

DEPARTMENT OF ZOOLOGY

1) Name of the Department : Zoology

2) Year of Establishment : 2001

3) Scope and importance of the department:

Study of Zoology is great importance to man. It has helped man to recognize the living things and to adapt himself according to the environment. The students of Zoology can learn about animals and Zoological principles which may help them for proper maintenance of life. Zoologist acquires the power to evaluate the nature which is not possible by the other means. The scope applied Zoology is innumerable. It provides the knowledge of medicine, dentistry, Veterinary medicine, medical technology, nursing, Museum Work, Zoological teaching, zoological research, agriculture, environmental science and conservation. There is every possibility that our nonrenewable natural resources will be exhausted in near future. The conservation of these natural resources may be possible through Zoological knowledge. There is equilibrium between plants and animals on the earth. There is always a struggle for food and space which may lead to serious consequences. Man is also included

In this struggle and is associated with other animals due to some other needs. Some of them are useful or harmless but some are definitely harmful to man. One can have a thorough knowledge Of these associations through the study of Zoology.

❖ Scope of Zoology in the field of Health and Disease

Zoological Knowledge and theories are applicable to maintain health and to control the epidemic diseases. But still there are some dangerous medical problems which needs further study, For example, control and cure of cancer and cardio-vascular diseases.

Protozoan and helianthus are responsible for causing many diseases. In addition, some animals act as vectors. The transference of disease producing parasites or their infective stages are performed By Anopheles (Malaria), sand-fly (kala-azar), Tse-tse (sleeping sickness), house-fly (typhoid). The control and cure of these diseases are studied by economic zoologists.

The progress of medical technology is intimately connected with the application of drugs on animals. The drug for curing diabetes was discovered with experiments on dogs. Similarly the drugs for Diphtheria, typhoid and other diseases were found only after tiresome

experiments on animals. Without these animals it would have been impossible to discover the medicines for several human diseases.

❖ **Scope of Zoology in the Field of Agriculture**

Agriculture is a part of applied zoology. Various types of living organisms are closely associated in a particular environment. Earthworms being lower soil upwards so that air and water can enter

Properly similarly, insects pollinate the flowers, bacteria decompose the dead animals and plants present in the soil which is observed by the plants. All these are important facts for agricultural science.

Insects destroy agricultural crops, domesticated animals and wood. The amount of harm caused by the insects is beyond our estimate. A variety of rodents eat considerable amount of grains and cereals

Both in the field and storage areas. These problems have been solved to great extent from the knowledge and application of zoological principles.

❖ **Scope of Zoology in the field of Industry**

Various animal products of animals such as coral, pearl, honey, wax, silk, shell of turtle, bones, feather, tusk, leather and fur are of high demand. These products can be increased from our knowledge of production of these items.

One of the most important uses of animals is as food. Almost in every phylum there are few species which form the food of man like lobsters, crabs, fishes, turtles, frogs, birds and mammals. We use various types of birds (chicken, fowl, duck, etc.) and mammals (goat, sheep etc.) for our diet. The improvement of these animals is one of the major tasks of zoologists.

Application of zoological science in the field of fisheries is well known. It is the study of economic zoology for the higher production of food crops and fisheries to meet the challenge of food shortage during recent times.

4) Introduction of department:

The M.S.P. Mandal's, Shri Muktanand College, Gangapur. The department of Zoology started on date 28 Aug. 2001-2002 (self financed). First of all department and lecturers were conducted by Mr. P. O. Gaikwad, later on Mr. M. D.Sawant, Mr. M. R. Tangde, Mr. S. S.

Kamble, Mr. A. S. Thosar, Mr. A. M. Gaikwad, Mr. Krishna Nagre, and Mr. P. B. Pardeshi till 2009.

From the academic year 2009-2010 the science faculty of this college received grant's from UGC and from these the full time post was filled by college. Dr. P. A. Deshpande (Assistant professor) is head of department, Dr. A. B. Pardeshi (Assistant professor), Dr. B. N. Jadhav (Assistant professor) conducted department up to the 2012. Dr. Archana B. Mantale transferred from MSP Mandal's; Majalgaon College to this college. Dr. M. L. Jadhav of same subject joined as Principal in this college. The tenure of him was from 2012 to 2014.

At present, Dr. Archana B. Mantale is the Asst. Prof. & Head of the Department and Dr. Priti N. Bajad and others CHB Lecturers has been working for the actively progress and development of the department. Amongst the staff three are actively participating in the research activities regularly by publishing and presenting their work. All the teachers have published research articles in reputed International and National journals as well as participated and presented paper in International / National/ state level seminars, conferences, symposia and workshop.

The total area of the Zoology Department 1536 sq.feet, with two rooms each 27.00 sq. m. area (two practical laboratory and staff room) and first laboratory with 32 x 24 sq.feet, second laboratory 22 x 24 Sq.Feet and staff room 10 x 24 sq.feet. Total 332 books of Zoology including text, reference and practical books are present in the central library. Department has all essential laboratory equipment's, museum specimens, slides, glassware, chemicals, charts, models, and water connections, Department has its departmental library and internet facilities.

The faculty member students guide for competitive examinations, i.e., MPSC/UPSC/SET/NET/ examinations, to participate Science Exhibition, Quiz competition etc. Every year some students of this college go for M. Sc. in the University.

Besides the usual compulsory papers as per the syllabus of Dr. B. A. Marathwada University, Aurangabad, in this department Fishery Science to B. Sc. III Year Class. From its establishment, the department has contributed in different curricular and co-curricular activities of the College.

The Department has tried for all round development of the students by organizing study tours, seminars exhibition, and extension and community services as per the need of the time.

5) Detail of Programmes / Courses offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., Short term courses, Career oriented courses, etc. (Current academic year i. e. 2021- 2022)

Sr. No	Programme level	Name of the programme/ Course	Duration	Entry qualification	Medium of Instruction	No. of Student admitted
1	UG	B. Sc.	3Years	12th Pass	English	301

6) Faculty profile with name, qualification, designation, specialization

Sr. No.	Name of the Faculty	Qualification	Designation	Specialization
1.	Dr. Archana B. Mantale	M. Sc., Ph. D.	Head & Assistant Professor	Endocrinology & Animal Physiology
2.	Dr. Priti N. Bajad	M. Sc., Ph. D.	Assistant Professor	Entomology

7) Details of academic support staff (technical) and administrative staff; sanctioned and filled: -

Sr. No.	Name of staff	Designation
1.	Mr. Pravin G. Shejul	Lab. Assistant
2.	Mr. Gawade	Lab. Attendant

8) Student profile program/ course wise: (2016 -17 to 2021 - 22)

Sr. No.	Academic Year	Class	Boys	Girls	Total
01	2016-2017	B. Sc. F. Y.	127	79	206
		B. Sc. S. Y.	89	67	156
		B. Sc. T. Y.	81	37	118
02	2017-2018	B. Sc. F. Y.	126	67	193
		B. Sc. S. Y.	45	51	96
		B. Sc. T. Y.	78	53	131

03	2018-2019	B. Sc. F. Y.	93	75	168
		B. Sc. S. Y.	79	45	124
		B. Sc. T. Y.	44	17	61
04	2019-2020	B. Sc. F. Y.	76	79	155
		B. Sc. S. Y.	90	63	153
		B. Sc. T. Y.	85	42	127
05	2020-21	B. Sc. F. Y.	93	61	154
		B. Sc. S. Y.	67	68	135
		B. Sc. T. Y.	92	58	150
06	2021-22	B. Sc. F. Y.	68	66	134
		B. Sc. S. Y.	53	42	95
		B. Sc. T. Y.	39	33	72

9) Details of student Result (2016 -17 to 2021 - 22)

Academic Year	Name of the Course / program	No of students appear	Total No of students passed	Percentage
2016-2017	B. Sc. F. Y.	193	190	98.5%
	B. Sc. S. Y.	159	152	95.6%
	B. Sc. T. Y.	120	115	95.8%
2017-2018	B. Sc. F. Y.	181	178	98.34%
	B. Sc. S. Y.	113	109	96.5%
	B. Sc. T. Y.	118	114	96.6%

2018-2019	B. Sc. F. Y.	212	195	91.98%
	B. Sc. S. Y.	145	135	93.10%
	B. Sc. T. Y.	94	89	94.68%
2019-2020	B. Sc. F. Y.	168	144	85.71%
	B. Sc. S. Y.	164	158	96.34%
	B. Sc. T. Y.	130	129	99.23%
2020-21	B. Sc. F. Y.	142	123	86.62%
	B. Sc. S. Y.	111	99	89.20%
	B. Sc. T. Y.	133	102	76.70%

10) Student-Teacher Ratio (Program wise): (2016 -17 to 2021-2022)

Academic Year	First Year	Second Year	Third year
2016-17	69:1	52:1	40:1
2017-18	65:1	32:1	44:1
2018-19	42:1	31:1	20:1
2019-20	31:1	31:1	26:1
2020-21	77:1	68:1	75:1
2021-22	67:1	48:1	36:1

11) Research papers published in journals notified on UGC website(2016-17 to 2021-22)

Sr. No.	Name of Journal	Title of Research Paper	ISSN/ ISBN No.	Whether peer Reviewed. Impact Factor, if any
1	Proceeding of National Conference on "Population Growth & Environmental Degradation: Problems and Prospects"	Dr. Archana B. Mantale Effect of photoperiod on reproduction of Freshwater pulmonate snail <i>Indoplanorbis exustus</i> Pg. no. 47-50	ISBN NO.- 978-63535-117-0	---

	September- 2016			
2	Bulletin of Environment, Pharmacology and Life Science. Vol 6 [2]: 70-73 January 2017	Dr. Archana B. Mantale Morphological details of Central Nervous System of Freshwater Pulmonate snail <i>Indoplanorbis exustus</i> <i>Pg. no.: 70-73</i>	Online ISSN 2277-1808	Global Impact Factor 0.533 Universal Impact Factor 0.9804
3	Journal of Emerging Technologies and Innovative Research JETIR, Volume 5, Issue 12 www.jetir.org December 2018	Dr. Archana B. Mantale Length-weight relationship of fresh water pulmonate snail <i>Indoplanorbis exustus</i> <i>Pg. no. 168-173</i>	ISSN-2349-5162	Impact factor- 5.87
4	Trends in Fisheries Research, An International Peer - Reviewed Journal UGC December 2018	Dr. Archana B. Mantale Diversity and distribution of mollusca from Ratnagiri coast (MS) India of Arabian sea <i>Pg. no. 75-79</i>	ISSN: 2319–474X (p); 2319–4758 (e) Approved Journal No:63495	Impact factor - 0.231 International Peer - Reviewed Journal UGC
5	Purakala (UGC Care Journal) Vol. - 31 Issue – 09 Pg. no. 833 - 841 April-2020	Dr. Archana B. Mantale Development of Egg Masses in Fresh Water Pulmonate Snail <i>Indoplanorbis exustus</i>	Purakala (UGC Care Journal) ISSN: 0971-2143	UGC Care Journal
6	Purakala (UGC Care Journal) Vol. - 31 Issue – 09 Pg. no. 698 – 701 April-2020	Dr. Archana B. Mantale Evaluation of Water Quality of Bindusara Dam at Pali District Beed Maharashtra State	Purakala (UGC Care Journal) ISSN: 0971-2143	UGC Care Journal
7	International Journal <i>Trends in Fisheries Research</i> Vol. - 9 Issue – 2 Pg. no. 17 – 22 Sept.-2020	Dr. Archana B. Mantale The Reproductive Cycle of the Fresh Water Pulmonate Snail <i>Indoplanorbis exustus</i>	ISSN: 2319 - 474X(p) 2319 – 4758(e)	Peer Reviewed
8	International Journal for Innovative Research in Multidisciplinary Field Special Issue – 22 Pg. no.126 - 129 January -2021	Dr. Archana B. Mantale Histological details of Ovotestis of Fresh Water Pulmonate Snail <i>Indoplanorbis exustus</i>	ISSN: 2455 - 0620	Peer Reviewed, Refereed
9	International Journal of Current Research	Dr. Priti N. Bajad Biopesticidal Effect of Natural saponin containing plant extract of	ISSN: 0975-833X	UGC Care Journal

		AcacciaConcinna on Pulse Beetle CallosobruchuschinensisLinnColeoptera: Bruchidae		
10	Journal of Global Resources (UGC care listed journal) SJIF (2017) : 6.087	Dr. Priti N. Bajad Bioefficacy of saponin extracted from <i>DodonaeaViscosa</i> Against the pulse beetle <i>callosobruchusChinensis</i> (coleoptera:bruchidae)	ISSN: 2395-3160	UGC Care Journal
11	The Pharma Innovation Journal	Dr. Priti N. Bajad Extraction, isolation and quantification of saponin from <i>Dodonaeviscosa</i> JACQ	ISSN (E): 2277-7695	UGC Care Journal
12	International Journal of Advance and Innovative Research	Dr. Priti N. Bajad Green and efficient synthesis of α -aminophosphonate	ISSN 2394 - 7780	UGC Care Journal
13	Current Pharma Research	Dr. Priti N. Bajad Green and Efficient Synthesis of Pyranopyrazoles	ISSN-2230-7842	UGC Care Journal
14	Cronicle of humanities and cultural studies	Dr. Priti N. Bajad E-learning the need of Today's Education	ISSN:2454-5503	UGC Care Journal
15	Asian journal of green chemistry	Dr. Priti N. Bajad Rapid and green synthesis of tetrahydrobenzo[b]pyran derivatives using reusable [EMIM][OH] ionic liquid	ISSN: 2588-4328	(Peer reviewed)
16	International science journal	Dr. Priti N. Bajad Science and spirituality	ISSN: 2348-604x	(Peer reviewed)

12)Details of research guides

Sr. No.	Name of research guide	Date of Approval as research guide
1.	Dr. Archana Bajirao Mantale	31 August 2021

13)Seminars/ Conferences/Workshops organized & the source of funding

Sr. No.	Level National/ International/ State	Name of the workshop/Seminar	Funding agency	Amount sanctioned	Durations (From-To)	Number of participants
1.	National Webinar	Role of Human Immunology in COVID-19 Pandemic	Self	---	9 th June 2020	200+
2.	National Workshop	Advanced Research Methodology in zoology	Self	---	8 th January 2022	80

14) Seminar / Workshop / Conference Attended / presented a paper

Sr. No	Name of faculty	International	National	Total
1.	Dr. Archana B. Mantale	03	27	30
2.	Dr. Priti N. Bajad	02	20	22

15) Details of Infrastructural facilities:

Library : Central library facility.
Internet Facilities for staff & students : Yes
Class room with ICT facility : Yes

16) Details on the students enrichment programs (special lecture, workshops, and seminar) with external experts: (2016-17 to 2021-22)

Sr. No	Title of Workshop/ seminar/ Guest lecture	Name of recourse person	Date of event	No of participants
1	Effect of aquatic culture on fisheries	Dr. R. K. Nimblakar	22/08/2016 (2016-17)	65
2	Child Labor underprivileged	Mr. Bhagwan Manal	24/09/17 (2017-18)	55
3	Recent trends in Molecular Biology	Dr. Meena Nagwanshi	30/01/19 (2018-19)	52
4	Importance of good health and hygiene	Mrs. Varsha More	25/07/19 (2019-20)	50
5	Employment opportunities for rural youth	Dr. Sandeep Gaikwad	01/10/2019 (2019-20)	60
6	Human Genetics	Dr. B. N. Jadhav	08/01/2020 (2019-20)	48
7	New Techniques in Genetics	Dr. D. M. Gaikwad	18/01/2020 (2019-20)	45
8	Parasitic Diseases in fishes	Prof. Laxmikant Shinde	03/06/2021 (2020-21)	60
9	Methods of induced breeding	Dr. Shrirang Birajdar	03/06/2021 (2020-21)	60
10	Career in Zoology	Dr. G. S. Pande	30/06/2021 (2020-21)	72

11	Induced Breeding by Hypophysation	Dr. R. T. Pawar	01/07/2021 (2020-21)	60
12	Origin of life	Dr. C. V. Sirsat	02/07/2021 (2020-21)	62
13	Blue Revolution	Dr. H. S. Jagtap	03/07/2021 (2020-21)	65
14	Helminths Parasites	Dr. Yogesh Reddy	16/11/2021 (2021-22)	65
15	Respiratory System & Mechanism	Ms. Sonali Tayade	18/11/2021 (2021-22)	62
16	Phylum: -Porifera	Dr. MeghaSolanke	22/11/2021 (2021-22)	70
17	Cell Cycle	Ms. Prajakta Bathe	29/11/2021 (2021-22)	68
18	Classification: Vertebrates	Dr. Nilesh Jawalkar	02/12/2021 (2021-22)	58
19	HIV Facts and Myths	Dr. B. N. Jadhav	07/12/2021 (2021-22)	72
20	Life Cycle of Plasmodium	Dr. Pramod Rokade	18/12/2021 (2021-22)	72
21	Environmental pollution and its Effects on human Health	Dr. Usha Sherkhane	27/12/2021 (2021-22)	75

17) Details of Teaching- Learning methods/ E-content

S r. N o .	Name of Faculty	Teaching Methods	Links
1	Dr. Archana B. Mantale	Power-point presentations	https://docs.google.com/document/d/1JX7toN6eHaov8xfeZYXjwflaz5wSvidp/edit?usp=sharing&ouid=110007185906924077790&rtpof=true&sd=true
		Audio-Video clips	-----
		Internet/You Tube	https://docs.google.com/document/d/1JX7toN6eHaov8xfeZYXjwflaz5wSvidp/edit?usp=sharing&ouid=110007185906924077790&rtpof=t

			rue&sd=true
2	Dr. Priti N. Bajad	Power-point presentations	https://docs.google.com/document/d/198lr96M0XvNvfJxJwoun_Y80BbFH7xkO/edit?usp=drivesdk&ouid=115873458509446441606&rtpof=true&sd=true

18) Teaching methods adopted to improve student learning-

- Power Point Presentations
- Use of Video Clips
- Project Work
- Video Conferencing Lecture
- Organized Workshop
- Online NPTEL Courses
- Online NPTEL/UGC-SWAYAM Lectures
- Students Seminar
- Field Project/Survey

19) Details about study tour or study visit Report:

Study tour Report from Academic year 2016-17 to 2019-20 – Shared link

https://drive.google.com/drive/folders/1zw1PKmtC5wCTh97p_WTFwtDs34eupF5E?usp=sharing

▪ Student Centric Achievements:

- 90 to 100% results every year
- Zoology students participated in S.B. Science College State level exhibition (Shubham Ughade – 2nd prize winner and Santosh Savai), Cultural Activity, Sport activity etc.
- **Gopal Lohare** participated in Avishkar in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- **Pankaj Magar** (Nayab Tehsildar in Yawala) participated and got first prize in university level throw ball competition.
- **Reshma Gule** B.Sc. student participated and got first prize in Debit competition at Nagar college, Nagar
- **Reshma Gule** B.Sc. Student got second prize in Swachhatamitra Competition organized by Municipal Corporation, Aurangabad and Swachh Bharat Mitra, Gangapur.

- **Juber Pathan** B.Sc. student participated and got prize University level Science Poster Presentation at Chhatrapati College, Aurangabad.
- **Dr. Dinesh Kharate** appointed as assistant professor of Zoology in Sant Ramdas Arts, Commerce and Science college, Ghansawangi, Dist. Jalna MS India
- **Dr. Vijay Lakwal** appointed as assistant professor of Zoology in Nanasaheb Yashwantrao Narayanrao Chavan Arts, Science and Commerce college, Chalisgaon, Jalgaon MS India
- **Dr. Pawan Pardeshi** appointed as assistant professor of Zoology in Mahatma Gandhi Vidya Mandir Arts, Science and Commerce college, Manmad.
- **Ms. Kaveri Kalwane** M.Sc. Zoology Research Scholar
- **Mr. Kailas Temkar** M.Sc. Zoology Research Scholar
- **Vidya Solunke** M.Sc. Zoology
- **Heena Pathan** M.Sc. Zoology

Best Practice :

- Student Mentoring
- Lecture on Water Management to students and staff
- Water and Feeder Pots for Birds in College Campus
- Celebration of Special Day Related to Zoology
- Teacher's Day Celebration
- Tobacco Free Campaign
- Plastic Free Campaign

20)Event's with Photographs

DEMONSTRATION OF ZOOLOGICAL EXPERIMENTS BY B.SC. T.Y. STUDENTS





E-LEARNING THROUGH ICT



SEMINARS BY STUDENTS



BEST PRACTICES



Awareness Lecture on HIV Celebration of Mendel Birth Anniversary



Water Pots for Birds Feeder pot for birds

FIELD COLLECTION



Collection of aquatic Plants Collection of water Sample for oxygen estimation



Estimation of oxygen Demonstration Estimation of oxygen Demonstration

STUDY TOUR



Visit to Paul Herbert Centre of Zoology Visit to DNA Bar-coding Centre Lab



GUEST LECTURES



Dr. B. N. Jadhav delivering lecture on Human Genetics



Dr. D. M. Gaikwad deliver lecture

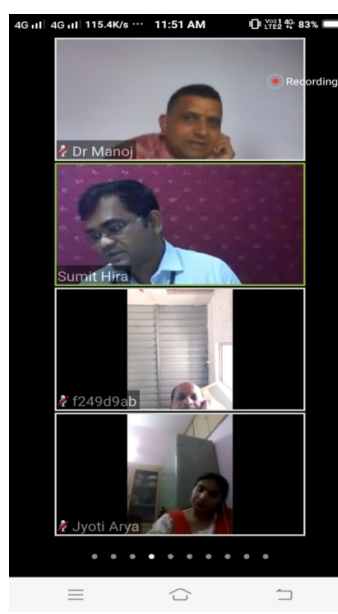
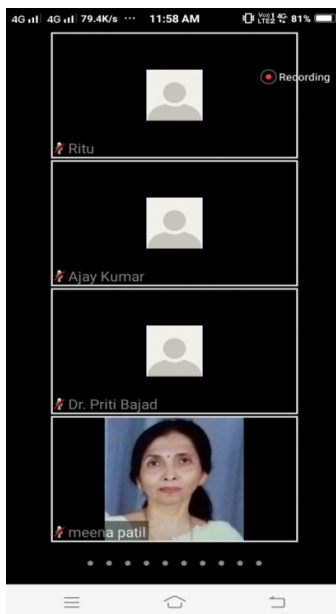


Prof. Laxmikant Shinde delivering lecture



Dr. Birajdar delivering lecture

SOME SCREEN SHOTS OF NATIONAL WEBINAR



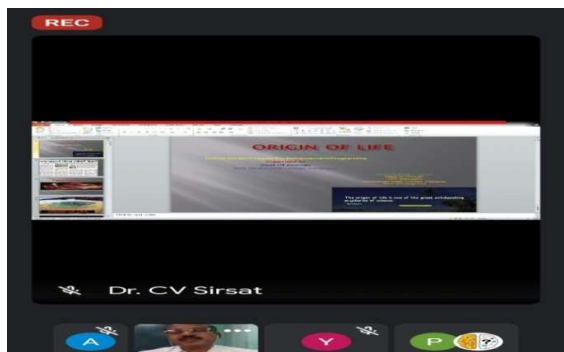
ONLINE STUDENT CAPABILITY ENHANCEMENT PROGRAM



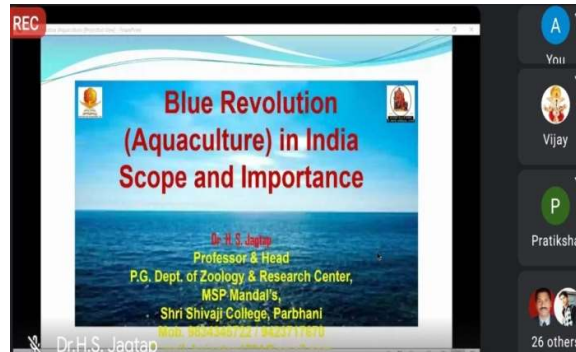
Dr. G. S. Pande delivering lecture



Dr. R. T. Pawar delivering lecture

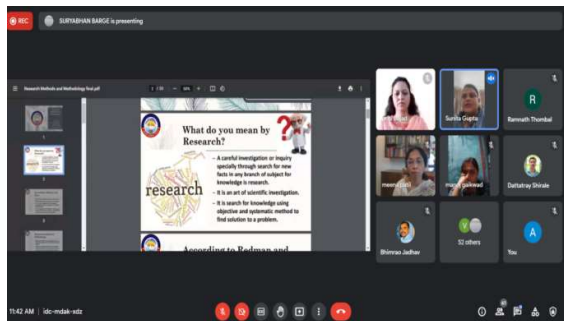


Dr. C. V. Sirsat delivering lecture

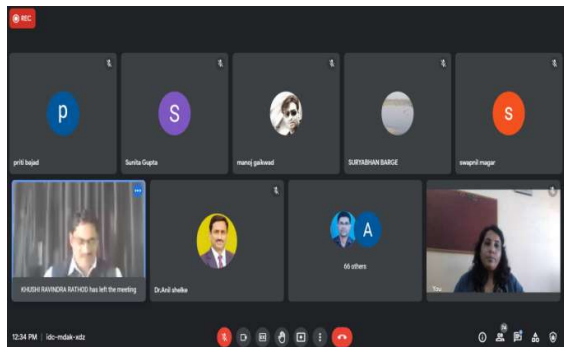
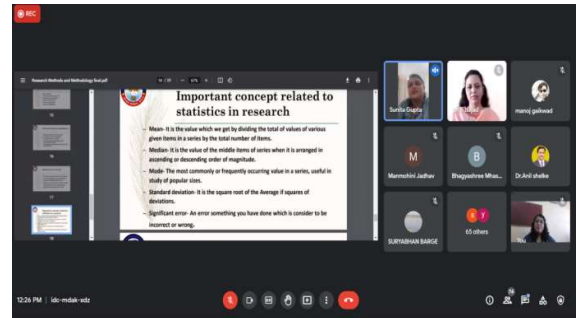


Dr. H. S. Jagtap delivering lecture

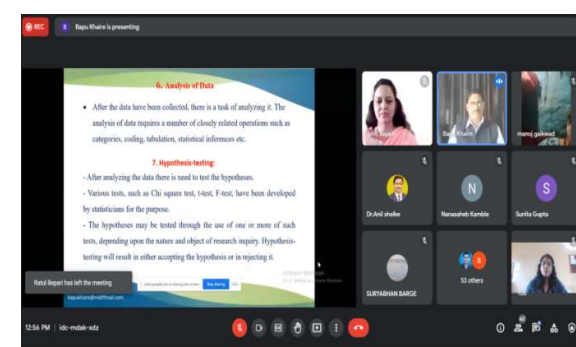
NATIONAL WORKSHOP ON ADVANCE RESEARCH ETHODOLOGY IN ZOOLOGY



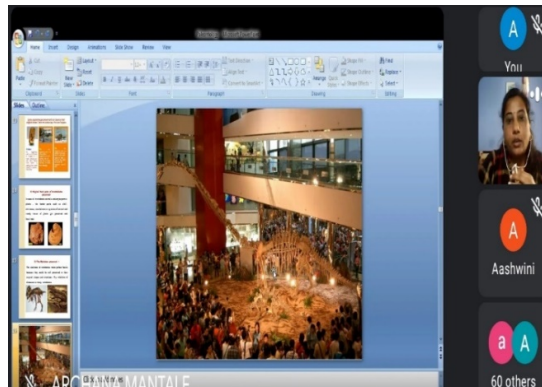
Dr. (Mrs.) Sunita Gupta giving information about research methodology



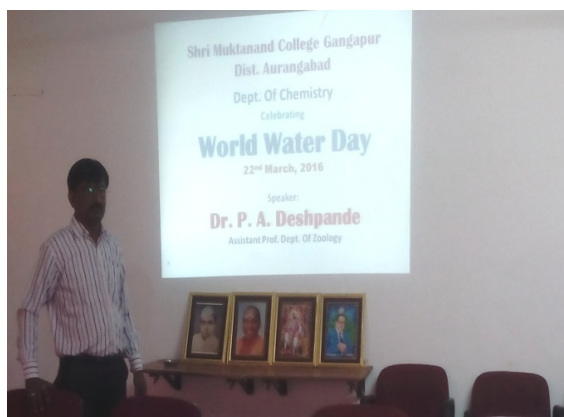
Dr. Babu Khairre giving information about Steps in Research Methodology



ENVIRONMENTAL CONSCIOUSNESS



Dr. Archana Mantale delivered lecture on international Cleaning Day for NSS volunteersDr. Archana Mantale delivered lecture



Dr. P. A. Deshpande delivered lecture on world water DayStudents and Staff taking Oath for Tobacco free India



HOD of Zoology, Dr. Archana Mantale, staff of Zoology Dept. Dr. Priti Bajad, Dr. Rahul Tingote, Ms.SapanaGadekar, Ms. Mangala Pawar and students took part in plastic free campaign

TEACHERS DAY CELEBRATION



DEPARTMENTAL VISITORS



21) SWOC analysis of the department and Future Plans:

a) SWOC analysis:

Strengths:

- All faculty members are Ph. D. holders with good research experience.
- Well-equipped laboratory.
- Departmental Library.
- Department with ICT facility.

Weakness:

- All Students come from rural area and the academic back ground of the students is not up to their levels.

Opportunities:

- Students can get number of opportunities through zoology in different kinds of government and private sectors.
- Students can also join in M. Sc. Zoology, M.Phil., Ph.D., research and lectureship.
- Aquaculture industries, Sericulture, Poultry forms, Animal husbandry

Challenges:

- To improve the academic performance of the slow learner students
- To prepare students get involved in different activities took place in college.

b) Future plan:

- Major Research Proposal to Funding Agency.
- Additional Instruments to be purchased to strengthen Research Laboratory.
- To apply for recognition as an Research Guide Dr. Priti Bajad
- Plan to open PG stream in Zoology
- To Arrange Study Tour / field visit.
- To Update and Renovation of Research Laboratory.
- To organize National/ International Workshop/Seminar/Conference.
- To publish research papers/ books in peer reviewed/ reputed journals.



Dr. A. B. Mantale
Head
Department of Zoology