staff - Teaching

) M.K. Joshi — [signature]

Acct

(Non-Teaching)

[signature]

PRINCIPAL

Dr. Sow. I.B.P.Mahila

Kala Mahavidyalaya

Aurangabad

Govt. College of Arts

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- State level Research paper competition (MoU – Mundhada college, Chandur Railway)

2) Nature of Activity & Date – 12th Febuary 2020

TYPE- Research activity

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To develop research attitude among the Sanskrit student world

6. Is the activity planned at the beginning of the session? - No

C. If yes, is it mentioned in the departmental calendar of the current academic year? - NA

7. Brief description about activity Conducted-

Students from various part of Maharashtra were participated in this competition and Prof. Nanda Puri, Dr. Kavita Hole were key speakers and Dr. Sambhaji Patil, Dr. Atish Kulkarni and Dr. Rupali Kavishwar were examiners in this research paper competition.

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 66 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) – frequent requests by participants to organized this event regularly

11. Total no. of students participated - 66

12. Total no. of girls' students participated- 45 Approximately

13. Total No. of females involved in the organization of activity - 04

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Govt. College of Arts & Science Aurangabad.

Dr. Meenakshi Bhandakkar
Mundhada college, Chnadur Railway,
Amravati

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Online State level lecture Series (MoU)

2) Nature of Activity & Date – 27th July to 3rd August 2020

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

1. **Increasing student's interest in the subject related to Sanskrit in this modern world**

6. Is the activity planned at the beginning of the session? - No

C. If yes, is it mentioned in the departmental calendar of the current academic year? - NA

7. Brief description about activity Conducted-

Due to pandemic situation online platform was used for this lecture series. Seven renowned resource persons of all over the Maharashtra had delivered different topics.

(Detailed day wise report is attached herewith)

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 450 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) – frequent requests by participants to organized this event regularly

11. Total no. of students participated - 330

12. Total no. of girls' students participated- 220 Approximately

13. Total No. of females involved in the organization of activity - 04

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Dr. Meenakshi Bhandakkar
Mundhada college, Chnadur Railway,
Amravati

Govt. College of Arts & Science Aurangabad.

महाराष्ट्र शासन

भारतीय प्रशासकीय सेवा पूर्व प्रशिक्षण केंद्र, औरंगाबाद

शासकीय ज्ञानविज्ञान महाविद्यालय परीसर, किले अर्क, सुभेदारी गेस्ट हाउस जवळ, औरंगाबाद

संचालक, डॉ व्हि. आर मोरे
Web : www.preias.aurangabad.org.in

दुरध्वनी क्रं. ०२४० २३३२२१०
E-mail Id: preiasaurangbad

जा. क्रं. प्रिआयएएस/२०१९-२०/137-38

दिनांक : २५/०४/२०१९

प्रति,
श्री आर.आर. मडकर,
सहायक प्रध्यापक,
इतिहास विभाग,
शासकीय ज्ञान विज्ञान महाविद्यालय,
औरंगाबाद.

विषयः- इतिहास या विषयाचे अध्यापन वर्ग घेणे बाबत..
संदर्भः- जा.क्र. आस्था-१/२०१८-१९/८१६/१९ दि. १२/०४/२०१९

उपरोक्त संदर्भीय विषयी नुसार इतिहास या विषयाचे मार्गदर्शनपर व्याखांना करीता आपले नाव मा. प्राचार्य, शासकीय ज्ञान विज्ञान महाविद्यालय, औरंगाबाद यांनी कळविले आहे. त्या अनुषंगाने दि. २५/०४/२०१९ पासुन स. ९.०० ते ११.०० या वेळेत इतिहास या विषयाचे या संस्थेतील प्रशिक्षणार्थ्यांना आपले अमुल्य मार्गदर्शनपर व्याख्यान अयोजित करण्यात आले अहे.

तरी दिलेल्या वेळेत आपण अभ्यासक्रम संपे पर्यंत व्याख्यान घ्यावे. हि विनंती.

संचालक
भारतीय प्रशासकीय सेवा पुर्व प्रशिक्षण केंद्र
औरंगाबाद

प्रत,
मा. प्राचार्य, शासकीय ज्ञान विज्ञान महाविद्यालय, औरंगाबाद याना माहितिस्तव सविनय सादर

Govt. College of Arts & Science Aurangabad

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महाराष्ट्र शासन

भारतीय प्रशासकीय सेवा पूर्व प्रशिक्षण केंद्र,औरंगाबाद.

शासकीय ज्ञान विज्ञान महाविद्यालय परिसर,किलेअर्क औरंगाबाद-४३१००१

संचालक :- डॉ . वि.रा.मोरे
दुरध्वनी क्र ०२४०-२३३२२१०
Web - www.preiasaurangabad.ac.in
email- preiasaurangabad@gmail.com

जा.क्र.भा.प्र.से.प्र.के/औबा/आस्था/लेखा/२०१९/ दिनांक-३१/८/२०१९

प्रति,

श्री.आर.आर.मडकर,
सहाय्यक प्राध्यापक, इतिहास विभाग,
शासकीय ज्ञान विज्ञान महाविद्यालय,
औरंगाबाद.

विषय :- इतिहास विषाचे अध्यापन वर्ग घेणे बाबत.

संदर्भ :- जा.क्र.आस्था-१/२०१८-१९/८१६/१९ दि.१२.४.२०१९

महोदय,

उपरोक्त संदर्भिय विषयानुसार इतिहास या विषयाचे मार्गदर्शनपर व्याख्यान घेण्याकरीता अपले नांव मा. प्राचार्य शासकीय ज्ञान विज्ञान विद्यालय औरंगाबाद यांनी कळविले आहे. त्या अनुषंगाने दि.३.९.२०१९ रोजी १०.०० ते १.०० तसेच ६.९.२०१९ व दि.१३.९.२०१९ रोजी सकाळी १.०० ते ३.०० या वेळेत व या पुढेही इतिहास या विषयाचे या संस्थेतील प्रशिक्षणार्थ्यांना आपले मार्गदर्शनपर व्याख्यान आयोजित करण्यात आले आहे.

तरी दिलेल्या वेळेत आपण अभ्यासक्रम संपेपर्यंत व्याख्यान घ्यावे. ही विनंती.

(डॉ. वि.रा.मोरे)
प्र.संचालक
भारतीय प्रशासकीय सेवा पूर्व प्रशिक्षण केंद्र,
औरंगाबाद.

प्रत,

मा.प्राचार्य, शासकीय ज्ञान विज्ञान महाविद्यालय औरंगाबाद.

Govt. College of Arts & Science Aurangabad

RUPESH R. MADKAR
Assistant Professor
Dept. of History
Government College of Arts
& Science, Aurangabad.

महाराष्ट्र शासन
उच्च शिक्षण विभाग
भारतीय प्रशासकीय सेवा पुर्व प्रशिक्षण केंद्र औरंगाबाद
शासकीय ज्ञानविज्ञान महाविद्यालय परीसर, किलेअर्क औरंगाबाद-४३१००१
संचालक- डॉ.वसंत.रा.शेडगे
दुरध्वनी क्र.०२४० २३३२२१०
Web-www.preiasaurangabad.ac.in
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जा.क्र.भा.प्रसे.प्र.के/औबा/आस्था/लेखा/२०२२/149 दि.०९.११.२०२२

प्रमाणपत्र

प्रमाणीत करण्यात येते की, भारतीय प्रशासकीय सेवा पूर्व प्रशिक्षण केंद्र, औरंगाबाद. येथील सन २०१९ या शैक्षणीक वर्षातील प्रवेशित विद्यार्थ्यांना दिनांक २५/०४/२०१९ रोजी रूपेश मडकर यांनी इतिहास विषायावरिल चार मार्गदर्शनपर सत्र घेतली.

तसेच दिनांक ०३/०९/२०१९ व ०६/०९/२०१९ आणि १३/०९/२०१९ या कालावधी मध्ये रूपेश मडकर यांनी इतिहास विषायावरिल चार मार्गदर्शनपर सत्र घेतली.

करीता प्रमाणित करण्यात येत आहे.

दिनांक :- ०९/११/२०२२

(डॉ.वसंत.रा.शेडगे)
प्र.संचालक
भारतीय प्रशासकीय सेवा पूर्व
प्रशिक्षण केंद्र औरंगाबाद

Govt. College of Arts & Science Aurangabad

RUPESH R. MADKAR
Assistant Professor
Dept. of History
Government College of Arts
& Science, Aurangabad.

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

महाराष्ट्र शासन

भारतीय प्रशासकीय सेवा पूर्व प्रशिक्षण केंद्र, नाशिक

PRE IAS TRAINING CENTRE, NASHIK

यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ आवार, गंगापूर धरणाजवळ, नाशिक ४२२ २२२

Web : iasnasik.org.in दुरध्वनी व फॅक्स : ०२५३-२२३०१०० E-Mail : iasnasik@gmail.com

जा.क्र.प्री-आयएएसना/आस्था/आभार/२०१९-२०/ 303 दिनांक-०५.१२.२०१९

आभार पत्र

प्रस्तूत प्रशिक्षण केंद्रातील प्रशिक्षणार्थी विद्यार्थ्यांना मार्गदर्शन करण्याकरिता आपणास निमंत्रित करण्यात आले होते. त्यानुसार आपण या प्रशिक्षण केंद्रात दिनांक ०४/०५ डिसेंबर, २०१९ रोजी **भारतीय इतिहास : कला व संस्कृती** या विषयावर व्याख्यान दिले.

आपल्या व्याख्यानाव्दारे प्रशिक्षण संस्थेतील प्रशिक्षणार्थी विद्यार्थ्यांना प्रशिक्षणाच्या दृष्टीने मदत झाली. त्याबद्दल हे प्रशिक्षण केंद्र आपले आभारी आहे !

(डॉ. भारती एम. सानप)
संचालक,
भारतीय प्रशासकीय सेवा पूर्वप्रशिक्षण केंद्र, नाशिक.

PRE IAS TRAINING CENTRE, NASHIK

प्रति :

१. रुपेश रमेश मडकर,
सहायक प्राध्यापक (इतिहास विभाग),
शासकीय ज्ञान विज्ञान महाविद्यालय, औरंगाबाद.

२. निवडनस्ती (आस्थापना शाखा)

RUPESH R. MADKAR
Assistant Professor
Dept. of History
Government College of Arts
& Science, Aurangabad.

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Govt. College of Arts and Science, Aurangabad

Department of Psychology

Report of "Study Habit and Measurement Program" And "Inauguration of Psychology Association"

It is giving immense pleasure to me to submit this report of the programme of "Study habit and Measurement". As per the Principal's suggestions and member of the department of Psychology have decided to organize a programme for providing facility of study habit testand guidance for junior and senior college students. The program was organized by Dept. of Psychology and collaboration with Finix Counselling Center without any financial supported. The program was conducted on 30th August 2018. The programme was free for all participants. There are 30 students actively participated in the programme.

On the 30th August 2018 the programme was inaugurated by Hon Principal mam Dr Rohini Pandhare-Kulkarni. First inauguration of Psychology Bulletin and second new member of the psychology association were honored by Principal of college. The chief gust of the programme was Dr. Pushpa Bhagyawant former head of the dept. Dr. Pushpa Bhagyawantdelivered speech on study habit and tells us how to improved and developed study habit. The programme was conducted by Prof. N. N. Lad. Prof . V. K. Shelke. and Dr. R. S. Kale very impressively, effectively and successfully. Various responsibilities of the programme was handled by Prof. Kale, Gorale, Tomar, Bahirat, Rathod and Dr. Patil. Also students of the department voluntarily shared different responsivities to make it successful.

Shelke
7.1.2019

Head, Department of Psychology

Govt. College of Arts and Science,
Aurangabad

HEAD (I/c)
DePT. OF PSYCHOLOGY
Govt. College of Arts and Science
Aurangabad (M.S.)

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT COLLEGE OF ARTS AND SCIENCE, KILLE-ARK, AURANGABAD
431001

Department of Psychology organized one day Workshop

On

Understanding & Developing Emotional Intelligence

FEEDBACK FORM

Name:_____

Class/Department:_____

College/University:_____

I express my opinion about the workshop as follows:

1) Content Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

2) Perception Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

3) Conceptual Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

4) Usefulness Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

5) Expectations Fulfilled Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

6) Overall Impact Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

7) Arrangements Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

8) Any Other

Remark:_____

_____

_____

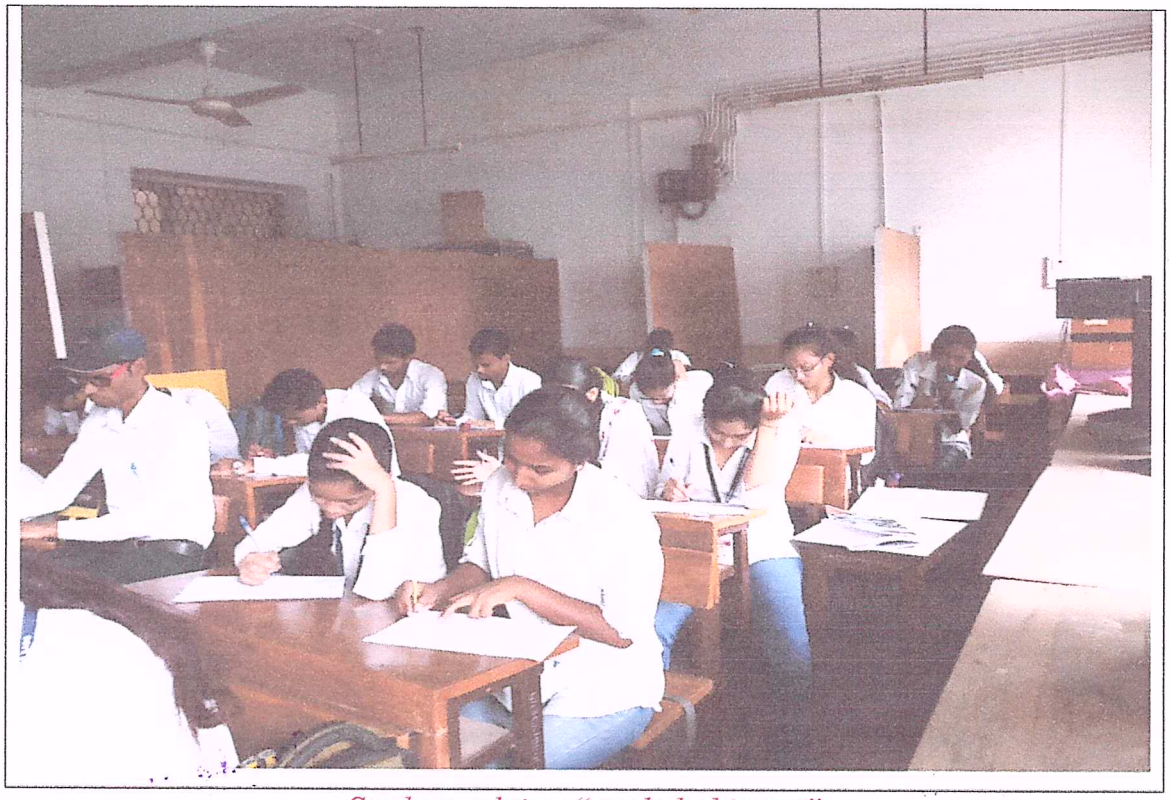
Govt. College of Arts & Science Aurangabad

Signature

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Programme on "Study Habit and Measurement"

Delivered a speech on "Study habit" by Dr.Pushpa Bhagyawant



Student solving "study habit test"

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Govt. College of Arts and Science, Aurangabad

Department of Psychology

Report of one day workshop on "Understanding and Developing Emotional Intelligence"

It is giving immense pleasure to me to submit this report of the programme of "Study habit and Measurement". As per the Principal's suggestions and member of the department of Psychology have decided to organize a workshop on emotional intelligence. It was thoroughly discussed and finally it was structure as "Understanding and Developing Emotional Intelligence". This workshop wad organized without any financial assistance from the college and fully self-funded. Asst. Prof. V. K. Shelke was a main organizer of the workshop and the convener of the workshop was Principle of college. All the organizational requirements of the workshop including workshop kit, tea and lunch etc. to the participant were met from the registration fees. Teaching staff, UG, PG and research students were selected as a target group of participant. Registration of the participation was done through telephonic communication and finalized on the spot. Workshop has got huge responsible of the participants. The registration reached to one hundred eighty three participants. U.G, P.G. and research students as well as research guide, teaching staff from various faculties coming from all districts of Maharashtra were included in the participants.

On the 22nd December 2018 workshop was inaugurated by Dr. Pushpa Bhagyawantformer head of the dept. She delivered inauguration speech of the workshop. The convener and president of workshop was Hon PrincipalDr Rohini Pandhare-Kulkarni. The resources person of workshop was Dr. Neelam Deshmukh, former Head of Psychology, Govt. Institute of Science and Humanities, Amravati. The workshop conducted in two session. Both session conducted very impressively, effectively and successfully by Dr. Neelam Deshmukh. The workshop was very effectively and successfully organized by Prof. V. K. Shelke and Dr. R. S. Kale. The various responsibilities of registration and other aspect of workshop very systematically handled by PrernaBahirat, KalpnaTomar, Dr. TriveniPatil, Kavita Kale.

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT COLLEGE OF ARTS AND SCIENCE, KILLE-ARK, AURANGABAD
431001

Department of Psychology organized one day Workshop

On

Understanding & Developing Emotional Intelligence

FEEDBACK FORM

Name:_____

Class/Department:_____

College/University:_____

I express my opinion about the workshop as follows:

1) Content	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
2) Perception	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
3) Conceptual	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
4) Usefulness	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
5) Expectations Fulfilled	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
6) Overall Impact	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )
7) Arrangements	Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

8) Any Other

Remark:_____

_____

_____

Signature

MunniRathod and SitaGorale. Also students of the department voluntarily shared different responsivities to make it successful.

Analysis of Feedback:-

In feedback from there are four categories of responses from participants these are poor satisfactory, good and excellent. One hundred eighty three participants had given the feedback for workshop. Analysis of feedback forms shows the following results:

Response category	Poor	Satisfactory	Good	Excellent
No of Participants = 183	00	11	70	102
Percentage [%]	00	6.01%	38.25%	55.74%

From above table shows that overall feedback 11% participants told that workshop was satisfactory, 38.25 % participants told that workshop was good and 55.74% participants told that workshop was excellent. Most of participants say that workshop was very nice, good best and excellent. Some participants say that the workshop was very useful and knowledgeable for us. Some participants say that thank for searching this workshop for us. Most of participants were satisfactory for expert lecture.

Bhelke
1.7.19

Head, Department of Psychology
Govt. College of Arts and Science.
Aurangabad

HEAD (Fde)
DePT. OF PSYCHOLOGY
Govt. College of Arts and Science
Aurangabad (M.S.)

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT COLLEGE OF ARTS AND SCIENCE, KILLE-ARK, AURANGABAD 431001

Department of Psychology organized one day Workshop

On

Understanding & Developing Emotional Intelligence

FEEDBACK FORM

Name:_____

Class/Department:_____

College/University:_____

I express my opinion about the workshop as follows:

1) Content Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

2) Perception Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

3) Conceptual Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

4) Usefulness Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

5) Expectations Fulfilled Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

6) Overall Impact Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

7) Arrangements Poor ( ) Satisfactory ( ) Good ( ) Excellent ( )

8) Any Other

Remark:_____

_____

_____

Govt. College of Arts & Science Aurangabad

Signature

PRINCIPAL

Govt. College of Arts & Science
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Vasantrao Naik Shikshan Prasarak Mandal,Aurangabad's
Vasantrao Naik Mahavidyalaya
CHIKALTHANA ROAD, AURANGABAD – 431 003.
NAAC Reaccredited 'B' Grade

Office : 248232
650717
Resi. : 237107
Fax/ Sec : (0240) 2482652
Fax / College : (0240) 248232
E-mail : naikcollege@rediffmail.cor
Website : www.naikcollege.or

President
Rajaramji Rathod

Secretary
Nitinji Rathod

I/C Principal
Dr. Jagdish V Bharad

Ref.No./VNMA/ 2020-21

Date: 29/7/2020

To,
Dr. Ajaykumar Gandhi,
Dept. of Chemistry
Govt. college of Arts and Science
Aurangabad.

Subject: Guest lecture in our College under **Faculty Exchange Programme.**

Sir,

It gives us immense pleasure that you have delivered online lectures on **'e-content development in teaching learning process'** for staff and students on 27-28 July 2020 under Faculty Exchange Programme. As our Institutions signed MOU, we expect the same cooperation from you in future too.

Thanking you.

Yours Faithfully

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Vasantrao Naik Shikshan Prasarak Mandal, Aurangabad

Vasantrao Naik Mahavidyalaya

AIRPORT ROAD, AURANGABAD - 431 003.
NAAC Reaccredited 'B++' Grade

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E-mail : naikcollege@rediffmail.com
vnmacollege@gmail.com
Website : www.naikcollege.org

President
Rajaramji Rathod

Secretary
Nitinji Rathod

Principal
Prof.(Dr.) Anand V. Chaudhary

Ref. No. / VNMA / 2022-23 / 2792 (6) Date : 30/11/2022

To,
Dr. A. D. Chapolikar
Research Guide, Govt. College
of Arts & Science, Aurangabad.

Subject :- About DRC Meeting in Chemistry.

Sir / Madam,

With reference to the above subject, the DRC meeting in Chemistry at our research centre for forwarding progress reports of research students is organized on 03.12.2022 (Saturday) at 2.00 p.m. in Department of Chemistry of Vasantrao Naik Mahavidyalaya, Aurangabad.

You are requested to attend the DRC meeting on 03.12.2022 at 2.00 p.m.

Thanking you,

Yours faithfully,

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Govt. College of Arts & Science ★ Aurangabad ★

Vasantrao Naik Shikshan Prasarak Mandal, Aurangabad's
Vasantrao Naik Mahavidyalaya
AIRPORT ROAD, AURANGABAD - 431 003.
NAAC Reaccredited 'B++' Grade

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6507174
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E-mail : naikcollege@rediffmail.com
vnmacollege@gmail.com
Website : www.naikcollege.org

President
Rajaramji Rathod

Secretary
Nitinji Rathod

I/c Principal
Dr. Jagdish Bharad

Ref. No. / VNMA/ 2021-22

Date: 21/1/2022

To,
Dr. A. D. Chapolikar,
Head, Dept. of Chemistry
Govt. college of Arts and Science
Aurangabad.

Subject: Guest lecture in our College under **Faculty Exchange Programme.**

Sir,

It gives us immense pleasure that you have delivered online lecture on 'Spectroscopic Techniques ' for B. Sc. T.Y. students on 20 January and 21 January 2022 under Faculty Exchange Programme. As our Institutions signed MOU, we expect the same cooperation from you in future too.

Thanking you.

Yours Faithfully

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Govt. College of Arts & Science Aurangabad.

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Vasantrao Naik Shikshan Prasarak Mandal, Aurangabad's
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President
Rajaramji Rathod

Secretary
Nitinji Rathod

I/c Principal
Dr. Jagdish Bharad

Ref. No. / VNMA/ 2021-22

Date: 21/1/2022

To,
Dr. A. D. Chapolikar,
Head, Dept. of Chemistry
Govt. college of Arts and Science
Aurangabad.

Subject: Guest lecture in our College under **Faculty Exchange Programme.**

Sir,

It gives us immense pleasure that you have delivered online lecture on 'Spectroscopic Techniques ' for B. Sc. T.Y. students on 20 January and 21 January 2022 under Faculty Exchange Programme. As our Institutions signed MOU, we expect the same cooperation from you in future too.

Thanking you.

Yours Faithfully

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

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President
Rajaramji Rathod

Secretary
Nitinji Rathod

I/C Principal
Dr. Jagdish V Bharad

Ref.No./VNMA/ 2020-21

Date: 11/3/2021

To,
Dr. A. D. Chapolikar,
Head, Dept. of Chemistry
Govt. college of Arts and Science
Aurangabad.

Subject: Guest lecture in our College under Faculty Exchange Programme.

Sir,

It gives us immense pleasure that you have delivered online lecture on 'Spectroscopic Techniques ' for B. Sc. T.Y. students on 11 March 2021 under Faculty Exchange Programme. As our Institutions signed MOU, we expect the same cooperation from you in future too.

Thanking you.

Yours Faithfully

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Vasantrao Naik Shikshan Prasarak Mandal, Aurangabad

Vasantrao Naik Mahavidyalaya

AIRPORT ROAD, AURANGABAD - 431 003.
NAAC Reaccredited 'B++' Grade

President	Secretary	Principal
Rajaramji Rathod	Nitinji Rathod	Prof.(Dr.) Anand V. Chaudhary

Ref. No. /VNMA/ 2022-23 Date : 16.11.2022

To,
Dr. Archana D. Chapolikar
Head, Dept of Chemistry
Govt. College of Arts & Science
Aurangabad.

Dear Sir/Madam,

You are appointed as an External Examiner in the subject Chemistry at the B.Sc. I / II / III year practical examination October / November 2022 scheduled on 16.11.2022 and 17.11.2022.

Time 10.00 a.m. to 04.00 p.m.

Kindly convey your acceptance

Thanking you,

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Sanskrit Dina – Sanskrit shobhayatra (Collaboration with NSS unit)

2) Nature of Activity & Date – 1st September 2018

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To give a broad view of Sanskrit to the young generations

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Sanskrit Shobhayatra was organized from college campus to collector office

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 134 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) –

11. Total no. of students participated - 134

12. Total no. of girls' students participated- 85 Approximately

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Sanskrit Dina (MoU)

2) Nature of Activity & Date – 14th August 2019

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To give a broad view of Sanskrit to the young generations

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Guidance of renowned Sanskrit Scholars -Pt. Gulama Dastageer & Dr. Jyoti Dasharathi

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 224 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) –

11. Total no. of students participated - 224

12. Total no. of girls' students participated- 167 Approximately

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
Aurangabad

Govt. College of Arts & Science
Aurangabad

Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Kalidasa Dina

2) Nature of Activity & Date – 3rd July 2019

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

1. **Increasing student's interest in the Sanskrit Literature**

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. **Brief description about activity Conducted-**

Lecture of Dr. Pandhare – Kulkarni

8. **Resources used for activity (Economic/non-economic) -**

Non economic

9. Output of the activity- 12 beneficiaries (Due to pandemic situation number is less)

10. Feedback (Brief quantitative description and suggestions by participants if any) – NIL

11. Total no. of students participated - 12

12. Total no. of girls' students participated- 10

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

9. Output of the activity- 60 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) –

11. Total no. of students participated - 60

12. Total no. of girls' students participated- 35 Approximately

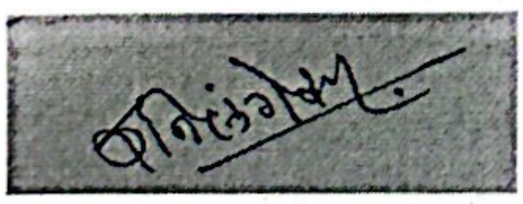
13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
Aurangabad



Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Kalidasa Dina (MoU)

2) Nature of Activity & Date – 21st June 2020

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

1. **Increasing student's interest in the Sanskrit Literature**

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. **Brief description about activity Conducted-**

Lecture of Prof. Gauri Mahulikar on Meghadootache Antaranga (Vice – chancellor of Chinmaya Vishwavidyalaya, Kerala was arranged on this occasion.)

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 1222 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) – NIL

11. Total no. of students participated - - (it was facebook live)

12. Total no. of girls' students participated- - -

13. Total No. of females involved in the organization of activity - 02

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Facebook link - https://fb.watch/jM0-3nuYv0

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science
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PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Kalidasa Dina (MoU)

2) Nature of Activity & Date – 12th July 2021

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

1. **Increasing student's interest in the Sanskrit Literature**

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Lecture of Dr. Prasad Bhide on kalidasaachya Kalatila natyatmakata was arranged on this occasion.)

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 657 beneficiaries (100 on google meet)

10. Feedback (Brief quantitative description and suggestions by participants if any) – NIL

11. Total no. of students participated - - (it was youTube live)

12. Total no. of girls' students participated- - -

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

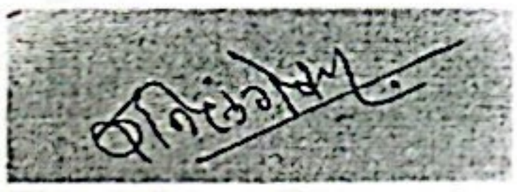
You Tube Link -
https://www.youtube.com/live/8PjlBMY3yiQ?feature=share

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Govt College of Arts & Science Aurangabad.



Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

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ACTIVITY REPORT

1) Title of Activity- Sanskrit Dina - Sanskrit Srujanotsava – State Level various competitions (MoU)

2) Nature of Activity & Date – August 2021

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To give a broad view of Sanskrit to the young generations

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Online various Sanskrit competitions

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 60 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) –

11. Total no. of students participated - 60

12. Total no. of girls' students participated- 35 Approximately

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
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Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Sanskrit Dina - Sanskrit Srujanotsava – State Level various competitions (MoU)

2) Nature of Activity & Date – August 2021

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To give a broad view of Sanskrit to the young generations

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Online various Sanskrit competitions

8. Resources used for activity (Economic/non-economic) -

Non economic

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
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Aurangabad

Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

Govt. College of Arts & Science Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

IQAC

ACTIVITY REPORT

1) Title of Activity- Sanskrit Dina (MoU)

2) Nature of Activity & Date – 25th August 2022

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

To give a broad view of Sanskrit to the young generation

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Lecture of Dr. Rupali Kavishwar on overview of Sanskrit all over the Maharashtra

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 300 beneficiaries

10. Feedback (Brief quantitative description and suggestions by participants if any) –

11. Total no. of students participated - 330

12. Total no. of girls' students participated- 176 Approximately

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission. Maintain all the documents at department/committee level also)

Dr. Pankaja Madhav Waghmare
H.O.D. Sanskrit
Govt. College of Arts and Science,
Aurangabad

Principal
Govt. College of Arts and Science,
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PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Dr. Ajay Nilangekar
President, Sanskrit Pratisthanam,
Aurangabad

Govt. College of Arts & Science Aurangabad.

Government of Maharashtra

Government College Of Arts & Science, Aurangabad

Phone No. 0240-2331476 gasca1923@gmail.com Fax No. 0240-2331476

Dated

Government College of Art and Science , Aurangabad

Notice

All the students of B.sc I,II,III are hereby inform that the Department of Zoology has organised, MOU - under **State Level Webinar** Dated on :- 19/05/2024 the interested students those who want to participate contact Department of Zoology.

Date -

Venue –

Signature of HOD

Govt. College of Arts & Science Aurangabad.

Signature of Principal

Govt. College of Arts & Science Aurangabad

Dated

IQAC

ACTIVITY REPORT Department Of Zoology

1) Title of Activity:MOU under State Level Webinar, Date:19/05/2021

2) Nature of Activity- A

A) Curricular (Academic) OR

B) Co curricular (supporting to academics) OR

C) Extracurricular (e.g. Sports/cultural/Elocution/Youth Festivals/NCC/NSS/earn & learn etc)

3) Name of the Department/Committee- ZOOLOGY

4) Activity coordinator/In charge- Dr. Mrs. S.A.Saraf

5) Objectives of Activity-

1.To explore the enterprunership.

2.Student are knowing the production of silk.

6. Is the activity planned at the beginning of the session? --YES----------

C. If yes, is it mentioned in the departmental calendar of current academic year?

---Octoer to Jan 2021----------

7. Brief description about activity Conducted –. Webinar allow you to offe your audience value right away. With a wbinar leaders can impart the right knowledge,training,and expertise.It also builds a relationship and a rapport by giving value first.taht in turn creates a loyal community,leading to sales.

* B.Sc.1 st,2nd,3rd YEAR students participate every year done by the dept.

*Many other zoology topics cover the students.

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

9. Output of the activity-To intrest in the subject and to work on this.

10. Feedback-

11. Total no. of students participated-=20

12. Total no. of girls students participated – 12

13. Total No. of females involved in the organization of activity -04

14. Problems encountered-

(Pl submit list of students, photographs, letters related with activity (if any) in soft and hard copy while submission)

Pl maintain record of activity reflecting it in minutes of dept. meetings, action plan of the department, dept. calendar and action taken report)

Dr.Mrs.S.A.Saraf

Name & Signature

Activity Coordinator

Govt. College of Arts & Science Aurangabad

Dr.Mrs.S.A.Saraf

Name & Signature

HOD/ In charge of the committee

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

D.A.V. College Trust and Management Society, New Delhi

DBF DAYANAND COLLEGE OF ARTS & SCIENCE, SOLAPUR

NAAC Reaccredited 'B++' Grade College with Potential for Excellence ISO 9001: 2015 Best College 2017 by SUS AAA Rank # 1 Clean College – Green College 2018

DEPARTMENT OF ZOOLOGY

Organizing State Level Webinar on "Biodiversity and Conservation"

DAYANAND WEBINAR SERIES - 47 IN COLLABORATION WITH OUR MOU UNDER

Date: Saturday 22/05/2021
Time: 4.00 pm

Government College of Arts and Science, Aurangabad
S.M. Dnyandeo Mohekar Mahavidhyalaya, Kallamb Dist: Osmanabad
Lokmangal Biotechnology College, Wadala, Solapur
V. G. Shivdare College of Arts, Commerce and Science, Solapur

Webinar Link:
https://meet.google.com/oad-vzti-zn

Prof. (Dr.) L.B. Dama
Head, Dept. of Zoology

Guest: Dr. Nitin Raut,
Nagpur

Guest: Dr. Ramesh Chondekar
Aurangabad

Prof. (Dr.) V. P. Ubale
Principal

Organizing Committee

Prof. (Dr.) V.V. Shagalolu
(Co-Ordinator)

Prof. (Dr.) L.B. Dama
(Convener, Head Dept of Zoology)

Prof. (Dr.) V. P. Ubale
(Principal)

Dr. L.C. Mushan Dr. R.K. Dawake Dr. S.B. Kinagi Dr. M.B. Varade

Registration :
https://docs.google.com/forms/d/e/1FAIpQLSfKO_Hs2gWcZXRS5kYLuY3VN_Kss3GZNVdXjgizNtvPoMKnPA/viewform?usp=sf_link

Govt. College of Arts & Science Aurangabad

PRINCIPAL
Govt. College of Arts & Science
Aurangabad

Activity Report

Training Programme for Program for faculty development

Collaborative Activity Organized by

Vasantrao Naik Mahavidyalaya, Aurangabad

IQAC of Vasantarao Naik Mahavidyalay, Aurangabad organized one day training programme on the preparation and documentation during NAAC visit for the members of IQAC on 12th September 2017 as a collaborative activity with Government College Of Arts & Science, Aurangabad.

The session began with the introduction and foreword by IQAC, Coordinator Vasantrao Naik Mahavidyalay.

Dr. Mrs. Yugandhara Topare, Coordinator IQAC was the resource person for training programme. IQAC members and office bearers as well as management members were present for this training session.

Preparation and documentation during NAAC peer team visit were the issues addressed during the programme.

Brief Details of the programme are-

Sr. No	Collaborative activity	Date and Time	Speaker/Trainer	No. Of Participants
1.	Training Programme for faculty development	12-9-2017 11.30 am	Dr. Yugandhara Topare	15

Principal

Vasantrao Naik Mahavidyalaya ,

Aurangabad

Coordinator, IQAC

Vasantrao Naik Mahavidyalay,

Aurangabad

Principal

Government College of Arts & Science,

Aurangabad

Coordinator, IQAC

Government College of Arts & Science,

Aurangabad

Document for Collaborative Activities

Date:11-9-2017

Organization of Collaborative Activities regarding Assessment and Accreditation Process of NAAC under IQAC

Government college of Arts and Science, Aurangabad and Vasantrao Naik Mahavidyalaya , Aurangabad will organize collaborative activities in the field of Assessment and Accreditation of NAAC through IQAC. It will be beneficial for both the institutions to achieve excellence in the field of academic and educational administration.

Principal
Government College Of Arts and Science,
Aurangabad

Principal
Vasantrao NaikMahavidyalaya,
Aurangabad

Coordinator,IQAC
Government College Of Arts and Science,
Aurangabad

Coordinator,IQAC
Vasantrao NaikMahavidyalaya,
Aurangabad

वसंतराव नाईक महाविद्यालय, औरंगाबाद दिनांक :२४ -८-२०१७

सू च ना

महाविद्यालयातील आय.क्यु.ए.सी सदस्य व शिक्षकेतर सहकारी यांना सूचित करण्यात येते, दिनांक २५-८-२०१७ रोजी नॅक पहाणी संदर्भात करावयाची तयारी संदर्भात दुपारी ३ वाजता सभागृहात आयोजित करण्यात आली आहे. मार्गदर्शनपर व्याख्यान आयोजित केले आहे. सर्वानी उपस्थित रहावे.

प्राचार्य
वसंतराव नाईक महाविद्यालय
औरंगाबाद.

वरिष्ठ महाविद्यालयीन शिक्षक वर्ग

अ.क्र.	शिक्षकाचे नांव	स्वाक्षरी	अ.क्र.	शिक्षकाचे नांव	स्वाक्षरी
1	श्रीमती गीता शरद कावळे		14	डॉ. बालाजी काशिनाथ जोकरे	
2	डॉ. संजयकुमार काशिनाथराव सूर्यवंशी		15	डॉ. अमसिध्द चंद्रशा सन्नके	
3	प्र.प्राचार्य डॉ. जगदीश विश्वभर भराड		16	प्रा.डॉ. वीणा मच्छिंद्र कांबळे	
4	डॉ. जयश्री विनायकराव पाटील		17	डॉ. विकास मोतीराम चौधरी	
5	डॉ. जयश्री जलसिंह चामरगोरे		18	डॉ. हनुमान मुंजाप्पा वांकर	
6	डॉ. महेश प्रभाकर कुलथे		19	डॉ. सत्यजित भगवानराव पगारे	
7	श्रीमती मनिषा हरीष घोगरे		20	डॉ. देवराज कोंडीबा दराडे	
8	प्रा.डॉ. संजय दासू शिंदे		21	डॉ. गजानन रामराव हनवते	
9	प्रा.डॉ. विक्रम चंद्रकांतराव खिलारे		22	डॉ. चंद्रकांत मुकुंदराव चोरघडे	
10	प्रा.डॉ. कमलेश त्रिबंकराव महाजन		23	डॉ. सुनिता भीमराव राठोड	
11	प्रा.डॉ. अनिल रानबा जामकर		24	डॉ. वसंत नागोराव हारकळ	
12	प्रा.डॉ. शिवचरण प्रभाकर गिरी		25	डॉ. स्नेहलता रविंद्र अंकाराम	
13	प्रा.डॉ. बालाजी राजेंद्र माडजे		26	प्रा.डॉ. मधुकर बळीराव साळूंके	

Govt. College of Arts & Science Aurangabad.

Activity Report

Workshop on Assessment and Accreditation of HEI (Revised guidelines of NAAC)

Collaborative Activity Organized by

Vasantrao Naik Mahavidyalaya, Aurangabad

IQAC of Vasantarao Naik Mahavidyalay, Aurangabad organized one day workshop on Assessment and Accreditation of HEI (Revised guidelines of NAAC) for the members of IQAC on 30th December 2017 as a collaborative activity with Government College of Arts & Science, Aurangabad.

The session began with the introduction and foreword by IQAC, Coordinator Vasantrao Naik Mahavidyalay.

Dr. Mrs. Yugandhara Topare, Coordinator IQAC was the resource person for workshop. IQAC members and office bearers as well as management members were present for this training session.

New NAAC methodology on Assessment and Accreditation was addressed during the programme.

Brief Details of the programme are-

Sr. No	Collaborative activity	Date and Time	Speaker/Trainer	No. Of Participants
1.	Workshop on Assessment and Accreditation of HEI(Revised guidelines of NAAC)	30-12-2017 3 pm	Dr. Yugandhara Topare	15

Principal

Vasanrao Naik Mahavidyalay ,

Aurangabad

Coordinator, IQAC

Vasanrao Naik Mahavidyalay,

Aurangabad

Principal

Government College of Arts & Science,

Aurangabad

Coordinator, IQAC

Government College of Arts & Science,

Aurangabad

Document for Collaborative Activities

Date:11-9-2017

Organization of Collaborative Activities regarding Assessment and Accreditation Process of NAAC under IQAC

Government college of Arts and Science, Aurangabad and Vasantrao Naik Mahavidyalaya , Aurangabad will organize collaborative activities in the field of Assessment and Accreditation of NAAC through IQAC. It will be beneficial for both the institutions to achieve excellence in the field of academic and educational administration.

Principal

PRINCIPAL
Govt. College of Arts & Science

Government College Of Arts and Science,

Aurangabad

Principal

PRINCIPAL
Vasantrao Naik Mahavidyalaya
Aurangabad

Vasantrao NaikMahavidyalaya,

Aurangabad

Coordinator,IQAC

Government College Of Arts and Science,

Aurangabad

Govt. College of Arts & Science

Coordinator,IQAC

Vasantrao NaikMahavidyalaya,

Aurangabad

वसंतराव नाईक महाविद्यालय, औरंगाबाद दिनांक :२८-१२-२०१७

सू च ना

महाविद्यालयातील सर्व प्राध्यापक ,शिक्षक,प्रशासकीय अधिकारी व शिक्षकेतर सहकारी यांना सूचित करण्यात येते, दिनांक २९-१२-२०१७ आणि ३०-१२-२०१७ रोजी विद्यापीठ अधिनियम आणि नवीन नॅक मूल्यांकन प्रणालीवर कार्यशाळा आयोजित केली आहे. सदरील कार्यशाळा दिनांक २९-१२-२०१७ आणि ३०-१२-२०१७ रोजी दुपारी ३ वाजता सभागृहात आयोजित करण्यात आली आहे. करीता सर्वानी उपस्थित रहावे.

प्राचार्य
वसंतराव नाईक कला महाविद्यालय
औरंगाबाद.

वरिष्ठ महाविद्यालयीन शिक्षक वर्ग

अ.क्र.	शिक्षकाचे नांव	स्वाक्षरी	अ.क्र.	शिक्षकाचे नांव	स्वाक्षरी
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3	प्र.प्राचार्य डॉ. जगदीश विश्वभर भराड		16	प्रा.डॉ. वीणा मच्छिंद्र कांबळे	
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7	श्रीमती मनिषा हरीष घोगरे		20	डॉ. देवराज कोंडीबा दराडे	
8	प्रा.डॉ. संजय दासू शिंदे		21	डॉ. गजानन रामराव हनवते	
9	प्रा.डॉ. विक्रम चंद्रकांतराव खिलारे		22	डॉ. चंद्रकांत मुकुंदराव चोरघडे	
10	प्रा.डॉ. कमलेश त्रिबंकराव महाजन		23	डॉ. सुनिता भीमराव राठोड	
11	प्रा.डॉ. अनिल रानबा जामकर		24	डॉ. वसंत नागोराव हारकळ	
12	प्रा.डॉ. शिवचरण प्रभाकर गिरी		25	डॉ. स्नेहलता रविंद्र अंकाराम	
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Govt. College of Arts & Science Aurangabad.

GOVERNMENT OF MAHARASTRA
GOVERNMENT COLLEGE OF ARTS & SCIENCE,
AURANGABAD

Phone No. 0240- 2331476 gasca1923@gmail.com Fax No. - 0240- 2331476

GASCA/2022-23/1779 Date: 28/09/2022

To,

Dr. Suchita Bharambe
Assistant Professor,
Department of Microbiology
Government Institute of Science,
Aurangabad

Subject: Invitation as Resource person under MoU for Remedial Support

Dear Madam,

It's our pleasure to invite you as a Resource person in Department of Microbiology, Government College of Arts And Science, Aurangabad to guide our students on "Hands on Training on Laboratory Techniques" under MoU for Remedial Support.

I am requesting you to accept our invitation and enlighten our students by sharing your deep knowledge.

Awaiting for your positive response
Thanking you

Date: 03rd October 2022 (Monday)
Time: 02:00 pm

Venue: Department of Microbiology

Yours Sincerely
28.9.22

Dept. of Microbiology - GASCA.

Dt 3/10/2022

Training on "Laboratory skills & Techniques in Microbiology"

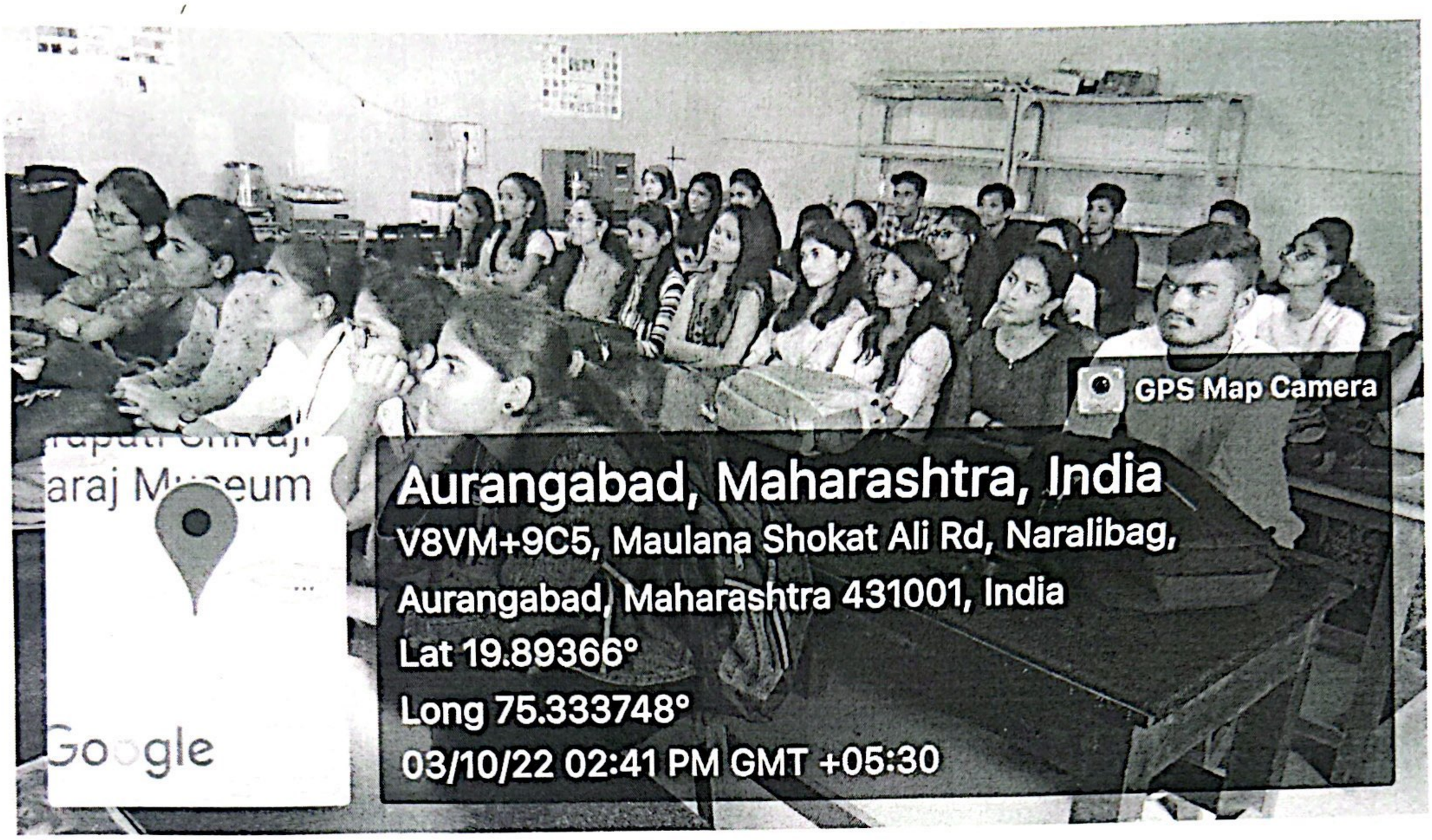
Time - 2.00 - 5.00 p.m.

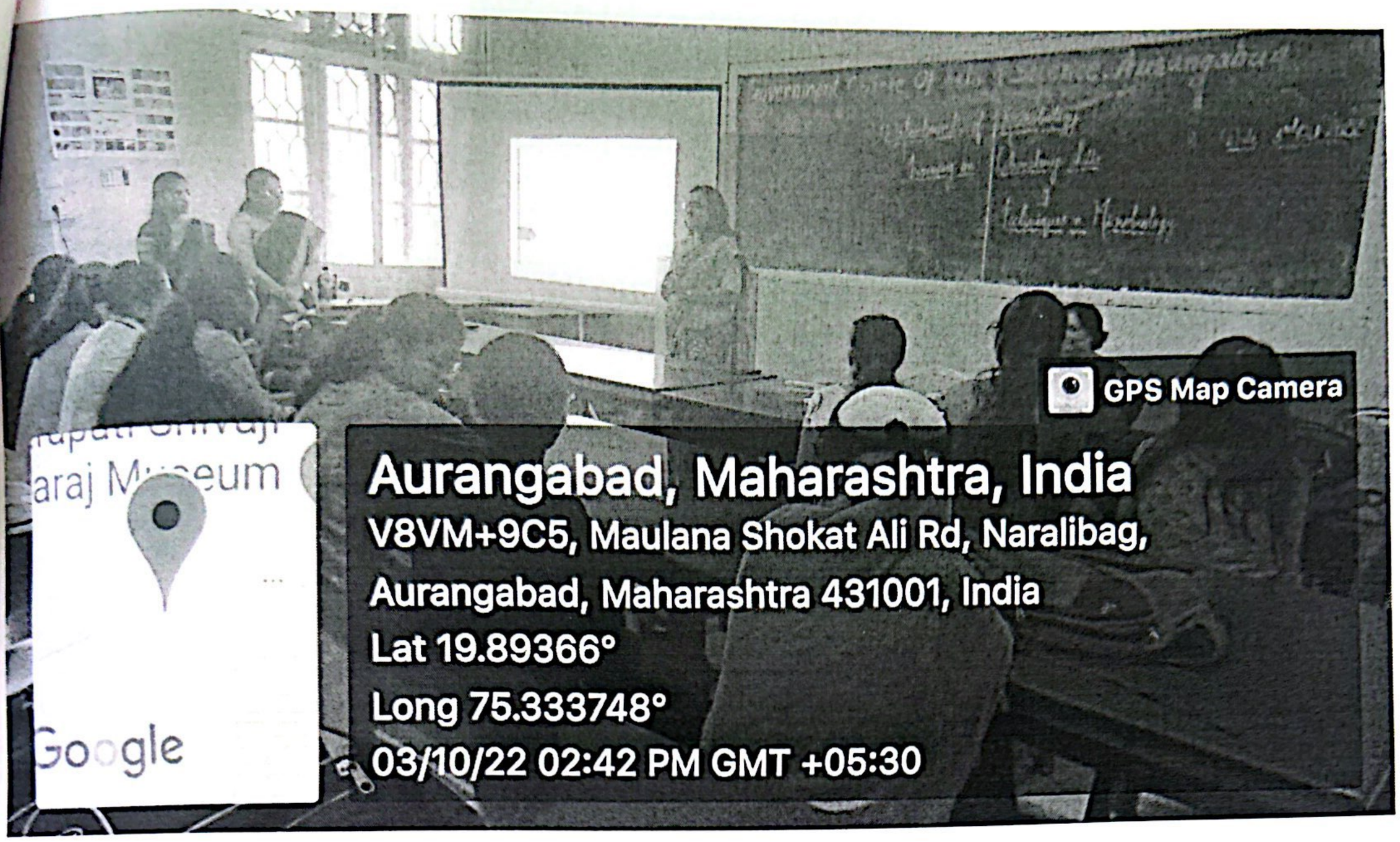
Students Attendance

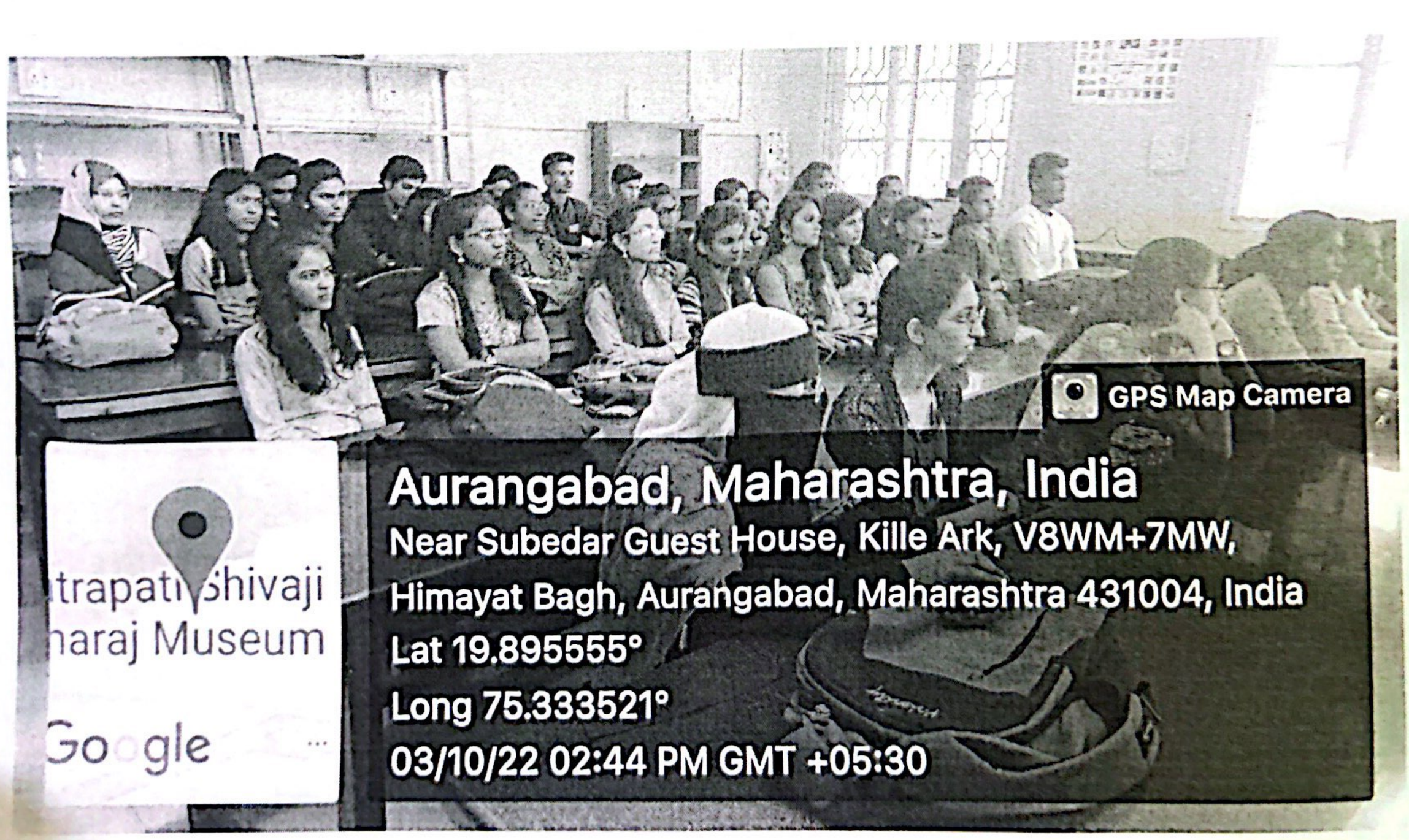
S.NO	Name	Sign	(I, II, III yr)
1.	Vishal Rajendra Bhinsane	Vishal Bhinsane	(I yr.)
2.	AKSHAY Lalzare		(Ist yr)
3.	Ajinkya Sirsat		(I yr)
4.	ASHISH P. JIVRAG		(Ist year)
5.	Yogesh Ranbawle		(Ist year)
6.	Anjali Dabhade	Dabhade	(IInd year)
7.	Vaishnavi Ahet		(IInd year)
8.	kaveri Patil		(IInd year]
9.	Nikita Surve		(IInd year]
10.	Shreya Jagtap		(IInd year].
#.	$		(IInd year)
11.	Hansaja Selinkar	Hansaja	(Ist year)
12)	Priya Pawar		(1st year)
13)	Dipali B. Kute		(1st year)
14)	Mayuri Pawde		(1st year)
15.	Shaikh · Shadmeen		(I. year)
16)	Arti. R. Patil		(IIIrd year)
17)	Aishwarya . D. Wagh		(III year]
18)	Mansi A. Kulkarni		(III year)
19)	Anuja R. Bulbule		(III year)
20)	Neha P. Gore		(IIIrd year)
21)	Jagruti · R. Shingne		(3rd yr.)

Hands on Training

3rd October 2022







Rakul Kamble

GOVERNMENT OF MAHARASTRA
GOVERNMENT COLLEGE OF ARTS & SCIENCE,
AURANGABAD

Phone No. 0240- 2331476 gasca1923@gmail.com Fax No. 0240- 2331476

GASCA/2018-19/

Date : 03/09/2018

To.

Dr. Swati Peshwe
Associate Professor
Department of Microbiology
Government Institute of Science,
Aurangabad

Subject-Appreciation letter

Sir.

We are very much thankful to you for accepting the invitation and extending your expertise as a resource person for enlightening our students on **"Cells and Organs of Immune Systems"** in Guest lecture Series in Immunology on 3rd September 2018 in Microbiology Department.

Looking forward for such positive interactions in future.

Thanking you,

Principal

Government College of Arts & Science,
Aurangabad

GOVERNMENT COLLEGE OF ARTS & SCIENCE, AURANGABAD

Department of Microbiology

Guest lecture Series
In
Immunology

By
Dr Swati Peshwe

On

""Cells and Organs of Immune Systems""

3rd September 2018

Sr. no	Student Name	Sign
1.	Pranita Prabhakar Bankar	Bankar
2.	Shubhangi Devidas Kanade	Kanade
3.	Mayuri Subhadra Palke	Mayuri.
4.	Pranjal Dilipkumar Khedkar	
5.	Snehal Subhash Pawar	Snehal P.
6.	BHAVANA BALASAHEB THORAT.	
7.	Chaitali Kaduba Gadekar	Chaitali
8.	Pragjakta M. Moon	P.moon
9.	Rani J. Rathod	R.Rathod
10.	Sayali Ingole	Sayali
11.	Shraddha Wakhande	Shraddha.
12.	Vithankar Sanket	Vithankar.
13.	Hemant Shrikhande	Hemant
14.	Akshay Bhaleroo	
15.	Amit Shinde	
16.	Chumble Ranganath G.	
17.	Gavali prashant vyankatrao	P.Gavali

18.	Harsha Suresh Dhende	
19.	Mrunal S. Kamble.	
20.	Shivani K. shejul	
21.	Shivani P. Adhagale	
22.	pratik. P. Udanshiv.	
23.	Mangesh. N. Patole	
24.	Jayesh Suryawanshi	
25.	Parmeshwar S. Lekule	
26.	Sandip R. Sueushe	
27.	krushna s. Kondke	
28.	Karan K. Chabukswar	
29.	pratap p. zinjurde	
30.	Dnyaneshwar suresh Bhandari	
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Trends in Life Sciences
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HEAVY METAL DETOXIFICATION USING PHYSICO-CHEMICAL AND BIOLOGICAL METHODS: A LITERATURE REVIEW

Rohini Kulkarni (Pandhare) [1], and Gupta S.G.[2]
[1]-Incharge Principal, Govt. College of Arts and Science, Aurangabad, (M.S.), India.
[2]-Director, Govt. Institute of Science , Nipatniranjan, Aurangabad, (M. S.), India.

ABSTRACT
In the following review an account of the different processes for detoxification of heavy metals has been elaborated. The Physico-chemical methods have been explained with respect to the principle and the process involved. In biological methods both intracellular and extracellular uptake, binding, chelation, biosorption, precipitation, volatilization have been considered. Metal – microbe interaction at the level of cell wall, intracellular accumulation,extracellular interaction have been discussed.

KEYWORDS: Heavy metals, Osmosis, electrodialysis, ion exchange, chemical precipitation, Ultrafiltration, Reduction, Methylation.

INTRODUCTION

Heavy metals released in effluents of many industries is toxic to the ecosystem and thus poses a serious threat to the environment. It has genotoxicity affecting the different life forms and thus the need to neutralize or detoxify it using the different methods at our disposal. An example of this is hexavalent chromium which is more soluble and hence available or mobile in an ecosystem. If it is converted to trivalent chromate, it is precipitated (reduced) out, thus becomes unavailable or immobile. This process of immobilizing chromate can be tried out using a number of physic-chemical or biological methods. In the same manner, mercury can be detoxified using methylation. Similar processes that can control the movement of these metals into different life forms can also result in a check on biomagnifications and its entry into the food chain.

REVIEW OF LITERATURE

Physico-chemical methods involved in detoxification of heavy metals.

Various conventional methods to treat metal pollutants from the effluents are used to control the toxic effect of these metal ions on environmental pollution as well as on various biological systems. The prominent one includes Ion exchange, filtration, precipitation, electrochemical treatment, reduction, chemical reduction, cementation, evaporation recovery (Nyer, 1992). A comparison of various methods used for removal and recovery of metals is given in Table 1 (Iyenger, 2005).

Table 1: Comparison of treatment technologies to remove/recover metals (Iyenger, 2005)

Technology	Description of process	Disadvantage	Relative Cost
Evaporation	Single /multi stage or vapor compression evaporators	Scaling and/ or fouling	High / Commercial
Distillation	Packed column with heating and concentration device	Scaling and / or fouling	Medium / Commercial
Solvent extraction	Standard procedure	Contaminated solvent requires further processing	Moderately high/ commercial
Adsorption	Batch or continuous adsorption	Limited to low concentration	Medium/ commercial
Ion exchange	Synthetic product	Contaminated solvents required pretreatment.	High / commercial
Membrane processes	Standard manufactured units, with appropriate pretreatment facilities to prevent fouling	Separations are imperfect	Medium/ commercial
Electrochemical processes	DC power and plating apparatus	Impurities upset processes	Medium/ commercial
Starch Xanthate processes	Synthetic product	Preparation is tedious	Medium/ Expt
Biosorption	Live or dead microorganisms.	Emerging technology	Low/recently commercial

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Reverse osmosis

It is a process in which heavy metals are separated by a semi permeable membrane at a pressure greater than osmotic pressure caused by the dissolved solids in wastewater. During the process a high pressure is applied to the effluent side of the membrane to force solvent molecules through the membrane. As a result, membrane separates solvent from solute, and thus effluent becomes more and more concentrated in solutes which can be collected and then recycled. The literature on various methods including reverse osmosis for removal of heavy metals from wastewater has been reviewed by Fujie *et. al.* (1993). The disadvantage of this method is that it is expensive.

Electro-dialysis

In this process, the ionic components (heavy metals) are separated through the use of semi permeable ion selective membranes. Application of an electric potential between the two electrodes causes a migration of cations and anions towards respective electrodes. Because of the alternate spacing of cation and anion permeable membranes, cells of concentrated and dilute salts are formed. The disadvantage is the formation of metal hydroxides, which clog the membrane (Tiravanti *et. al.*1996).

Ultra-filtration:

They are pressure driven membrane operations that use porous membranes for the removal of heavy metals. The main disadvantage of this process is the generation of the sludge. Ultra-filtration is the process where membrane is simply used as a filter. Ultra filtration membranes have large pore size and can remove particulates greater than 20 A^0. Some recent work has been done with respect to ultra-filtration to remove metals (Lizzi *et. al.*, 1977).

Ion exchange

Ion exchangers are solid materials which are capable of exchanging cations and anions with their surroundings. A cation exchanger contains exchangeable cations, such as metals or protons. In operation, metal ions in solution are preferentially bound to the insoluble matrix, with the concomitant release of protons or other cations. The toxic metal ion is effectively held within the matrix.

In this process, metal ions from dilute solutions are exchanged with ions held by electrostatic forces on the exchange resins. The disadvantage includes high cost and partial removal of certain ions. This physico-chemical method is amongst popular method for the removal of chromium from wastewaters. Commonly used matrix for ion exchange is synthetic organic ion exchange resins. (Gadd and White, 1993).

Chemical precipitation

Precipitation of metals is achieved by the addition of coagulants such as, alum, lime, iron salts and other organic polymers. The large amount of sludge containing toxic compounds produced during the process is the main disadvantage.

Electrochemical methods

Treatment of effluents with electrochemical methods depends on changing the formal oxidation state of effluent constituents. With regards to metals, a change in oxidation state via electron exchange brings about a significant change in properities which can be utilized to detoxify effluents. Both the oxidation and reduction of metals are viable effluent treatments. Furthermore, effluents containing more than one metal are also amenable for cleanup. Under the general umbrella of electrochemical methods for waste minimization, there are three broad categories of processes; direct (sulphite oxidation, electro-deposition, dissolution of scrap); indirect (cementation, electro-cementation, electro-precipitation, sulphide oxidation) and electrochemically driven (electro dialysis, electrosorption, electrochemical ion exchange, electro filtration, electro-osmosis) electrochemical processes (Mohammad *et. al.,* 2003).

In practice electrochemical methods are used mostly for metal recovery in the electroplating industry for effluents which have high metal content like 2000ppm. A simple cell can be used to electrowin the metals with the final effluent concentration of 300ppm. These techniques can be used to recover nickel from acidic and alkaline spent Ni-plating solution (Bershevits *et al.*1993) recovery of copper from wash water of electroplating industry (Donchenko, 1994), removal of Zinc from waste water by electrode position (Khan and Lutful,1993),treatment of wastewater of

galvanizing plant involving the reduction of Cr^{6+} and removal of $Cr(OH)_3$ with electrolytically generated $Fe(OH)_2$, recovery of heavy metals from scrap metal pickling wastewater by electrolysis (Huang *et al.*,1995).

Membranes have applications in electrochemical separation where electro-dialysis is used, it is having higher selectivity for charged particles. This method uses a direct electrical current to transport ions through ion selective membranes. There are two types of ideal membranes:-

- Anionic (permeable to anions and impermeable to cations)
- Cationic (permeable to cations but impermeable to anions)

Precipitation

Precipitation is by far the most common method for dealing with metals-containing waste. Some metal salts are very insoluble; precipitation generates these insoluble salts in the waste stream by the addition of the appropriate counter anion: the precipitate is then filtered off. The anions are usually hydroxide (oil), sulfide (S^2-) or carbonate (CO_3^2-) and metal is usually an alkali or alkaline metal. In most cases the precipitate is lime slurry Ca $(OH)_2$ which is readily available and inexpensive. Sodium hydroxide can also be used as a solution and generally gives faster precipitation than lime but it is very sensitive to pH and is inefficient at low pH. Carbonates tend to precipitate at lower pH than hydroxides whereas sulphides tend to give complete precipitation with short coagulation time.

The greatest advantage of precipitation is its simplicity; little is needed in terms of extra plant and expertise. The chemicals like lime slurry is abundantly available, generally inexpensive and under correct condition gives reasonable level of clean up. But the disadvantage is that it is unable to treat acidic effluents, it is non selective giving high water content sludge, presence of other salts and organic agents can severely compromises the precipitation efficiency and cannot be used to treat low concentrations of metals (Barkat , M. A.,2011).

Electro-chemical precipitation

This method utilizes an electrical potential to maximize the removal of heavy metal from contaminated wastewater over the conventional chemical precipitation method (Kurniawan *et. al.,* 2006). It is the most common method for removing toxic heavy metals up to (ppm) levels from waste waters.

Although the process is cost effective and its efficiency is affected by low pH and the presence of other salts (ions). The process requires addition of other chemicals, which finally leads to the generation of a high water content sludge, the disposal of which is cost intensive. Precipitation with lime, disulphide or ion exchange lacks the specificity and is ineffective in removal of the metal ions at low concentration.

Cementation

Cementation is a simple metal displacement process used to recover toxic or valuable metals from solution by spontaneous electrochemical reduction to the elemental metallic state, with consequent oxidation of a sacrificial metal by virtue of galvanic cell reaction. A more electropositive metal is used to recover less electropositive metal ion present in the solution. A typical example of this method is the reaction of copper ions with metallic iron. Copper can also be recovered using metallic aluminum.

$$Cu^{2+} + Fe^0 \rightarrow Cu^0 + Fe^{2+}$$

The process takes place on the surface of Fe, which is anodically dissolved into the solution under open circuit conditions. The advantages of cementation method are the operational simplicity and the use of relatively cheaper reagents.

Solvent extraction

Solvent extraction is a process in which a metal is transferred from aqueous phase to organic phase. The equilibrium stage of this process is termed as liquid partition. One liquid phase is an aqueous solution and the second phase is organic solvent capable of dissolving the distributed at least to certain extent. An extractant is substance with the solvent properties use in a solution of suitable diluents. The main advantages of solvent extraction technique are it is specific with reasonable levels of cleanup upto ppb level, easy modeling and environmentally acceptable alternative to traditional solvent extraction but the disadvantage is it is expensive and requires specialized equipments (Mohammad *et. al.,* 2003).

Biological methods

Biological systems have capacity to accumulate metal ions. During growth and metabolism various microorganisms carry out accumulation of various metals, some are essentially required for their metabolic processes. Microbes contain various biochemical processes and efflux processes by which they can deal with different metals. Volatilization is one of the microbial biochemical processes which methylate metals like mercury, selenium, tellurium, arsenic and tin but the processes are complex (Elschenbroich and Salzer, 1992).

Some bacteria have capacity to precipitate metal ions extra-cellularly by the processes of mineralization and the important is by sulfate reducing bacteria, which produce hydrogen sulphide as by product that reacts with metal to produce insoluble metal sulphide. In addition microorganisms posses various mechanisms to accumulate metals intracellularly as well as extracellularly. Extracellular accumulation may be by live cell or by dead biomass. The following table (Table 2) represents comparative performance of various metal recovery technologies.

Table 2: Performance characteristics of heavy metal removal and recovery technologies (Bagdwal *et. al.* 2004)

Technology	Performance Characteristics				
	pH change	**Metal sensitivity**	**Influence of suspended solids**	**Tolerance to organic molecules**	**Working level for appropriate metal(mgl^{-1})**
Adsorption(e.g. Granulated active carbon)	Limited tolerance	Moderate	Fouled	Can be poisoned	<10
Electrochemical	Tolerant	Moderate	Can be engineered to tolerate	Can be accommodated	>10
Ion-exchange	Limited tolerance	Chelate resins can be selective	Fouled	Can be poisoned	<100
Membrane precipitation	Limited	Moderate	Fouled	Intolerant	>10
Hydroxide	Tolerant	Nonselective	Tolerant	Tolerant	>10
Sulphide	Limited tolerance	Limited selectively pH dependent	Tolerant	Tolerant	>10
Solvent extraction	Some system tolerant	Metal-selective extract ants available	Fouled	Intolerant	>100

Biological methods used in detoxification of heavy metals:

Metal-Microbes interaction

Industrial activities and deliberate and accidental discharges are the major causes due to which microorganisms are increasingly exposed to toxic levels of metal pollutants and may have to acquire resistance to these metals for their survival, for which they detoxify it by using different mechanisms.

Heavy metals can be accumulated by microbial cells by a variety of processes, both physico-chemical and biological. Metabolism-independent binding or adsorption (biosorption) to living or dead cells, extracellular polysaccharides, capsules and slime layers is frequently rapid. Bacterial cell walls and envelopes and walls of algae, fungi and yeasts are efficient metal biosorbent with binding to charged groups frequently being followed by inorganic deposition of increased amount of metal (Burke *et. al.*, 1991). Volesky (1995) has defined utilization of only dead cells as the basis of biosorption and that of living cells as bioaccumulation. I

n practice there are three categories of biotechnological processes for treating liquid wastes containing toxic metals: biosorption; extracellular precipitation and uptake by purified biopolymers and other specialist molecules derived from microbial cells. These processes are not exclusive and several physico-chemical and biological processes may be involved (Gadd and White, 1993). The below mentioned Table 3 contains a comprehensive data of microorganisms and uptake of heavy metals. (Bagdwal *et. al.* 2004)

Table 3: Examples of metal uptake by microorganisms.

Microorganisms	Metal	Uptake (%dry weight)
Streptomyces sp.	Uranium	2-14
Streptomyces viridochromogenes	Uranium	30
Thiobacillus ferrooxidans	Silver	25
Bacillus cereus	Cadmium	4-9
Zoogloea sp.	Cobalt	25
	Copper	34
	Nickel	13
Citrobacter sp.	Lead	34-40
	Cadmium	170
	Uranium	900
Pseudomonas aeruginosa	Uranium	15
Mixed culture	Silver	32
Chlorella regularis	Uranium	15
Chlorella vulgaris	Gold	10
Phoma sp.	Silver	2
Rhizopus sp.	Cadmium	3
	Lead	10
	Uranium	20
	Thorium	10
Aspergillus niger	Thorium	19
	Uranium	22
Saccheromyces cerevisiae	Uranium	10-15
	Thorium	12

The chemical reaction between microorganisms and metals can be divided into six distinct processes.

a) Intracellular accumulation

Concentration of metals within bacteria and other microbial cells can result from interactions with surface legends followed by slow transport into the cell. This may be an important form of detoxification or a means of incorporating specific metals into enzymes (e. g. Cu and Zn). Extracellular or cell wall attached legends are thought to bind toxic metals. These legends transport the metal complexes through the cell wall in a slow transport step. Metals are released inside the cell, incorporated into biochemical pathways or trapped in an inactive form by complexation with another high affinity legend (Wood and Wang, 1985).

Microbial cells can accumulate inter- cellular both metabolically essential metals, such as Ca, K, Na, Fe, and Mg, as well as non- metabolic metals, such as, Ni, Cd, Co. Intracellular accumulation can be energy dependent function requiring active respiration by the microbial cell. Active metal uptake usually requires a specific transport system. Microorganisms have a well-developed transport systems capable of accumulating metals against gradient. When a metal is taken into the cell, ions of an equivalent charge are released by the cell (Brierly *et. al.,* 1985).

b) **Cell wall associated metal binding:**

Binding of metals to cell or sorption of metals to living or dead cells is considered a practical solution to many metal contamination problems. Algal surfaces contain functional groups that bind to metals competitively with many dissolved legends. Carboxylic amino, thio, hydroxo and hydroxyl-carboxylic groups on the surface of phytoplankton cells interact co-ordinatively with metal ions (Xue *et. al.,* 1988). Bacteria possess lipopolysaccheride (LPS) in their outer membrane. These chemicals are extremely complex consisting of a hydrophobic, phosphorylated section, known as lipid A, a core oligosaccharide; and variable O-specific side chains consisting of a number of unusual sugars. The side chains project out from the cell membrane and contain different functional groups capable of binding metals. Phosphoryl groups of LPS and phospholipids are the most abundant electronegative sites available for metal binding. The polyvalent toxic metals are primarily bound to LPS molecules because of the presence of closely opposed reactive sites (Ferris, 1989). It has been suggested that this may provide a mechanism to immobilize toxic metals and prevent their entry into the cells.

The membranous structure of the Gram negative cell wall results in a more complex interaction with metals. The outer membrane of *Escherichia coli* K-12 binds to the various metals including Na, Ca, Mg, Sr, Ni, Mn, Pb and Fe.

Approximately 50% of bound metal was usually present in the outer membrane, except for the Mn and Sr. The peptidoglycan layer of Gram negative cell walls also contains sites with which metals can interact. However, the amounts of metal chelated by Gram negative cell walls were less than those chelated by Gram positive cell walls, presumably because the peptidoglycan layer is thinner in Gram negative bacteria and does not contain teichoic acid, a potent chelator of metals (Beveridge, 1981).

Microorganisms can accumulate metabolic and non- metabolic metals by precipitating or binding the metals onto cell walls or cell membranes. Microbial walls are anionic owing to the presence of carboxyl, hydroxyl, phosphoryl, and other negatively charged sites. Cationic metals rapidly bind to these sites by an energy independent reaction. Table 2 comprises the data of metal uptake capacity from effluents by different group of microorganisms.

c) Bacterial cell walls

Cell walls of *Bacillus subtilis* are complex polyanion and are likely sites for concentration of metal cations. The isolated cell walls possess select sites, such as diaminopimellic acid residues which retain metals. Isolated cell walls of *Bacillus subtilis* have the greatest preference for Mg, Fe, Cu, Na and K. Lesser amounts of Mn, Zn, Ca, Au and Ni, small amounts of Hg, Sr, Pb and Ag (Beveridge and Murray, 1976).

Fungal cell walls

Like bacteria, both living and non-living fungal biomass can accumulate heavy metals .The uptake of U by *Rhizopus arrhizus* is a three phase process. The first stage involves the formation of a complex between uranyl ions in solution and the nitrogen of the chitin in the fungal wall. In the second stage additional U is absorbed by the three dimensional network of the chitin around the uranyl chitin complex formed in the first stage. In the third stage of the adsorption process the uranyl ion chitin complex hydrolyses precipitating uranyl hydroxide within the chitin network (Sober *et. al.*, 1986).

Algal cell walls

Most of what is known regarding algal metal sorption has been determined from studies of freshwater species of *Chlorella*. However, at least one marine alga (seaweed) has been demonstrated to accumulate significant amount of Co (approximately 17 % of the dry weight present.) and the ability of the eluated (non-living) algal material to resorb additional Co was demonstrated for a total of five complete cycles (Kuyucak and Volesky, 1986). Functional groups in algae and other biomass materials include carboxyl, amide, hydroxyl, phosphate amino, imidazole, thiol and thioether moieties that is present in the proteins, carbohydrates and lipids. Algal genera showing significant metal sorption in the non-viable state include species of *Chlorella reguloris*, *Chlamydomonas* and *Ulthroix*.In decreasing order metals are bound selectively as follows (Darnall *et. al*., 1986).

$UO_2^{2+} > Cu^{2+} > Zn^{2+} > Ba^{2+} = Mn^{2+} > cd^{2+} = Sr^{2+}$

d) Siderophores

Siderophores are iron complexing, low molecular weight organic compounds. Two major types are generally considered, the hydroxamate and catecholate. Hydroxamate groups strongly bind to ferric iron. It follows that analogs may also be strongly bound by these siderophores for example aluminum, gallium, and chromium form trivalent metal ions of similar size (Raymond *et. al*.1984). Molybdenum and copper have been shown to form strong complexes with catecholate siderophores (Hider, 1984).

e) Extracellular processes

Various bacterial metabolites are responsible to cause mobilization or immobilization of metals which has applications in mining and industrial processes. Organic or inorganic acids produced by microorganisms including genera *Thiobacillus, Sulfolobus, Serratia, Pseudomonas, Bacillus* and *Aspergillus*, are able to extract metals from solid substrates (Schinner and Burgstaller, 1989).

Extracellular polymer metal interaction

Many microorganisms produce extracellular polysaccharides that strongly bind metals. Metal binding functional group includes pyruvate, phosphate, hydroxyl, succinyl and uronic acid. Bacterial capsules possess features that suggests that they act as effective modulators of metal ion concentration at the cell surface scavenging metals from solution when

their concentrations are low and serving as impermeable barriers when metals exist at toxic levels in the surrounding environment.

Transformation and volatilization of metals

Toxic metal oxides can be used as electron acceptors and the reduced form is frequently less toxic and may be either more volatile or precipitated. Evidence exists that certain metal tolerant bacteria use toxic metal species as electron acceptors, selenate has been shown to be reduced by anaerobic bacteria (Maiers *et. al.*1988). Chromate is also reduced under anaerobic condition and it is associated with a soluble chromate reductase protein (Ishibash *et.al.*1990). Mercury Hg^{2+} is reduced to Hg^{0} by mercuric reductase with a subsequent volatilization. A taxonomically diverse group of heterotrophic bacteria utilize metallic cations as terminal electron acceptors under anaerobic conditions. In this process, the metal is reduced to a lower valency which can potentially be utilized in this way by microorganisms. Strain of *Enterobacter cloacae* was isolated from polluted habitat was capable of reducing Cr (VI) To Cr (III) thus reduction of soluble hexavalent chromium to its non soluble trivalent form offers a promising bioremediation strategy (Turick *et. al.*,1998).

Methylation of metalloids

Conversion of inorganic forms of metals or metalloids to methylated forms may be employed by microorganisms as a detoxification mechanism. Some strains of *Penicillium* were shown to methylate selenite and tellurite ions. The metals Hg, Sn, Pl, Pt, Au, the metalloids As, Se, Te, and S have been postulated to accept methyl group from methyl cobalamine in biological system, but not the metals cadmium, lead, and zinc.

Sulphide precipitation

Hydrogen sulphide is produced by sulphate reducing bacteria like *Desulfovibrio* and *Desufotomaculum* sp. The solubility products of most metal sulphides are extremely low and they are readily precipitated as sulphides like ZnS, CdS, and FeS. Sulphate reducing activity can occur as a useful auxiliary metal removing mechanism. Table 4 represents uptake capacities of metals under study by microorganisms.

Table4: Metal uptake capacity by some microorganisms (Bagdwal *et. al.* 2004)

Metal ion	Microorganisms	Metal Uptake Capacity	
		mmol/gm	g/g
Cu	*S. cerevisiae*	0.68	0.0432
	Rhizopus arrhizus	0.42	0.016
	Chorella fusca	0.05	0.003
	B. subtilis	0.53	0.0033679
	E. coli	0.090	0.005719
Zn	*S. cerevisiae*	0.47	0.03
	P. chrysogenum	7.83	0.5
	Clavicepus paspali	15.30	1.0
	A. niger	0.65	0.042
Cr	*R.arrhizus*	0.596	0.031
	Candida utilis	0.009	0.0046
	Streptomyces nouresei	0.034	0.0018
Ni	*B. subtilis*	0.107	0.00628
	E.coli AB264(Envelope)	0.002	0.000117
Mn	*B. subtilis*	0.801	0.440
	E.coli AB264(Envelope)	0.140	0.00769

CONCLUSION

Thus it is evident from the discussions that these heavy metals can be remediated using various methods .The efficacy of the process would depend on the concentration and type of the heavy metal. The use of physico-chemical methods in metal binding though effective may not be monetarily feasible owing to the higher cost of such materials. In case of biological processes, it may be said that these are in demand as it is a green technology, cheap and is environment friendly. However the selection of the consortium or the pure culture is of utmost importance as metal tolerance and

metal detoxification are two independent characteristics. It has been proved by a number of researchers that organisms that are metal tolerating may not be detoxifying it.

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HEAVY METAL DETOXIFICATION USING PHYSICO-CHEMICAL AND BIOLOGICAL METHODS: A LITERATURE REVIEW

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ABSTRACT
In the following review an account of the different processes for detoxification of heavy metals has been elaborated. The Physico-chemical methods have been explained with respect to the principle and the process involved. In biological methods both intracellular and extracellular uptake, binding, chelation, biosorption, precipitation, volatilization have been considered. Metal – microbe interaction at the level of cell wall, intracellular accumulation,extracellular interaction have been discussed.

KEYWORDS: Heavy metals, Osmosis, electrodialysis, ion exchange, chemical precipitation, Ultrafiltration, Reduction, Methylation.

INTRODUCTION

Heavy metals released in effluents of many industries is toxic to the ecosystem and thus poses a serious threat to the environment. It has genotoxicity affecting the different life forms and thus the need to neutralize or detoxify it using the different methods at our disposal. An example of this is hexavalent chromium which is more soluble and hence available or mobile in an ecosystem. If it is converted to trivalent chromate, it is precipitated (reduced) out, thus becomes unavailable or immobile. This process of immobilizing chromate can be tried out using a number of physic-chemical or biological methods. In the same manner, mercury can be detoxified using methylation. Similar processes that can control the movement of these metals into different life forms can also result in a check on biomagnifications and its entry into the food chain.

REVIEW OF LITERATURE

Physico-chemical methods involved in detoxification of heavy metals.

Various conventional methods to treat metal pollutants from the effluents are used to control the toxic effect of these metal ions on environmental pollution as well as on various biological systems. The prominent one includes Ion exchange, filtration, precipitation, electrochemical treatment, reduction, chemical reduction, cementation, evaporation recovery (Nyer, 1992). A comparison of various methods used for removal and recovery of metals is given in Table 1 (Iyenger, 2005).

Table 1: Comparison of treatment technologies to remove/recover metals (Iyenger, 2005)

Technology	Description of process	Disadvantage	Relative Cost
Evaporation	Single /multi stage or vapor compression evaporators	Scaling and/ or fouling	High / Commercial
Distillation	Packed column with heating and concentration device	Scaling and / or fouling	Medium / Commercial
Solvent extraction	Standard procedure	Contaminated solvent requires further processing	Moderately high/ commercial
Adsorption	Batch or continuous adsorption	Limited to low concentration	Medium/ commercial
Ion exchange	Synthetic product	Contaminated solvents required pretreatment.	High / commercial
Membrane processes	Standard manufactured units, with appropriate pretreatment facilities to prevent fouling	Separations are imperfect	Medium/ commercial
Electrochemical processes	DC power and plating apparatus	Impurities upset processes	Medium/ commercial
Starch Xanthate processes	Synthetic product	Preparation is tedious	Medium/ Expt
Biosorption	Live or dead microorganisms.	Emerging technology	Low/recently commercial

Reverse osmosis

It is a process in which heavy metals are separated by a semi permeable membrane at a pressure greater than osmotic pressure caused by the dissolved solids in wastewater. During the process a high pressure is applied to the effluent side of the membrane to force solvent molecules through the membrane. As a result, membrane separates solvent from solute, and thus effluent becomes more and more concentrated in solutes which can be collected and then recycled. The literature on various methods including reverse osmosis for removal of heavy metals from wastewater has been reviewed by Fujie *et. al.* (1993). The disadvantage of this method is that it is expensive.

Electro-dialysis

In this process, the ionic components (heavy metals) are separated through the use of semi permeable ion selective membranes. Application of an electric potential between the two electrodes causes a migration of cations and anions towards respective electrodes. Because of the alternate spacing of cation and anion permeable membranes, cells of concentrated and dilute salts are formed. The disadvantage is the formation of metal hydroxides, which clog the membrane (Tiravanti *et. al.*1996).

Ultra-filtration:

They are pressure driven membrane operations that use porous membranes for the removal of heavy metals. The main disadvantage of this process is the generation of the sludge. Ultra-filtration is the process where membrane is simply used as a filter. Ultra filtration membranes have large pore size and can remove particulates greater than 20 A^0. Some recent work has been done with respect to ultra-filtration to remove metals (Lizzi *et. al.*, 1977).

Ion exchange

Ion exchangers are solid materials which are capable of exchanging cations and anions with their surroundings. A cation exchanger contains exchangeable cations, such as metals or protons. In operation, metal ions in solution are preferentially bound to the insoluble matrix, with the concomitant release of protons or other cations. The toxic metal ion is effectively held within the matrix.

In this process, metal ions from dilute solutions are exchanged with ions held by electrostatic forces on the exchange resins. The disadvantage includes high cost and partial removal of certain ions. This physico-chemical method is amongst popular method for the removal of chromium from wastewaters. Commonly used matrix for ion exchange is synthetic organic ion exchange resins. (Gadd and White, 1993).

Chemical precipitation

Precipitation of metals is achieved by the addition of coagulants such as, alum, lime, iron salts and other organic polymers. The large amount of sludge containing toxic compounds produced during the process is the main disadvantage.

Electrochemical methods

Treatment of effluents with electrochemical methods depends on changing the formal oxidation state of effluent constituents. With regards to metals, a change in oxidation state via electron exchange brings about a significant change in properities which can be utilized to detoxify effluents. Both the oxidation and reduction of metals are viable effluent treatments. Furthermore, effluents containing more than one metal are also amenable for cleanup. Under the general umbrella of electrochemical methods for waste minimization, there are three broad categories of processes; direct (sulphite oxidation, electro-deposition, dissolution of scrap); indirect (cementation, electro-cementation, electro-precipitation, sulphide oxidation) and electrochemically driven (electro dialysis, electrosorption, electrochemical ion exchange, electro filtration, electro-osmosis) electrochemical processes (Mohammad *et. al.,* 2003).

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- Cationic (permeable to cations but impermeable to anions)

Precipitation

Precipitation is by far the most common method for dealing with metals-containing waste. Some metal salts are very insoluble; precipitation generates these insoluble salts in the waste stream by the addition of the appropriate counter anion: the precipitate is then filtered off. The anions are usually hydroxide (oil), sulfide (S^2-) or carbonate (CO_3^2-) and metal is usually an alkali or alkaline metal. In most cases the precipitate is lime slurry Ca $(OH)_2$ which is readily available and inexpensive. Sodium hydroxide can also be used as a solution and generally gives faster precipitation than lime but it is very sensitive to pH and is inefficient at low pH. Carbonates tend to precipitate at lower pH than hydroxides whereas sulphides tend to give complete precipitation with short coagulation time.

The greatest advantage of precipitation is its simplicity; little is needed in terms of extra plant and expertise. The chemicals like lime slurry is abundantly available, generally inexpensive and under correct condition gives reasonable level of clean up. But the disadvantage is that it is unable to treat acidic effluents, it is non selective giving high water content sludge, presence of other salts and organic agents can severely compromises the precipitation efficiency and cannot be used to treat low concentrations of metals (Barkat , M. A.,2011).

Electro-chemical precipitation

This method utilizes an electrical potential to maximize the removal of heavy metal from contaminated wastewater over the conventional chemical precipitation method (Kurniawan *et. al.,* 2006). It is the most common method for removing toxic heavy metals up to (ppm) levels from waste waters.

Although the process is cost effective and its efficiency is affected by low pH and the presence of other salts (ions). The process requires addition of other chemicals, which finally leads to the generation of a high water content sludge, the disposal of which is cost intensive. Precipitation with lime, disulphide or ion exchange lacks the specificity and is ineffective in removal of the metal ions at low concentration.

Cementation

Cementation is a simple metal displacement process used to recover toxic or valuable metals from solution by spontaneous electrochemical reduction to the elemental metallic state, with consequent oxidation of a sacrificial metal by virtue of galvanic cell reaction. A more electropositive metal is used to recover less electropositive metal ion present in the solution. A typical example of this method is the reaction of copper ions with metallic iron. Copper can also be recovered using metallic aluminum.

$$Cu^{2+} + Fe^0 \rightarrow Cu^0 + Fe^{2+}$$

The process takes place on the surface of Fe, which is anodically dissolved into the solution under open circuit conditions. The advantages of cementation method are the operational simplicity and the use of relatively cheaper reagents.

Solvent extraction

Solvent extraction is a process in which a metal is transferred from aqueous phase to organic phase. The equilibrium stage of this process is termed as liquid partition. One liquid phase is an aqueous solution and the second phase is organic solvent capable of dissolving the distributed at least to certain extent. An extractant is substance with the solvent properties use in a solution of suitable diluents. The main advantages of solvent extraction technique are it is specific with reasonable levels of cleanup upto ppb level, easy modeling and environmentally acceptable alternative to traditional solvent extraction but the disadvantage is it is expensive and requires specialized equipments (Mohammad *et. al.,* 2003).

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SACCHAROMYCES CEREVISIAE AS A BIOSORBENT FOR DETOXIFICATION OF CR (VI)

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ABSTRACT
Environment pollution is a constant threat faced by humanity. Industrial effluents entering in surface water are one of the most important sources of contamination adding various toxic metals like chromium, cadmium, nickel etc. Microorganisms have great potential to accumulate these metals and detoxify it. Biomass waste, mainly *Saccheromyces cerevisiae* is generated on a large scale from brewing industry which can be used to detoxify metals. In this paper Saccheromyces cerevisiae is used as a bioremediater. Microbial cells are used as waste non growing biomass and effect of various parameters affecting biosorption was studied. From the adsorption studies it was observed that *S. cerevisiae* is capable of adsorbing 33mg/gm of hexavalent chromium.

KEYWORDS: Biosorption, *Saccheromyces cerevisiae*, Chromium (VI)

INTRODUCTION

Environmental pollution is a constant threat faced by humanity. Industrial effluents entering into the surface water are one of the most important sources of toxic contamination in the environment. Industries effluent contain heavy metal ions such as chromium, nickel, lead, copper, zinc etc. which interfere with metabolism of living environmental systems. Chromium compounds are extensively used in many industries which include tannery, textiles, metal electroplating, paint and pigment industries that adds Cr (VI) to effluent.

Hexavalent chromium at a concentration of 10g/kg of body weight causes liver necrosis, nephritis and even death in human beings (Dikshit *et.al.* 1989).The properties of heavy metals which warrant their reclamation from effluents are there toxicity and commercial value (Kasam and Baecker,1988) Though the conventional methods such as precipitation, ion exchange, evapouration, reverse osmosis have been reported to effectively treat chromium bearing effluents(Chand *et. al.,* 1994) they are expensive and are especially ineffective when the metal ion concentration in aqueous solution is lower than 50mg/ L. Moreover such treatmet produces large amount of sludge to be treated with great difficulties.

Therefore treatment for this waste is important. Microorganisms can remove heavy metal ions from aqueous solution by various mechanisms, which may or may not be related to the metabolic processes of living cells (Norris and Kelly, 1979). In recent years, the process of accumulation of heavy metals by microorganisms was intensely studied. Bacteria, yeast and fungi (Nakajam and Sakaguchi, 1986) as well as algae (Holan *et.al.,* 1993) are being used for metal removal from effluents. Chromium is one of the discharge from the electroplating industries. Hexavalent chromium (Cr^{6+}) due to its water solubility is toxic to living cells so it is important to remove hexavalent chromium from the effluent. Various physiochemical methods include ion exchange, reverse osmosis, precipitation etc.

One of the most ubiquitous biomass type available for bioremediation of metal is yeast. Yeast retains its removal ability for a broad range of heavy metals. *S. cerevisiae* has proved to be use in bioremediation. It is easy to cultivate on large scale. It can be easily grown by unsophisticated fermentation techniques and inexpensive growth media (Kapoor and Virarghavan, 1995) and yield of the biomass is also high. It is generally regarded as safe. Therefore, biosorbent made from *S. cerevisiae* can be easily accepted by the public when applied practically as sorbent to recover metal ions. *S. cerevisiae* is an ideal model organism to identify the mechanism of biosorption in metal ion removal, especially to investigate the interactions of metal-microbe at molecular level. In this paper growth independent Cr (VI)sorption studies were carried out using *Saccheromyces cerevisiae.*

MATERIALS AND METHODS

1. *S. cerevisiae* suspension (Absorbance= 1.0 at 600nm)
2. Cr (VI) stock solution (1000ppm) The metal used for the present investigation was potassium dichromate. The stock metal solution was prepared by dissolving 3.735gm of potassium dichromate in 1000ml distilled water which is further diluted.

A. BIOSORPTION OF Cr (VI) :

Optimization of the important parameters using *S. cerevisiae* was carried out with respect to the

1. Initial metal optimization experiments were carried out using 50-500ppm of metal solution in Erlenmeyer flasks to which 1% (W/V) biomass was added, pH was 7.0 incubated at 30^{0}C for 30 minutes on a rotary shaker. After retentation the contents were centrifuged at 8000rpm and residul Cr (VI) was analyzed using AAS and percent sorption was calculated.
2. Effect of pH: 100 ml of hexavalent chromium (20ppm) solution with various pH 3,5,7 9 and 11were used
3. Effect of holding time on percent sorption of 20 ppm Cr(VI) containing metal solution inoculated by 1% biomass (*S. cerevisiae*) was studied by varying the holding time at intervals of 30 minutes.
4. Effect of initial biomass of *S. cerevisiae* was calculated using varying concentration of 1-5% biomass.
5. Effect of various temperature was studied where *S cerevisiae* (1%) was inoculated in 100ml of hexavalent chromium (20ppm) with pH 7.0 and they were incubated on shaker at various temperatures 10, 20, 30, 40 and 50^0 c for 3 minutes and analysed for residual chromium

The total Chromium was estimated by using Atomic Absorption Spectrophotometer.

B. ADSORPTION ISOTHERMS AND KINETIC STUDIES:

Adsorption isotherms were appilied to the biosorption experiments carried out using *S.cerevisiae* growth independent percent sorption of Cr (VI) with pH 7.0 at 30°C on a rotary shaker at 100 rpm with 1% (w/v) inoculum concentration for varying period of time. In case of growth independent sorption after each 30 minutes results were taken. The data thus obtained was applied to different adsorption isotherms like Langmuir(1918) and Freundlich (1926)and the graphs obtained were as follows.

Kinetics studies were carried out by growth independent Cr (VI) uptake by *S.cerevisiae*. The 1% (w/v) biomass of *S.cerevisiae* was inoculated in 100 ppm Cr (VI) solution with 7.0 pH. It was incubated at 30°C and after each 30 minutes reaction was terminated by centrifugation at 10,000 rpm and the supernatant was analyzed. The percent sorption of Cr (VI) data thus obtained was used for kinetic studies. The Langergen(1998) kinetic model (pseudo first order) and pseudo second order model was studied.

RESULTS AND DISCUSSION:

A. Growth independent percent sorption of Cr (VI) by *S. cerevisieae*

Biosorptive capacity of metal ions was reported to be related to the ratio of the concentration of initial metal ions to the concentration of the biomass. The percent sorption of Cr (VI) by growth independent *S. cerevisieae* was found to be in between the range of 50-70%

Result in Table 1 indicates the effect of initial concentration of Cr (VI) percent sorption of metals. It was observed that maximum Cr (VI) sorption was 67% at 200ppm and 65% at 1% (w/v) of biomass concentration. Vasudevan *et al.*, (2003) found that equilibrium uptake for Cd^{2+} by the protonated yeast was directly proportional to the ratio of the initial metal concentration to the sorbent mass. Therefore, both aspects cannot be neglected when assessing the influence of concentration of the metal ion and the biomass on biosorption, otherwise error would occur (Schiewer and Volesky, 1995).

Table 1 : Effect of initial Cr (VI) concentration on its sorption by *S.cerevisiae*

Initial metal concentration (ppm)	Percent sorption Cr (VI)
50	45
100	54
150	65
200	67
250	66
300	67
350	64
400	61
450	60
500	60

Optimization experiments showed that metal sorption is a rapid process maximum adsorption of Cr (VI) was 92 % after 90 minutes after that it remained constant (Table 2).The biosorption process of heavy metals by *S. cerevisiae* completed rapidly. The biosorption of metal ions of copper, zinc, lead and uranium by non -growing cells of *S. cerevisiae* is a rapid process and often reaches to equilibrium within few hours. Ferraz, *et. al.* (2004) optimized the sorption time for Cr (III) by *S. cerevisiae* from a brewery company in the sorption and desorption process. Results showed that a 30 minute sorption period was the best option to ensure the metal removal from solution and good recovery from biosorbent.

Table 2: Effect of holding time on precent sorption of Cr (VI) by *S.cerevisiae*

Holding time (minutes)	Percent sorption Cr (VI)
30	55
60	88
90	**92**
120	**92**
150	**92**

Table 3: Effect of pH on percent sorption of Cr (VI) by *S.cerevisiae*

pH	Percent sorption Cr (VI)
3.0	12
5.0	15
7.0	**65**
9.0	46
11.0	18

The sorption of Cr (VI) as a function of pH indicated in Table 3 showed that maximum sorption of Cr (VI) was at pH 7.0. At higher and lower pH values, the percent sorption gradually decreased. The results were similar as that Zn2+ adsorption by *Mucor hemilis* and *Penicillium chrysogenum* which gets decreased as pH decreases below 4.0 (Fourest *et.al.*, 1994).

Table 4 : Effect of temeperature (C) on percent sorption of Cr (VI) by *S.cerevisiae*

Temperature	Percent sorption Cr (VI)
10	19
20	45
30	**60**
40	38
50	14

Adsorption reaction are normally exothermic, so biosorption capacity increases with decrease of temperature (Kapoor and Virarghavan, 1997). In this study 60% of Cr (VI) was adsorbed (Table 4) at 30C. The decrease of active binding sites in the biomass (Ozer and Ozer,2003).

Table 5: Effect of inoculum concentration of *S.cerevisiae* on percent sorption of Cr (VI)

Inoculum level % (w/v)	Percent sorption Cr (VI)
1	51
2	62
3	65
4	68
5	**69**

Effect of inoculum level of *S. cerevisiae* studies (Table 5) showed that if there was an increase in inoculum level there was also increase in percent sorption of metal ions under study. Initial inoculum level of 2-3 % (v/v) gave maximum percent sorption even if there was an increase in percent sorption there was no significant an increase in percent sorption of Cr (VI).

B. ADSORPTION ISOTHERMS AND KINETIC STUDIES:

In the present study growth independent sorption of Cr (VI) by non-growing *S. cerevisiae* cells is presented in Fig.1 This data is further used to the isotherm calculation (fig.2 and 3). It was observed that in Langmuir isotherm a straight obtained indicating that the data fits in this model. Further the regression coefficient study was carried out which showed 0.99 and that the data fits more in Langmuir isotherm. Hence this data is used to predict the maximum sorption of chromium and from it Qmax for Cr (VI) calculated gave 33mg/gm (Table 6).

Fig 1:Percentage sorption of Cr (VI) by growth independent *S. cerevisiae*

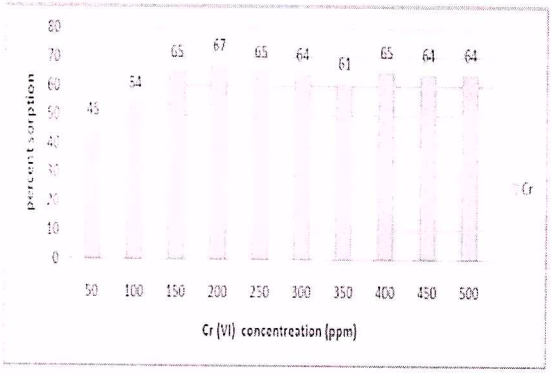

Fig. 2: Adsorption isotherm studies using dead biomass of *S.cerevisiae* (Langmuir)

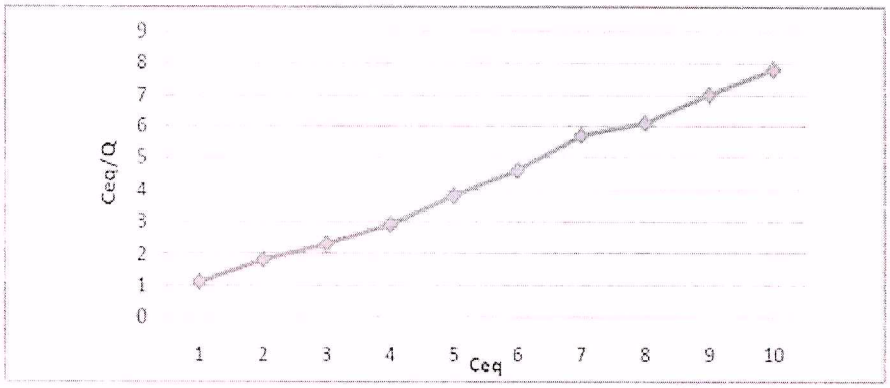

Fig. 3: Adsorption isotherm studies using dead biomass of *S.cerevisiae* (Freundlich)

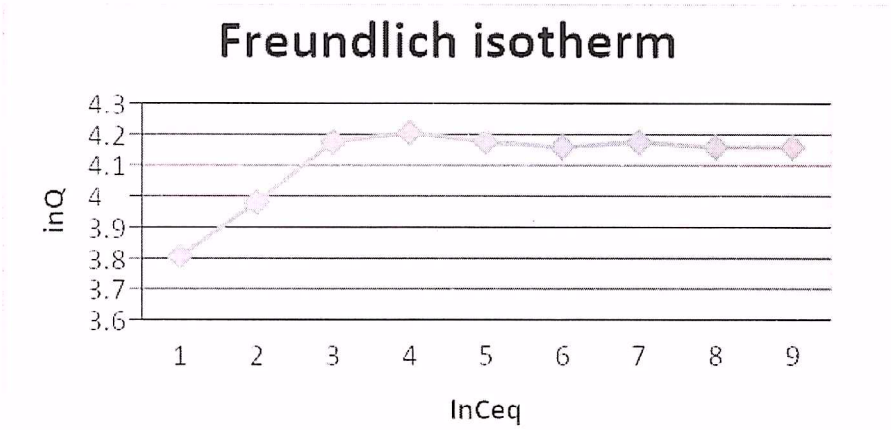

Table 6: Adsorption isotherms parameters for growth independent *S cerevisiae*

Parameters	Langmuir	Freundlich
Slope	0.015139	0.015363
Regression	0.99	0.70
Qmax	33 mg/gm	-

The pseudo first order and second order kinetics model were successfully employed for explaining the kinetic data of adsorption process (Fig.4 and 5) Straight line obtained after plotting Log (qe-qt) vs t and t/qt vs t shows degree of fitness of metal sorption to first and second order rate kinetics model. This is based on the assumption that the adsorption capacity for the metal on the adsorbent is proportional to the number of active sites occupied on the sorbent and metal uptake is by chemisorption. The values of constant of Kd and R^2 were calculated from the plots (Table 7). From the data obtained Pseudo second order was found to be most suitable for adsorption of Cr (VI).

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ACTIVITY REPORT

1) Title of Activity- Kalidasa Dina (MoU)

2) Nature of Activity & Date – 12th July 2021

TYPE- Co-curricular (supporting to academics)

3) Name of the Department/Committee - Sanskrit

4) Activity coordinator/In charge- Dr. Pankaja Waghmare

5) Objectives of Activity-

1. Increasing student's interest in the Sanskrit Literature

6. Is the activity planned at the beginning of the session? - YES

C. If yes, is it mentioned in the departmental calendar of the current academic year? - YES

7. Brief description about activity Conducted-

Lecture of Dr. Prasad Bhide on kalidasaachya Kalatila natyatmakata was arranged on this occasion.)

8. Resources used for activity (Economic/non-economic) -

Non economic

9. Output of the activity- 657 beneficiaries (100 on google meet)

10. Feedback (Brief quantitative description and suggestions by participants if any) – NIL

11. Total no. of students participated - - (it was youTube live)

12. Total no. of girls' students participated- - -

13. Total No. of females involved in the organization of activity - 01

14. Problems encountered- nil

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