



Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Criterion 7- Institutional Values and Best Practices

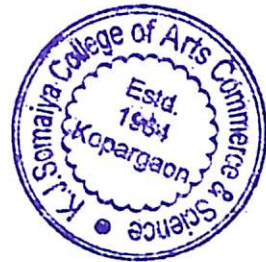
7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

**Report of Management of the various
types of Degradable and Non-
Degradable Waste**





Kopargaon Taluka Education Society's
**K.J. Somaiya Arts, Commerce and Science College,
Kopargaon**

**Report of Management of Degradable and Non-degradable Solid Waste
2018-19 to 2022-23**

Introduction:

The K.J. Somaiya College of Arts, Commerce and Science, Kopargaon is committed to sustainability and environmental stewardship. As part of this commitment, several green campus initiatives have been implemented to reduce the environmental impact of campus operations and promote sustainability among our stakeholders. Waste management is a critical aspect of environmental sustainability, particularly within educational institutions. Proper waste management involves the segregation, collection, recycling, and disposal of waste materials to minimize environmental impact. In this report, we will focus on the management of degradable and non-degradable waste in our college.

Degradable Waste:

Degradable waste refers to organic materials that can decompose naturally over time. In a college setting, degradable waste commonly includes food scraps, paper, yard waste, and other biodegradable materials.

Management Strategies:

Segregation at Source: Encourage students and staff to separate degradable waste from non-degradable waste at the source. This can be facilitated by providing separate bins for organic waste in common areas and dining halls.

Composting: Establish a composting system on campus to manage organic waste effectively. Composting can be done using various methods, including aerobic and anaerobic composting. The resulting compost can be used as fertilizers for campus gardens or landscaping projects.

Awareness and Education: Conduct awareness campaigns and educational programs to promote the importance of segregating degradable waste and the benefits of composting. This can include workshops, seminars and informational materials distributed across campus.



Collaboration with Local Authorities: Collaborate with local authorities or waste management agencies to ensure proper disposal of compostable waste. This may involve arranging for regular pickups or drop-off points for compostable materials.

Non-Degradable Waste:

Non-degradable waste, also known as solid waste, includes materials that do not easily decompose in the environment. Common examples include plastics, glass, metals, and certain types of packaging materials.

Management Strategies:

Recycling Programs: Implement recycling programs on campus to manage non-degradable waste effectively. Provide separate bins for recyclable materials such as plastics, glass, and paper in strategic locations across the college.

Reduce and Reuse: Promote the principles of reduce and reuse to minimize the generation of non-degradable waste. Encourage the use of reusable water bottles, coffee mugs, and bags among students and staff. Implement policies to reduce the consumption of single-use plastics and packaging materials.

E-waste Management: Establish protocols for the proper disposal of electronic waste (e-waste) such as old computers, printers, and mobile phones. Partner with certified e-waste recycling companies to ensure responsible disposal and recycling of electronic devices.


Awareness Campaigns: Raise awareness about the environmental impact of non-degradable waste through campaigns, workshops, and events. Encourage students and staff to adopt sustainable practices and take responsibility for their waste generation.

Conclusion:

Effectively managing degradable and non-degradable waste in college requires a combination of infrastructure, education, and community engagement. By implementing the strategies outlined in this report, our college can reduce its environmental footprint, promote sustainability, and inspire future generations to adopt eco-friendly practices.


Coordinator
IQAC, K. J. Somaiya College
Kopergaon, Dist. A.Nagar




Principal
K. J. Somaiya College of Arts
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Kopargaon**



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**K. J. Somaiya College of Arts, Commerce & Science,
Kopargaon, Dist. Ahmednagar**

Waste Management in College Campus:

Regular domestic solid and liquid waste management is done in the Campus academic, administration, office, laboratories, library, Boys hostel, ladies hostel, canteen kitchen, Indoor game hall, Playground, Botanical Garden, Parking, roads etc.

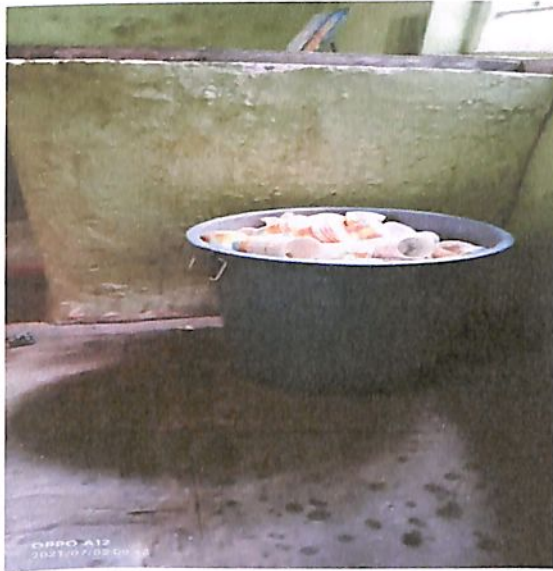
For daily / regular collection and cleaning of the wastes and garbage adequate staff is employed.




Head
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Principal
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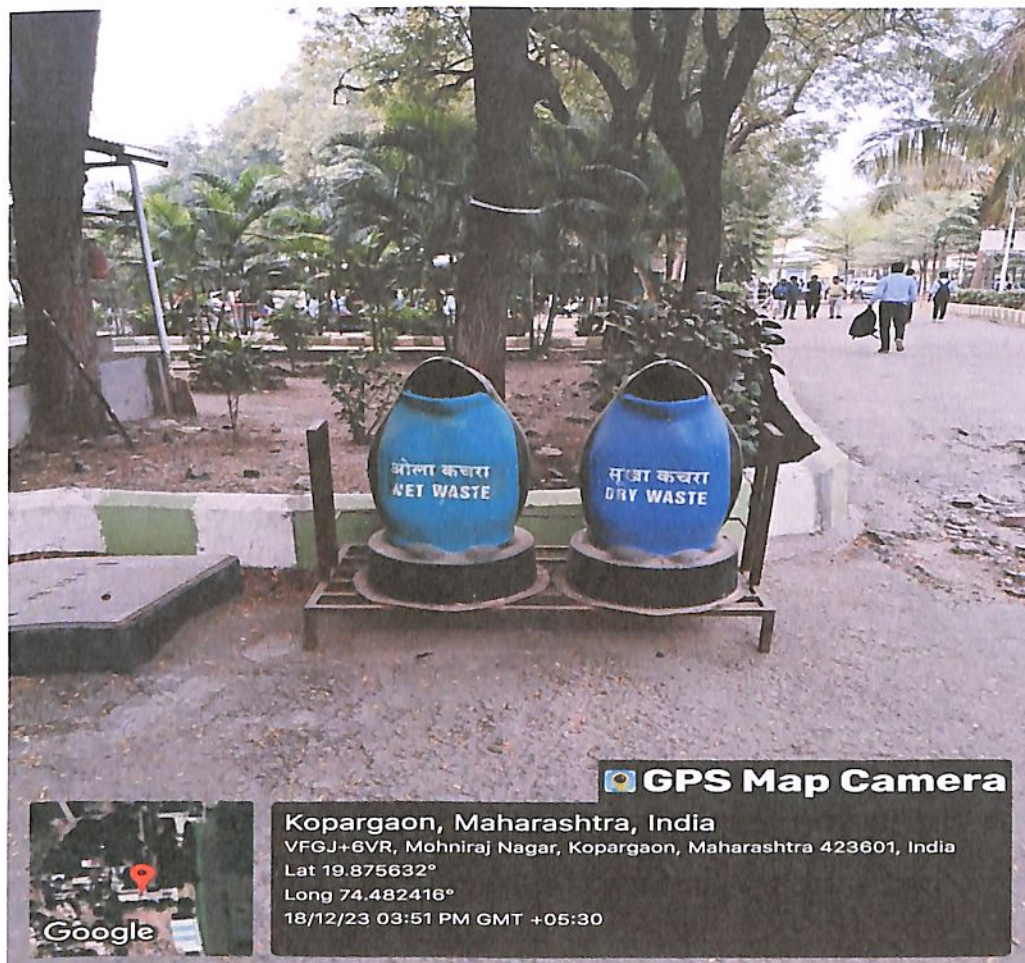
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Wet Waste Management:-

The liquid wastes obtained from all science laboratories, central library, kitchens, canteen, urinals and toilets are drained properly in Safety tanks, to avoid soil and water pollution of nearby Godavari River.

The wet / waste water usually contains drainage of toilets and kitchens. The drainage containing chemicals specifically from Science laboratories are of least importance from pollution point of view, because most of the chemicals used for experiments with very lesser concentrations and harmful effects, which are finally drained in soak pit. (Laboratories and Hostels safety tanks)

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A handwritten signature in blue ink, likely belonging to the Head of Department of Zoology.

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A handwritten signature in blue ink, likely belonging to the Principal.

Principal
K. J. Somaiya College of Arts
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Laboratory Exhausts and fuming hood (Chimney):-



Solid Waste Management:-

For easy practice of collection dust bins of different types are kept in all buildings and outside at different places.

There are some waste collection centers made in campus for easy collection and disposal of wastes, such as dumping pit, Vermiculture beds, and Cement concrete tanks to collect the wastes.

Solid Waste Management in College Campus


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Two type of wastes obtained in College Premises, such as Organic wastes and Inorganic wastes.

- 1. Organic wastes:** This waste includes Answer books, papers, tree leaves and garbage, Hostel kitchen wastes etc.

Approximate quantity: **15-20 kg / day.**

Disposal methods adopted:

- a) Answer books, newspapers etc.: Scrap sale
- b) Plant garbage: Composting and vermicomposting
- c) Hostel kitchen waste: Composting and vermicomposting
 - i. Vermiculture Beds: 02
 - ii. Dumping Pits: 02
 - iii. Dustbins: Plastic-12
 - iv. Dustbins: Steel material 04 (Proposed)
 - v. Burning concrete Tanks: 02 (Proposed)
(With display boards)

- 01 Inorganic wastes:** This type of wastes includes plastic bags, glass bottles of chemicals, plastic bottles and tin or canes of chemicals, chocolate wrappers, writing material like plastic pens, plastic water bottles, e-wastes, etc.

Approximate quantity: **01-05 kg / day.**


Disposal methods adopted:


- a) Most of plastic waste: Sale of Plastic canes, wrappers, pens and bottles e-wastes are separately collected and sold as a plastic Scrap. Burning of non-recyclable materials.
- b) Glass bottles of Chemicals: Sale as a scrap.

VERMICULTURE & VERMICOMPOSTING:

- ❖ Definition: It is the branch of applied zoology. It deals with scientific culturing or rearing of earthworms for the production of vermicompost.
- ❖ Vermicompost is a nitrogen rich Biofertilizer.
- ❖ Scope & Importance:

- 1) It provides us vermicompost.


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2) It also provides us a protein rich animal feed to live stock or domestic animals like chicken, fishes.

3) Some species of earthworms are used for treatment of industrial organic wastes & leads to large scale production of vermicompost. The alimentary canal of earthworms serves as bioreactor, because it allows growth of desired bacteria useful for nitrogen fixation in the soil.

- The movements of earthworms in soil make it porous & airy and enhance the rate of root respiration.
- Manure or excreta released by earthworms increase the water holding capacity of the soil.
- Hence the earthworms are called as “Friends of Farmers”.
- ❖ **Species of Earthworms:** There are variety of earthworms available in India like *Pontoscolex*, *Perionyx excavates*, *Eudrigaster*, *Eudrilus eugenie*, *Eiesnea foetida*, *Pheretima posthma*, etc.
- ❖ Out of these *Pheretima posthma*, *Eudrilus eugenie*, *Eiesnea foetida* are widely used in Maharashtra for Vermicomposting.
- ❖ These Earthworms have high rate of Bioconversion of wastes & faster Reproduction.
- ❖ **1) *Eudrilus eugenie*:** is one of the most widely used exotic species of earthworms in vermiculture. This cosmopolitan eudrilid earthworm originated in Africa. It is commonly known as “African Night Crawler”.
- ❖ This is very suitable species for Vermicomposting & Protein rich meal production. It has excellent growth rate high conversion ratio. It grows maximum weight of 02 to 05 gm in 8 -10 weeks.
- ❖ **2) *Esnea foetida*:** It is a fast growing species with annual rate of cocoon formation almost 35 times more than *E. eugenie*. Hence best suitable for Vermicomposting & also for production of protein baits for fishery & poultry birds.

Composition of Vermicompost: Vermicompost is rich in nitrogen & other major & minor nutrients of the plants. It also contains number of useful micro-organisms like nitrogen fixing bacteria.

- ❖ **Vermiwash:** The water contents drained & collected from the floor /base of vermiculture bed periodically is called as Vermiwash.
- ❖ It is also rich in number of plant nutrients.



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- ❖ It can be used as liquid fertilizer through drip water irrigation system.
- ❖ It can be sprayed directly on crop plants.
- ❖ Vermigold: The bath water of earthworms is called as Vermigold, It is also used as liquid fertilizer to the crop plants.

Earthworm Species: *Esnea foetida*: Vermicomposting Beds (02)



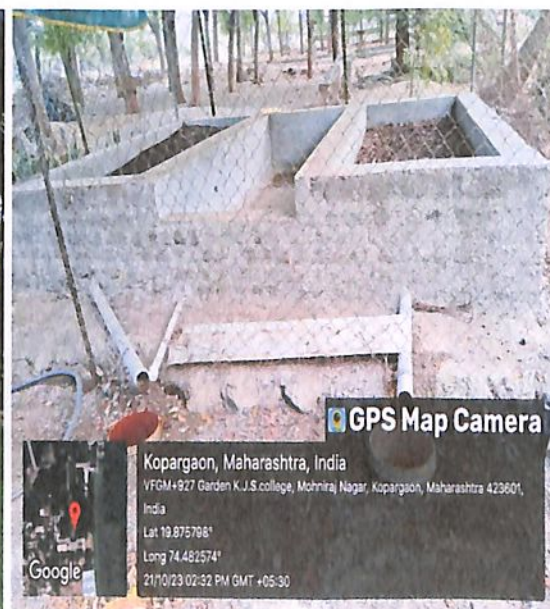
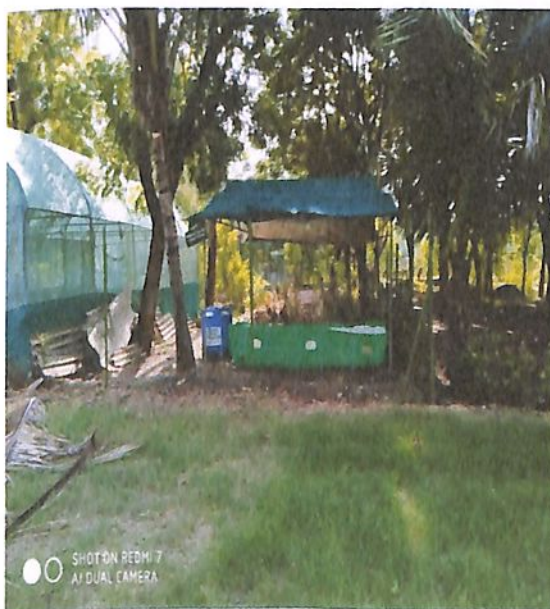
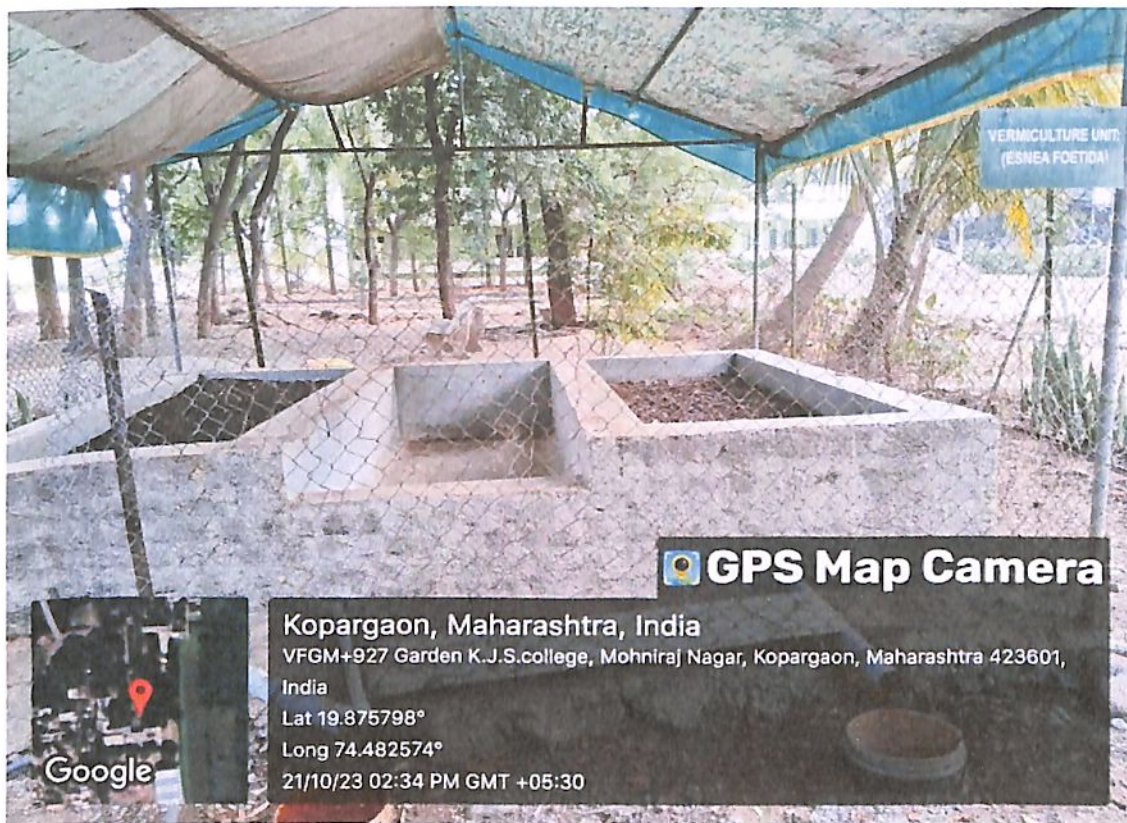
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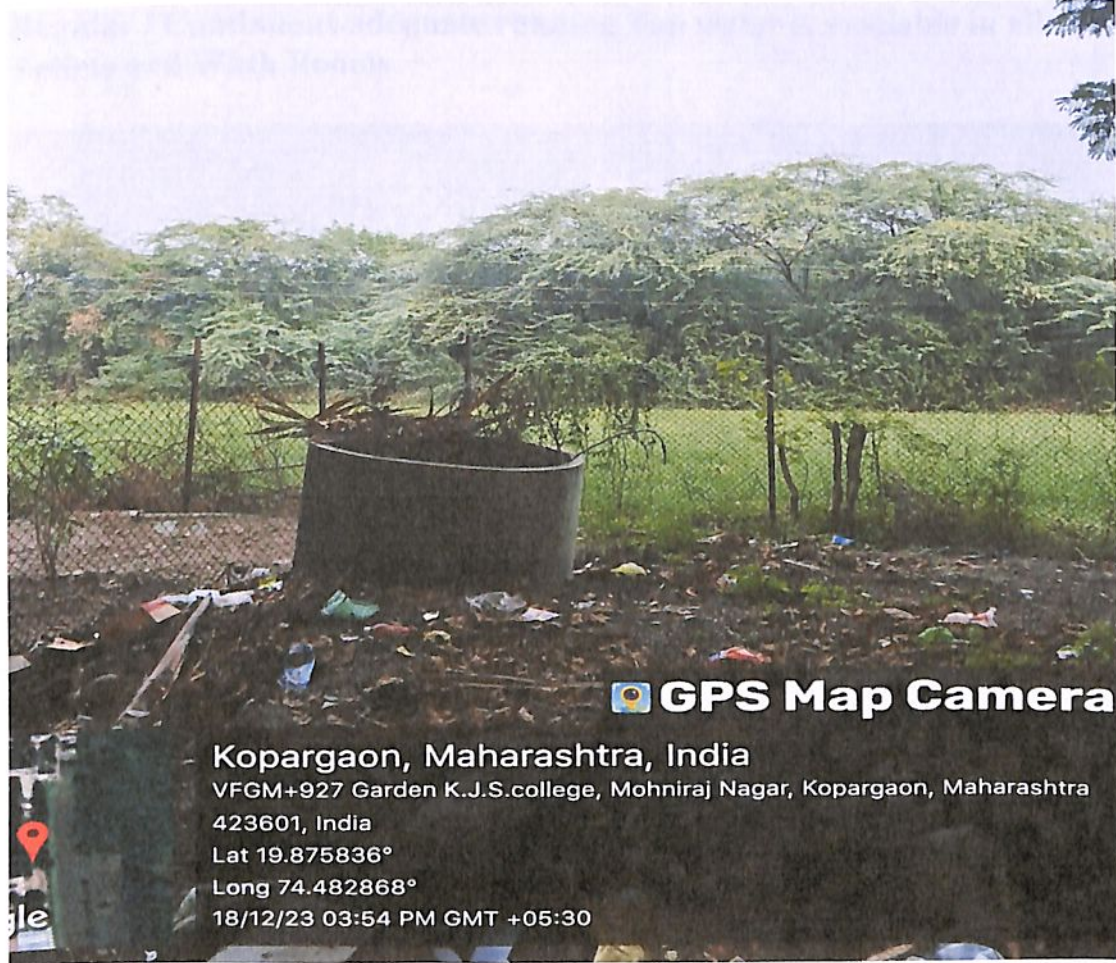
Dumping pit for composting of the organic wastes and Garbage & Cement concrete tank for collection of solid wastes:



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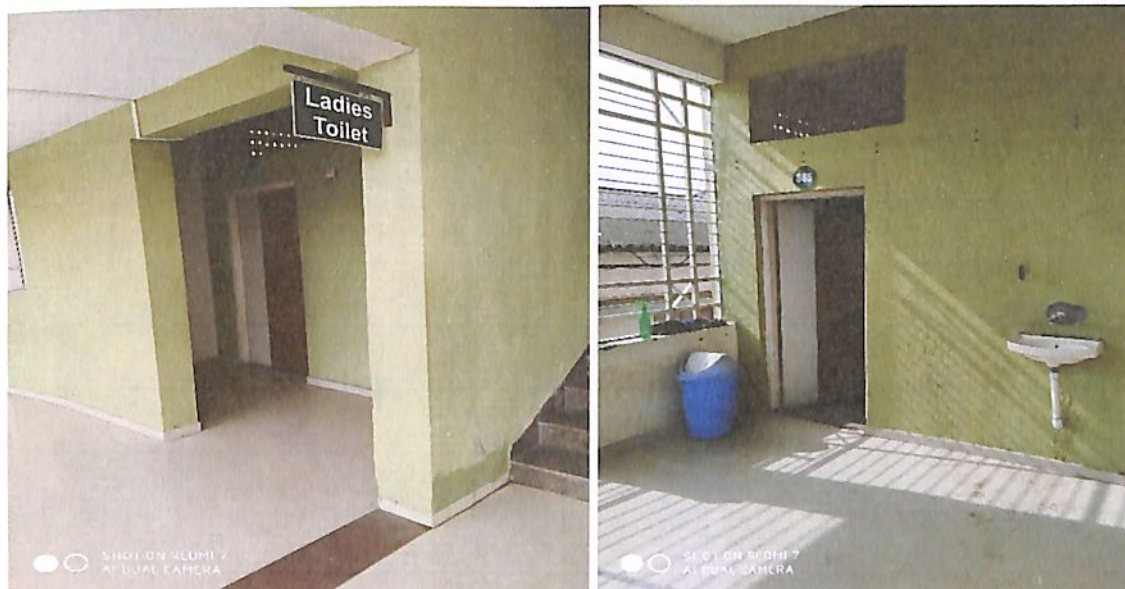


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Regular / Continuous adequate running Tap water is available in all the Toilets and Wash Rooms.



Adequate exhaust/ air purifier's facilities, Windows with adequate ventilations are made available for all toilets:



Garbage and dust bins labeled appropriately as Dry Waste (compost or organic wastes = green, and recycle (plastic) = blue / Wet Waste.

Color-coded containers or bins: landfill = Black/grey, compost = green, and recycle = blue

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2. **Inorganic wastes:** This type of wastes includes plastic bags, glass bottles of chemicals, plastic bottles and tin or canes of chemicals, chocolate wrappers, writing material like plastic pens, plastic water bottles, e-wastes, etc.

Approximate quantity: **01-05 kg / day.**

Disposal methods adopted:

- a. **Most of plastic waste:** Sale of Plastic canes, wrappers, pens and bottles e-wastes are separately collected and sold as a plastic Scrap. Burning of non-recyclable materials.
- b. **Glass bottles of Chemicals:** Sale as a scrap.
- c. **E-wastes:** All type of impaired electronic components and devices from different laboratories, such as computers, printers, scanners, PH meter , Potentiometers, colorimeters, batteries, electrical equipment etc. are collected time to time and sold as scrab material.

All cleaning products, grease, strippers, batteries, fluorescent lighting, science lab materials, and other potentially hazardous products disposed of properly.

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3. Biomedical Waste Management

❖ **Microbial Solid Waste:**

Microbial lab waste include discarded cultures of microorganisms, broken glasses, disposable Petri dishes and all other containers that have been used in storage of specimen, different kind of agar media i.e. nutrient agar, Mac Conkeys agar, Mueller-Hinton agar etc. culture of various organisms.


❖ **Waste Treatment & Disposal Method for Microbiological Waste**

Autoclaving

- The autoclave operates on the principle of the standard pressure cooker.
- The steam generated at high temperature penetrates waste material and kills the microorganisms (Pathogen).

Principle

- The autoclave works on the principle of moist heat sterilization where steam under pressure is used to sterilize the material present inside the chamber.
- The high pressure increases the boiling point of water and thus helps achieve a higher temperature for sterilization.
- Water usually boils at 100°C under normal atmospheric pressure (760 mm of Hg); however, the boiling point of water increases if the pressure is to be increased.
- Similarly, the high pressure also facilitates the rapid penetration of heat into deeper parts of the material, and moisture present in the steam causes the coagulation of proteins causing an irreversible loss of function and activity of microbes
- This principle is employed in an autoclave where the water boils at 121°C at the pressure of 15 psi or 775 mm of Hg.
- When this steam comes in contact on the surface, it kills the microbes by giving off latent heat.
- The condensed liquid ensures the moist killing of the microbes.


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- Once the sterilization phase is completed (which depends on the level of contamination of material inside), the pressure is released from the inside of the chamber through the whistle.
- The autoclave operates on the principle of the standard pressure cooker.
- The steam generated at high temperature penetrates waste material and kills the microorganisms (Pathogen).

Procedure:

1. Fill the water tank till waterline.
2. Switch on the power supply for preheating of autoclave.
3. Place the wrapped material in Autoclave and close the lid.
4. Switch on the autoclave and start the sterilization process (up till 121⁰ C at 15 psi for 15 min).
5. After completion of sterilization switch off the power supply.
6. Carefully open the lid and remove the material.

Process of Biomedical Waste Management:

1. Preparation of medium.
2. Autoclaving
3. Inoculation of cultures.
4. Incubation at 37⁰ C for 24 hrs.
5. Autoclaving of discarding material.
6. Collection of sterilized waste in polythene bags or tray.
7. Land filling.



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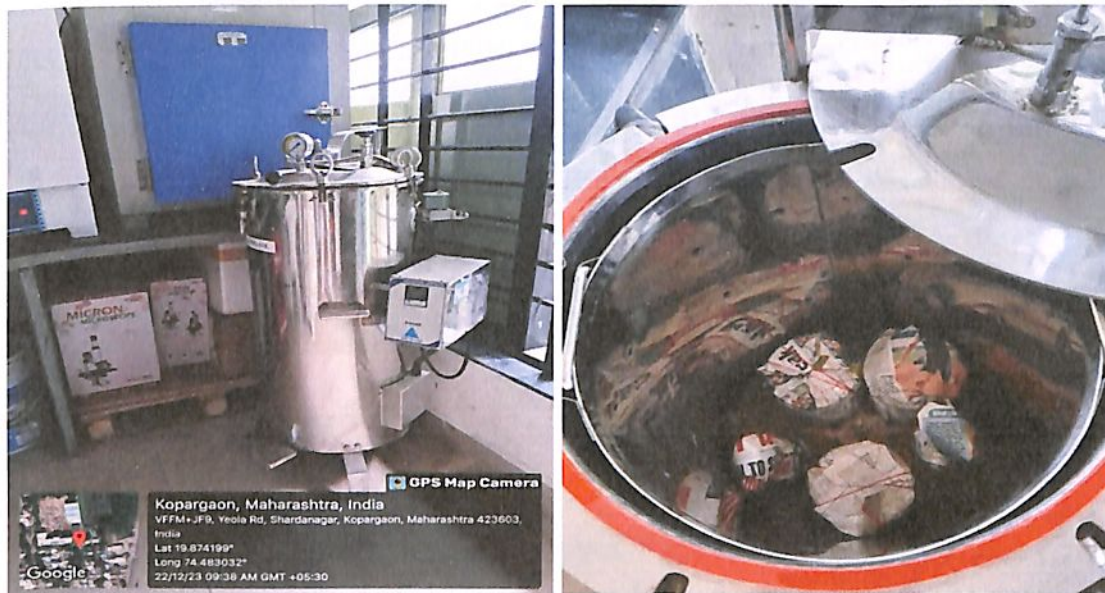
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Photo Gallery:

Autoclaves



Material for sterilization


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Un-inoculated plates



Inoculated plates

❖ **Discarded Materials – Land Filling methods**

Collection of sterilized waste in polythene bags or tray and Land filling



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There is a dedicated staff for kitchen/dining hygiene maintenance, The College provides dining facilities to the students through contract basis to the Caterers.

All type of measures are applied and employed to maintain overall cleanliness and hygiene in College buildings and premises to maintain healthy and pollution free environment in Campus.

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Criterion 7- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

Waste Water Management





Kopargaon Taluka Education Society's

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Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

☎ : 9146142000, 9146152000 Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

AN ISO 9001-2015 CERTIFIED INSTITUTE

SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. :

Date : / /202


Waste Water Treatment Plant

Our College has installed a waste water treatment plant in the campus near ladies hostel. The treatment plant design to treat waste water collected from bathrooms and toilets in gents and ladies hostel and also from college premises.

The design of waste water treatment plant of capacity 10,000 liters using Ferrocement techniques is done as per the guidelines given by Er. U. M. Paranjape, Jalwardhini Pratishthan, Mumbai and Er. P. P. Lele, Ferrocement Society of India, Pune. The plant is established and constructed with the expertise persons from Sanjivani Engineering College, Kopargaon.

It is practiced to reduce the water pollution nearby water resource like Godavari river. This practice is continuous and sustainable for water conservation as well as controlling water pollution.


Co ordinator
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Sanjivani College of Engineering, Kopargaoon

(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)

At. Sahajanandnagar, Post. Shingnapur - 423 603, Tal. Kopargaoon, Dist. Ahmednagar (MS), India



Approved by AICTE, Accredited by NAAC with 'A' Grade, ISO 9001 : 2015 Certified
No. FMS. 45/B-III/RC(BB)/93/14136 Dt. 17-1-1994

Affiliation ID No. PU/AN/Engg-026/(1983)

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Website: www.sanjivanicoe.org.in

e-mail: principalcoe@sanjivani.org.in



Ref. :-SCOE/CIVIL/TOM/2021-22/911

Date: 27/8/2021

To,
The Principal,
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaoon,

SUB: - Design of Waste Water Treatment Plant for K. J. Somaiya College, Kopargaoon
REF.: -Your Letter 1403/2021-22 dated 31/07/2021.

Sir,


As per your letter cited above, we have design waste water treatment plant of capacity 10,000 Litres using ferrocement techniques for K.T.E.S's, K. J. Somaiya Arts, Commerce and Science College, Kopargaoon, Tal. Kopargaoon, Dist. Ahmednagar.

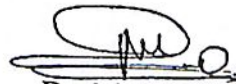
Design is done as per guidelines given by Er. U. M. Paranjape, Jalwardhini Pratishthan, Mumbai and Er. P.P. Lele, Ferrocement Society of India, Pune. The treatment plant is designed to treat waste water collected from Bathrooms and Toilets in gents and ladies hostels and College Premises within college campus. It is expected to treat more than 15000 litres of water per day and can be efficiently use again for gardening and other secondary purposed without any harm.


Detailed plan of Waste Water treatment plant is enclosed herewith.

Materials used for waste water treatment plant is properly graded and tested in our laboratory and reports of same is enclosed herewith.


Designed by


Dr. S. V. Patankar
Ph.D. (Structure), Dept. of Civil Engg.


Dr. M. S. Purkar
HOD, Civil Dept.


Dr. A. G. Thakur,
Director, SCOE., Kopargaoon


Coordinator
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Sanjivani College of Engineering, Kopargaon

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At. Sahajanandnagar, Post. Shingnapur - 423 603, Tal. Kopargaon, Dist. Ahmednagar.(MS), India

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Affiliation ID No. PU/AN/Engg. 826/(1983)

Phone : +91 9130191301, 8975800800

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Ref. No.: SCOE/CIVIL/TOM/2021-22/ 910

Date: 27/8/2021

TESTING OF MATERIALS USED IN WASTE WATER TREATMENT PLANT

REF:- Your Letter 1403/2021-22 dated 31/07/2021.

Name of Project: - Waste Water treatment Plant at for K. J. Somaiya College, Kopargaon
Tal. - Kopargaon, Dist. - Ahmednagar.

Aggregates: Sieve analysis-

Sr. No.	IS Sieve Size mm	Percentage passing						Remark
		CA-I 63mm	CA-II 40mm	CA-III 25mm	CA-IV 20mm	CA-V 16mm	CA-II 12.5mm	
01	80	100	---	---	---	---	---	Test reference: IS 2386 (Part-II, III and IV) and IS 383-1970 Fineness modulus of 63mm Coarse aggregate (CA-I) = 9.00 Fineness modulus of 40 mm Coarse aggregate (CA-II) = 7.99. Fineness modulus of 25 mm Coarse aggregate (CA-III) = 7.88. Fineness modulus of 20 mm Coarse aggregate (CA-IV) = 7.10. Fineness modulus of 16 mm Coarse aggregate (CA-V) = 6.98. Fineness modulus of 12.5mm Coarse aggregate (CA-VI) = 5.99.
02	63	91.30	--	---	---	---	---	
03	50	0.00	100	---	---	---	---	
04	40	0.00	96.90	100	100	---	---	
05	31.5	0.00	17.60	100	---	---	---	
06	25	0.00	0.00	98.80	98.10	---	---	
07	20	0.00	3.70	11.40	88.11	100	100	
08	16	0.00	0.90	00.00	00.00	91.50	100	
09	12.5	0.00	0.00	0.00	0.00	09.20	1.50	
10	10	0.00	0.00	0.00	1.30	01.40	0.20	
11	4.75	0.00	0.00	0.00	0.85	0.40	0.00	
Properties of Materials		C.A.-I (63mm)	CA-II (40 mm)	C.A.-III (25mm)	CA-IV (20 mm)	C.A.-V (16mm)	CA-VI (12.5 mm)	IS requirements
Type		Crushed	Crushed	Crushed	Crushed	Crushed	Crushed	Crushed
Shape		Angular	Angular	Angular	Angular	Angular	Angular	Spherical/Angular
Nominal size		63 mm	40 mm	25 mm	20mm	16mm	12.5mm	63mm to 10mm
Specific gravity:		2.913	2.892	2.871	2.882	2.876	2.862	2.6-2.9
Water absorption		0.31 %	0.49 %	0.63 %	0.81 %	0.82 %	0.89 %	< 1%
Deleterious materials		Nil	Nil	Nil	Nil	Nil	Nil	< 3%

Tested by

Dr. S. V. Patankar
Incharge, TOM Lab.Dr. M. S. Purkar
HOD, CIVIL DEPTDr. A. G. Thakur
DIRECTOR

Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



Sanjivani College of Engineering, Kopargaon

(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)

At. Sahajanandnagar, Post. Shingnapur - 423 603, Tal. Kopargaon, Dist. Ahmednagar (MS), India

Approved by AICTE, Accredited by NAAC with 'A' Grade, ISO 9001 : 2015 Certified
No. FMS. 45/B-II/RC(BB)/93/14136 Dt. 17-1-1994

Affiliation ID No. PU/AN/Engg. 026/(1983)

Phone : +91 9130191301, 8975800800

Website: www.sanjivanicoe.org.in

e-mail: principalcoe@sanjivani.org.in

Ref. No.: SCOE/CIVIL/TOM/2021-22/ 915



TESTING OF MATERIALS USED IN WASTE WATER TREATMENT PLANT

REF:- Your Letter 1403/2021-22 dated 31/07/2021.

Name of Project: - Waste Water treatment Plant at for K. J. Somaiya College, Kopargaon
Tal. - Kopargaon, Dist. - Ahmednagar.

1] **Fine Aggregate** : Natural River sand is spherical to cubical in shape, nominal Size of 4.75 mm, Specific gravity of 2.582 and Water absorption of 3.621%

• Gradation and Fineness Modulus of Sand

Sieve Size, mm →	10	4.75	2.36	1.18	0.6	0.3	0.15	0.75
Percentage Passing →	100	97.70	84.70	58.70	42.00	30.50	14.80	0.00
IS requirement of Grading Zone -II	100	90-100	75-100	55-90	35-59	8-30	0-10	---
Fineness Modulus of Crushed Sand sample is 2.716. It is belong to Grading Zone -II as per IS 383-1970								
Note: particle size <75 micron was removed by washing								

2] **Brick Bats**: Most of bricks are two third to half in size, partially heated in kiln, faint to yellowish in colour, rectangular in shape, compressive strength is up to 2 MPa and water absorption is 29.33%, mostly porous in nature.

3] **Coal**: Dark Blackish in colour, spherical and elongated 3mm to 30mm in diameter, 10mm to 50mm in length.

4] **Flv Ash**: Whitish in colour, particle size 5-190 micron, water absorption capacity is 38.92%.

Tested by

Dr. S. V. Patankar
Incharge, TOM Lab.

Dr. M. S. Purkar
HOD, CIVIL DEPT

Dr. A. G. Thakur
DIRECTOR

Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. ANagar

Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

☎ : 9146142000, 9146152000 Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE AN ISO 9001-2015 CERTIFIED INSTITUTE

SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. : 1403/2021-22

Date : 31/7/2021



To,
The Principal
College of Engineering
Kopargaon.

Sub.- Regarding the Project in Design of Waste Management Plant...

Respected Sir,

With reference to the subject cited above, we desire to install Waste water Management Treatment Plant in our campus. We will be highly obliged to receive your expertise and consultancy for the same.

Expecting a positive reply from you at the earliest.

Thanking you.

Yours faithfully,

B.S. Yadav
(Dr. B.S. Yadav)

Received 31/07/2021

[Signature]
Dr. S. V. Patankar
(Ph.D. Structure)
Department of Civil Engineering
Sanjivani College of Engineering
Kopargaon-423601

[Signature]
Co-ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. ANagar

[Signature]
Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



Head of Civil Department
Savitribi College of Engineering
Kopergaon-423001
Kopergaon-423001

SANJIVANI COLLEGE OF ENGINEERING
Kopergaon-423001

DESIGNED BY
Dr. S. V. Patil
(P.D. Structure)
Department of Civil Engineering
Savitribi College of Engineering
Kopergaon-423001

PROJECT: → DESIGN OF LOW COST
WASTE WATER TREATMENT
PLANT FOR S. J. SOMAIA
COLLEGE OF ARTS, COMMERCE, &
SCIENCE, KOPARGAON-423001
DIST - AHMEDNAGAR (M.H.)

SYMBOL USED
I, II, III - Chambers
C.A. - Concrete aggregate
C.T. - Cement pipe tank
S.T. - Septic Tank
C - chlorine
drainage line
W.T.P. - Waste water
Treatment plant
CH.M. - Chicken mesh
S.T. - steel bar frame
S.B.M. - square mesh

NOT TO SCALE

DETAILS OF III - W. LIFTING TANK

DETAILS OF II B

DETAILS OF II A

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SCHEMATIC DIAGRAM FOR WATER MOVEMENT

DETAILS OF CHAMBER-I = settling tank

Ia: → From bottom with 2'-0" No. holes in brick masonry but from 2'-0" to 4'-0" holes are provided. (2' from I)
Ib: → Up to 2'-0" no holes in brick masonry but above that (i.e. top 1'-0") holes are provided.
Ic: → Up to 2'-0" no holes in brick masonry but above that (i.e. 2'-0") holes are provided.
NOTE: Thickness of brick masonry = 230mm (without plaster)

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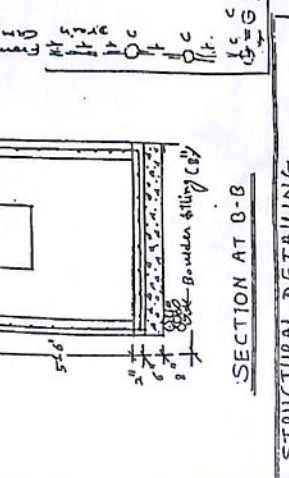
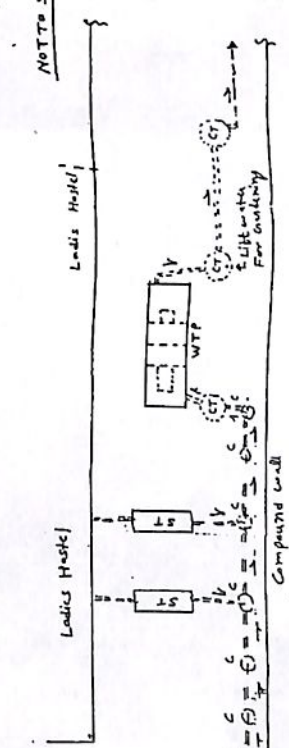
LAYOUT PLAN OF WASTE WATER TREATMENT PLANT

MATERIALS USE IN TREATMENT OF WASTE WATER

1. Brick bats (1/2" x 3/4")
2. Boulders (60mm, 40mm)
3. Concrete aggregate (25, 20, 12.5)mm
4. Sand (4.75-4.75)mm - fine sand
5. Gravel (2.00mm to 4.75mm)

STRUCTURAL DETAILING

Capacity of Tanks = 10,000 litres
Size of Tank = 4.6m x 1.53m x 1.55m
Erection: Technique is used in which 8mm dia @ 20mm c/c in vertical & horizontal bar frame is covered by square mesh & then covered by chicken mesh coated with rich mixture



SECTION AT A-A

SECTION AT B-B

SECTION AT C-C

SECTION AT D-D

SECTION AT E-E

SECTION AT F-F

SECTION AT G-G

SECTION AT H-H

SECTION AT I-I

SECTION AT J-J

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Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Criterion 7- Institutional Values and Best Practices

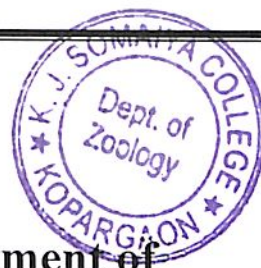
7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

Certificate Course on
Vermiculture & Vermicomposting





File No. 11
Certificate Course Organized by Department of
Zoology

“Vermiculture and Vermicomposting”

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Coordinator

IQAC, K. J. Somaiya College
Kopergaon, Dist. A.Nagar

Head

Department of Zoology
K. J. Somaiya College, Kopergaon

Principal

K.J.Somaiya College
Kopergaon

पुणे विद्यापीठ

दूरध्वनी क्रमांक :

०२०-२५६९१२३३
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शैक्षणिक विभाग

गणेशखिंड, पुणे-४११००७.

टेलिग्राफ : 'युनिपुणे'

फॅक्स : ०२०-२५६९१२३३

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संदर्भ क्र. : सी.बी.एस./७४८

दिनांक : ५/३/२०१२

परिपत्रक क्र.— ३० / २०१२

विषय :— के. जे. सोमैय्या कला, वाणिज्य व विज्ञान महाविद्यालय, कोपरगाव, जि. अहमदनगर या महाविद्यालयाकरिता विज्ञान विद्याशाखेअंतर्गत “व्हर्मीकल्चर अँड व्हर्मीकम्पोस्टिंग” या सर्टीफिकेट कोर्सला (Short term certificate course in “Vermiculture & Vermicomposting”) शैक्षणिक वर्ष २०११-१२ पासून मान्यता देण्याबाबत...

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार कळविण्यात येते की, के. जे. सोमैय्या कला, वाणिज्य व विज्ञान महाविद्यालय, कोपरगाव, जि. अहमदनगर या महाविद्यालयाकरिता विज्ञान विद्याशाखेअंतर्गत “व्हर्मीकल्चर अँड व्हर्मीकम्पोस्टिंग” या सर्टीफिकेट कोर्सला (Short term certificate course in “Vermiculture & Vermicomposting”) शैक्षणिक वर्ष २०११-१२ पासून मान्यता देण्यात येत आहे.

सदरचे परिपत्रक पुणे विद्यापीठच्या www.unipune.ac.in या संकेत स्थळावर Circular ---- Boards & Meetings Circular या शीर्षकाखाली उपलब्ध करण्यात आले आहे. याची सर्व संबंधितांनी नोंद घ्यावी.

मा. विभागप्रमुख, पुणे विद्यापीठ व प्राचार्य, संलग्न विज्ञान महाविद्यालये यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधित प्राध्यापक व विद्यार्थी यांच्या निदर्शनास आणून द्यावा.

Prof. R.D. Gamali
K.J. SOMAIYA COLLEGE
Dept. of Zoology
KOPARGAON
12/3/12
① Eligibility
② Intac capacity
③ Total Hours
④ Theory/Practical
⑤ Duration
बरेल माहिती तात्काळ घ्यावील नेबर वर द्यावी.
(०२०) २५६०१२५७

5/3/12
संचालकांकरिता
(म.वि.वि.मं.)

Letter to IQAC for seeking permission for the Certificate Course

To,

The Coordinator,

IQAC,

K.J. Somaiya College, Kopargaon

Subject: Regarding the permission for starting new certificate course in our department **Zoology**

Respected Sir,

The Department of **Zoology** desires to start a certificate course in **Vermiculture and Vermicomposting** for developing the skills and enhancing the employability of our students during current academic year. The said course will be of **Two** months and the fees for the course will be **Rs.100/-** which is to be paid at cash counter of the college. At the end of the course our department will conduct test/examination and issue the certificates to the successful student.

Kindly give the permission for commencing this course.

Thank you and look forward for kind cooperation.

*Permission granted to
start certificate course
from 2013-14*

[Signature]
20/6/2013
Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar



Yours sincerely,

[Signature]
Dr. R.D. Gawali

18/6/13

Head, Department of Zoology

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Preamble of Certificate Course:

Certificate Course in Zoology have been designed for Second Year students by looking into the difficulties faced by the students in preparation of the subjects related to Zoology. The students those who have not studied Biology or Zoology in 11th and 12th standard and find it difficult to cope up with these subjects. To help such students to understand basic fundamental concepts of Zoology and life Sciences. The course will definitely improve basic Zoological skills and help the students to acquire better understanding of the subjects Zoology.

This course covers the Zoological techniques, topics most directly related to Earthworm species. etc.

Objectives:-

- To aware the students for rearing techniques of Earthworms /vermiculture and basic principles of Zoology and their applications.
- To teach the application of Vermiculture technology in professional / real life.
- Students can be able to help in controlling environmental pollution.

Duration of Course: 60 days of Sem. -II

Time: 12.30 P. M. onwards Monday to Saturday




Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

**Short Term Course Under Equal Opportunity Centre in Colleges
Funded by UGC (XIth Plan)**

Certificate course in Vermiculture & Vermicomposting

(Syllabus)

* Theory *	No. Lectures
* Definition & Scope of Vermiculture.	01
* Taxonomic status/ Classification.	01
* Habit, Habitat & General Morphology.	02
* Useful Species of Earthworm.	01
* Methods of Vermiculture:	06
I) Preparation of Vermiculture bed.	
II) Culturing techniques in small scale.	
III) Bioconversion of kitchen waste using Vermiculture.	
IV) Culturing technique at farm & production of Vermicompost Technique.	
i) Containers ii) Shelter iii) Feed mixture	
iv) Manufacture of Vermicompost	
v) Harvesting.	
* Precautionary measures.	
* Factors influencing the culturing earthworms:	02
i) Food ii) Moisture iii) Temperature iv) Sunlight	
v) PH vi) Predators.	
* Significance of Gut in the formation of Vermicompost.	01
* Concept of Commercial Farming.	01
* Economic importance of earthworm.	01
* Vermicompost as a Bio-fertilizer.	01
* Concept of Vermiwash & Vermigold.	

*** PRACTICALS ***

- * Practical based on above theory course- Preparation & maintenance of Vermiculture bed in field.
- * Field Report

08

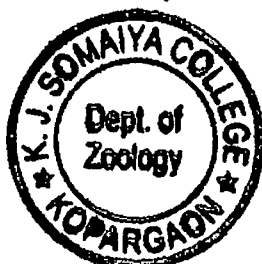
Duration 60 Days

Total 25 Lectures

mm

15/03/10

Co-ordinator



A. G.
PRINCIPAL
R. J. SOMAIYA COLLEGE
KOPARGAON



Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

Ph. (Off. & Fax) : (02423) 222254.

Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE **AN ISO 9001-2008 CERTIFIED INSTITUTE**

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohmare (Ex. M.L.A.)

Ref. No. :

Date : 21/12/2018


सूचना

गांडुळ खत प्रशिक्षण कोर्स (२०१८-१९)

आपल्या महाविद्यालयामध्ये गांडुळ खत प्रशिक्षण कोर्स (Vermiculture & Vermicomposting) प्राणी शास्त्र विभागाने सुरु केलेला आहे.

या कोर्ससाठी शै.पात्रता एस.वाय.बी.ए. / बी.कॉम. / बी.एस्सी. / बी.सी.ए. / बी.सी.एस. ही आहे. सदर कोर्स २ महिने कालावधीचा आहे. सदर कोर्स करिता प्रवेश फी + परीक्षा फी रु.१००/- असून प्रवेश अर्ज लवकरात लवकर भरावा. सदर प्रशिक्षण कोर्सचे प्रवेश फॉर्म प्राणीशास्त्र विभागाकडे उपलब्ध आहे. हा कोर्स दि.१ जानेवारी, २०१९ पासून सुरु होईल. तरी पात्र विद्यार्थ्यांनी लवकरात लवकर प्रवेश घ्यावा.

अधिक माहितीसाठी विद्यार्थ्यांनी प्राणीशास्त्र विभाग प्रमुख डॉ.आर.डी. गवळी व प्रा. रायते डी.ए. यांच्याशी संपर्क साधावा.


(प्रा.डॉ. आर.डी. गवळी)
समन्वयक,
प्राणीशास्त्र विभाग


(डॉ. बी.एस. यादव)
Principal
K.J. Somaiya College
Kopargaon



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

DEPARTMENT OF ZOOLOGY

**Examination for Certificate Course in "Vermiculture and
Vermicomposting"**

NOTICE: 2018 - 2019

21/03/2019

All the students of Certificate Course in Zoology (**Vermiculture and
Vermicomposting**) are hereby informed that the examination for the said
certificate course will be conducted on dated **25/03/2019 at 12.30 P. M.**

Dr. R. D. Gawali,
Course Coordinator,
Department of Zoology

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Principal

Principal
K.J.Somaiya College
Kopargaon





Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

Certificate Course in Zoology
“Vermiculture and Vermicomposting”

Time Table: 2018 -2019

All Students of the Certificate Course ‘Vermiculture and Vermicomposting’ are hereby informed that their lectures for the said course will commence from 15/01/2019, as per the following scheduled time table.

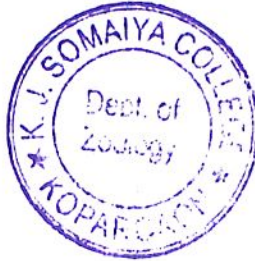
Kindly note and co-operate.

With effect from: 15/01/2019

Time	Thursday	Friday	Saturday
1.30 To 3.30 P. M.	Lecture in Classroom (S-23)	Lecture in Classroom (S-23)	Field work / Practical (Botanical Garden)

Name of the Teacher: - Dr. R. D .Gawali (Zoology Department)

Course Coordinator
Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon



Principal
K.J.Somaiya College
Kopargaon

K. J. Somaiya College of Arts, Commerce and Science, Kopergaon

Department of Zoology (04/01/19 - 28/02/19)

Certificate Course: Vermiculture and Vermicomposting

List of Students (2018-19) (Attendance)

Sr. No.	Name of Student	15/01/19	22/01/19	29/01/19	11/02/19	13/02/19	15/02/19	16/02/19	20/02/19	23/02/19		
1	Singar Chaitanya Prakash	P	A	P	P	P	P	A	P	P		
2	Teke Nikhil Macchindra	A	P	P	P	P	P	P	P	P		
3	Zurale Rushikesh Narayan	P	P	P	P	P	P	P	P	P		
4	Singar Chetan Bhagwan	P	P	P	P	P	P	P	P	P		
5	Shinde Shital Upendra	P	P	P	P	P	P	P	P	P		
6	Ahirrao Priti Parmeshwar	P	P	P	P	A	P	A	P	P		
7	Gaikwad Gayatri Rajendra	P	P	P	A	P	P	P	P	A		
8	Shinde Prajka Dilip	P	P	A	P	P	P	P	P	P		
9	Kale Rutuja Nanasaheb	P	P	P	P	A	P	P	P	P		
10	Shinde Mansi Dilip	A	A	P	P	A	P	A	P	A		
11	Nawale Bhagyashri Sahebrao	P	P	A	P	P	P	P	P	P		
12	Pandore Akash Ramchandra	P	P	P	P	A	P	P	P	P		
13	Rahane Shital Sanjay	A	P	P	P	P	A	P	P	P		
14	Wani Pradnya Popat	P	P	P	P	P	P	P	P	P		
15	Varpe Chaitali Subhash	P	P	P	P	P	P	P	P	A		
16	Nikam Komal Vaijinath	P	P	P	P	P	P	P	P	P		
17	Raktate Archana Ganpat	P	P	P	P	A	P	P	P	P		
18	Dhobale Pranjal Dnyaneshwar	P	P	P	P	P	P	A	P	P		
19	Shinde Pawan Bharat	A	P	P	P	A	P	P	A	P		
20	Fatangare Akanksha Shivaji	P	P	P	P	P	P	P	P	P		
21	Gaikwad Poonam Appasaheb	P	P	P	P	P	P	P	P	P		
22	Chavale Abhishek Rajesh	A	P	P	P	P	P	P	P	A		
23	Kasar Sanyogeeta Suresh	P	P	P	P	P	P	P	P	P		
24	Pithe Ashwini Bhaskar	P	A	P	P	P	P	A	P	P		
25	Gursal Akshata Balasaheb	P	P	A	P	A	P	P	P	P		
26	Pachore Shital Annasaheb	P	P	P	P	P	P	P	P	P		
27	Ghare Priyanka Rajendra	P	P	P	P	P	P	P	P	P		
28	Maid Dhanashri Subhash	P	P	P	P	A	P	A	P	P		
29	Sonawane Pooja Suresh	A	P	P	P	P	P	A	P	P		
30	Hon Seema Nanasaheb	A	P	A	P	P	P	P	P	P		
31	Shinde Priti Bhausaheb	P	P	P	A	P	P	P	P	P		

32	Wable Vaishnavi Abasaheb	P	P	P	A	A	P	P	P
33	Pachore Vrushali Rajendra	P	P	P	A	A	P	P	P
34	Pachore Monika Balasaheb	P	P	P	P	P	P	P	P
35	Chine Nikita Vasant	P	P	A	P	P	P	P	P
36	Kolhe Amruta Nilkanth	A	P	P	P	A	P	P	P
37	Mohite Morna Dinkar	P	A	P	A	A	P	P	P
38	Kakade Pramila Kailas	P	P	P	P	A	P	P	P
39	Padekar Rutuja Suresh	P	P	P	P	P	P	P	P
40	Borade Vrushali Laxman	P	P	P	P	P	P	P	P
41	Jamdhade Sakshi Ramesh	A	A	A	A	A	P	P	P
42	Jawale Shital Balasaheb	P	P	P	P	P	P	P	P
43	Kasar Ashwini Sunil	P	P	P	P	P	P	P	P
44	Abhale Ashiwini Kailas	A	A	P	P	A	A	P	P
45	Chavan Akash Madan	P	P	P	P	P	P	P	P
46	Singar Pooja Madhukar	P	P	A	P	P	P	P	P
47	Wable Amit Kacharu	A	P	P	P	P	P	P	P
48	Bhangude Nandu Narayan	P	P	P	P	A	P	P	P
49	Ghule Mahesh Dadasaheb	P	P	P	P	A	P	A	P
50	Choudhari Sangeeta Balasaheb	P	P	P	A	P	A	P	P
51	Warkar Govind Sitaram	P	A	P	P	P	P	P	P
52	Tupake Hrushikesh Sanjay	A	P	P	A	P	A	P	P
53	Varkad Ajit Babasaheb	P	P	P	P	P	P	P	P
54	Kale Premraj Bhausahab	P	P	P	P	P	P	A	P
55	Chaskar Nalini Shamrao	P	P	P	P	A	P	P	P
56	Dighe Vrushali Rangnath	P	P	P	A	P	P	P	P
57	Dhanwate Pooja Dattatray	A	P	P	A	P	P	A	P
58	Hirrale Rupali Milind	P	P	P	A	P	A	P	P
59	Nikam Sanjana Rajendra	P	P	P	P	P	P	P	P
60	Chaskar Dipak Balu	P	P	P	P	A	A	P	P
61	Gaikwad Sandip Raosaheb	A	P	A	A	P	P	P	P
62	Gursal Rushikesh Dnyaneshwar	P	P	P	P	P	P	P	P
63	Hon Rushikesh Laxman	P	P	P	P	P	P	P	P
64	Kakad Pallavi Sanjay	A	P	P	P	P	P	A	P
65	Jadhav Monika Rajendra	P	P	P	P	P	P	P	P


Kopargaon Taluka Education Society's
K. J. Somaiya College of Arts, Commerce and Science, Kopargaon
Department of Zoology

Vermiculture and Vermicomposting

List of Students (2018-19)

Sr. No.	Name of Student		
1	Singar Chaitanya Prakash	25	A
2	Teke Nikhil Macchindra	24	B
3	Zurale Rushikesh Narayan	29	A
4	Singar Chetan Bhagwan	27	A
5	Shinde Shital Upendra	24	B
6	Ahirrao Priti Parmeshwar	26	A
7	Gaikwad Gayatri Rajendra	37	O
8	Shinde Prajka Dilip	30	O
9	Kale Rutuja Nanasaheb	34	O
10	Shinde Mansi Dilip	36	O
11	Nawale Bhagyashri Sahebrao	29	A
12	Pandore Akash Ramchandra	20	B
13	Rahane Shital Sanjay	21	B
14	Wani Pradnya Popat	24	B
15	Varpe Chaitali Subhash	23	B
16	Nikam Komal Vaijinath	30	O
17	Raktate Archana Ganpat	24	A
18	Dhobale Pranjal Dnyaneshwar	30	O
19	Shinde Pawan Bharat	26	A
20	Fatangare Akanksha Shivaji	28	A
21	Gaikwad Poonam Appasaheb	20	B
22	Chavale Abhishek Rajesh	23	B
23	Kasar Sanyogeeta Suresh	30	O
24	Pithe Ashwini Bhaskar	26	A
25	Gursal Akshata Balasaheb	30	O
26	Pachore Shital Annasaheb	27	A
27	Ghare Priyanka Rajendra	24	B
28	Maid Dhanashri Subhash	29	A
29	Sonawane Pooja Suresh	22	B
30	Hon Seema Nanasaheb	29	A
31	Shinde Priti Bhausaheb	19	B
32	Wable Vaishnavi Abasaheb	23	B
33	Pachore Vrushali Rajendra	26	A
34	Pachore Monika Balasaheb	26	A

35	Chine Nikita Vasant	26	A
36	Kolhe Amruta Nilkanth	26	A
37	Mohite Morna Dinkar	21	B
38	Kakade Pramila Kailas	21	B
39	Padekar Rutuja Suresh	21	B
40	Borade Vrushali Laxman	23	B
41	Jamdhade Sakshi Ramesh	29	A
42	Jawale Shital Balasaheb	29	A
43	Kasar Ashwini Sunil	21	B
44	Abhale Ashiwini Kailas	23	B
45	Chavan Akash Madan	20	B
46	Singar Pooja Madhukar	29	A
47	Wable Amit Kacharu	23	B
48	Bhangude Nandu Narayan	29	A
49	Ghule Mahesh Dadasaheb	23	B
50	Choudhari Sangeeta Balasaheb	21	B
51	Warkar Govind Sitaram	18	B
52	Tupake Hrushikesh Sanjay	21	B
53	Varkad Ajit Babasaheb	25	A
54	Kale Premraj Bhausasheb	20	B
55	Chaskar Nalini Shamrao	26	A
56	Dighe Vrushali Rangnath	21	B
57	Dhanwate Pooja Dattatray	22	B
58	Hirrale Rupali Milind	22	B
59	Nikam Sanjana Rajendra	25	A
60	Chaskar Dipak Balu	24	B
61	Gaikwad Sandip Raosaheb	23	B
62	Gursal Rushikesh Dnyaneshwar	25	A
63	Hon Rushikesh Laxman	24	B
64	Kakad Pallavi Sanjay	24	B
65	Jadhav Monika Rajendra	30	O


28/03/19

KOPARGAON TALUKA EDUCATION SOCIETY'S
K. J. SOMAIYA (PG) COLLEGE
Kopargaon, Dist: Ahmednagar

Misc. Fee Receipt

Section: P.G.

Receipt No.:	858	Date:	28/03/2019	Class:	
Registration No.:	0	Bank Receipt No.:		Division Type:	NON-GRANT
Name:	ZOOLOGY DEPARTMENT			Roll No.:	0
				Division:	

Fee Details

Bus Fee	0	T.C. Fee	0	Cost of Book	0	CollegeDev.Fund	0
Library Fine	0	NCC Admission	0	Application Fee	0	Extra. Curi. Ac	0
Hostel Fee	0	Post / Telegram	0	Veri/Rev. Fee	0	Computerisation	0
Hostel Breakage	0	SCI.JOURNAL	0	Lib. Deposit	0	Equip. Maintanc	0
Term Fee	0	Canteen rent	0	Xerox	0	Sci. Breakage	0

Fee In Words: Rupees Two Hundred Only

Paid Fee **200**

Narration: VERMICULTURE & VERMICOMPOSTING

Seal & Sig.

For Principal
K. J. SOMAIYA (PG) COLLEGE

KOPARGAON TALUKA EDUCATION SOCIETY'S

K. J. SOMAIYA (PG) COLLEGE

Kopargaon, Dist: Ahmednagar

Misc. Fee Receipt

Section: P.G.

Receipt No.:	766	Date:	27/02/2019	Class:	
Registration No.:	0	Bank Receipt No.:		Division Type:	NON-GRANT
Name:	ZOOLOGY DEPARTMENT			Roll No.:	0
				Division:	

Fee Details

Bus Fee	0	T.C. Fee	0	Cost of Book	0	CollegeDev.Fund	0
Library Fine	0	NCC Admission	0	Application Fee	0	Extra. Curi. Ac	0
Hostel Fee	0	Post / Telegram	0	Veri/Rev. Fee	0	Computerisation	0
Hostel Breakage	0	SCI.JOURNAL	0	Lib. Deposit	0	Equip. Maintanc	0
Term Fee	0	Canteen rent	0	Xerox	0	Sci. Breakage	0

Fee In Words: Rupees Six Thousand Three Hundred Only

Paid Fee

6300

Narration: VERMICULTURE & VERMICOMPOSTING

For Principal

K. J. SOMAIYA (PG) COLLEGE

Seal & Sig.

Report of Certificate Course: Vermiculture and Vermicomposting

Academic Year: 2018 - 2019

Department of Zoology conducted Certificate Course, Vermiculture and Vermicomposting with duration of two months with weightage of 25 lectures including theory and practical experience, from 01st January 2019 to 28th February 2019 in the academic year 2018-19.

This course will be the best platform for the students to get an idea about Vermitechnology, which could help them to create self-employment, organic farming, use of biofertilizer, ecofriendly techniques useful for environmental protection and also to interact with the teacher, making it responsible for them to develop a strong relationship with the respective to the subject, adviser and other students and become confident for higher graduation studies and placements.

Outcome of the Certificate Course:

- 1) Students will learn to all basic concepts of Vermiculture techniques.
- 2) Students learn to solve environmental problems like pollution by using vermicompost as a biofertilizer for crop cultivation.
- 3) Students can implement vermiculture practices as a profession and thus can solve the problem of unemployment.
- 4) Students will learn to identify the types of earthworm's species and aware importance of rearing techniques of earthworms.

Date: 08/03/2019



Course Coordinator,

HOD,
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Principal

Principal
K.J. Somaiya College
Kopergaon



Kopargaon Taluka Education Society's

K.J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohanirajnagar, Kopargaon, Dist. Ahmednagar,

(Affiliated to Savitribai Phule Pune University, Pune)

NAAC RE-ACCREDITED "A" GRADE An ISO 9001:2015 Certified Institute



Best College Awarded by S.P. Pune University

Certificate

This is to certify that Mr./Mrs. _____

has successfully completed the Certificate Course/Short Term Course in **"Vermiculture & Vermicomposting"** Conducted by **Department of Zoology, K. J. Somaiya College, Kopargaon** with. _____ grade

The said course was organised from _____ to _____

Co-ordinator

[Signature]

Head

Department of Zoology

K. J. Somaiya College, Kopargaon

Principal





कोपरगांव तालुका एज्युकेशन सोसायटीचे

के. जे. सोमैया कला, वाणिज्य व विज्ञान महाविद्यालय,

मोहनीराजनगर, कोपरगांव - ४२३६०१, जि. अहमदनगर (महाराष्ट्र)

सावित्रीबाई फुले पुणे विद्यापीठाशी संलग्न : आयडी नं. पी.यु./ए.एन./ए.एस.सी./०७(१९६४)

☎ : 9146152000, 9146142000, Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE

AN ISO 9001-2015 CERTIFIED INSTITUTE

प्राचार्य - डॉ. बी. एस. यादव (एम.एस्सी., पीएच.डी.)

संस्थापक अध्यक्ष - कै. के.बी. रोहमारे (मा.आमदार)

संदर्भ क्रमांक :

दि. 20/12/2019

सूचना

गांडुळ खत प्रशिक्षण कोर्स (२०१९-२०)

आपल्या महाविद्यालयामध्ये गांडुळ खत प्रशिक्षण कोर्स (Vermiculture & Vermicomposting) प्राणी शास्त्र विभागाने सुरु केलेला आहे.

या कोर्ससाठी शै.पात्रता एस.वाय.बी.ए. / बी.कॉम. / बी.एस्सी. / बी.सी.ए. / बी.सी.एस. ही आहे. सदर कोर्स २ महिने कालावधीचा आहे. सदर कोर्स करिता प्रवेश फी + परीक्षा फी रु.१००/- असून प्रवेश अर्ज लवकरात लवकर भरावा. सदर प्रशिक्षण कोर्सचे प्रवेश फॉर्म प्राणीशास्त्र विभागाकडे उपलब्ध आहे. हा कोर्स दि.१ जानेवारी, २०२० पासून सुरु होईल. तरी पात्र विद्यार्थ्यांनी लवकरात लवकर प्रवेश घ्यावा.

अधीक माहितीसाठी विद्यार्थ्यांनी प्राणीशास्त्र विभाग प्रमुख डॉ.आर.डी. गवळी व प्रा. रायते डी.ए. यांच्याशी संपर्क साधावा.

(प्रा.डॉ. आर.डी. गवळी)

समन्वयक,
प्राणीशास्त्र विभाग

(डॉ. बी.एस. यादव)

प्राचार्य
के. जे. सोमैया कला, वाणिज्य
व विज्ञान महाविद्यालय, कोपरगांव

K. J. Somaiya College of Arts, Commerce and Science, Kopergaon

List of students: Certificate Course

Vermiculture and Vermicomposting

S.Y.B.Sc: (2019-2020)

Sr. No.	Name of the Students	Fees Rs. 100/-
1	Rahane Jayshri Annasaheb	100/-
2	Wagh Nilesh Annasaheb	100/-
3	Gaikwad Saurabh Punjahari	100/-
4	Usare Shital Datta	100/-
5	More Ishwari Chandrakant	100/-
6	Karale Sakshi Sahebrao	100/-
7	Thombare Sujay Balasaheb	100/-
8	Dube Sanjivani Ganesh	100/-
9	Sonawane Rupali Prakash	100/-
10	Sumbhe Mangesh Rajendra	100/-
11	Nighot Swati Appasaheb	100/-
12	Singar Vaishali Rajendra	100/-
13	Khadangale Harsha Balasaheb	100/-
14	Sangpal Vaishnavi Nanasaheb	100/-
15	Joshi Saish Umesh	100/-
16	Popalghat Rushikesh Devidas	100/-
17	Mali Yash Dadasaheb	100/-
18	Jadhav Bhagyashri Suresh	100/-
19	Hengade Pratiksha Prakash	100/-
20	Warkar Savita Jayram	100/-
21	Arote Mayuri Madhukar	100/-
22	Jadhav Akshay Shantaram	100/-
23	Sarade Mansi Rajaram	100/-
24	Manchare Madhav Bhimrao	100/-
25	Bhujade Pallavi Rajendra	100/-
26	Jamdar Nikita Kailas	100/-
27	Tanpure Gita Dnyaneshwar	100/-
28	Gagare Komal Bandu	100/-
29	Magar Vaishnavi Ramesh	100/-
30	Chinke Rutvika kailas	100/-

Head

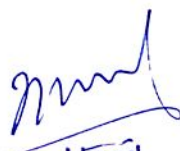
Department of Zoology
K. J. Somaiya College, Kopergaon



31	Choudhari Suraj Dattatray	100/-
32	Autade Tejal Paraji	100/-
33	Autade Samita Balasaheb	100/-
34	Singar Pranali Sanjay	100/-
35	Gursal Shweta Rajesh	100/-
36	Vishvasrao Urmila Somnath	100/-
37	Vishawsrao Priyanka Sanjay	100/-
38	Kshirsagar Jayshri Babasaheb	100/-
39	Kadam Vijay Ramrao	100/-
40	Aher Kaustubh Ganesh	100/-
41	Landage Shivani Madhukar	100/-
42	Bhand Rushikesh Babasaheb	100/-
43	Borbane Archana Bhaskar	100/-
44	Patel Naem nawab	100/-
45	Naikwadi Mahesh Annasaheb	100/-
46	Khadangale Hrutik Rajendra	100/-
47	Rashinkar Abhishek Dnyaneshw	100/-
48	Autade Pratiksha Abasaheb	100/-
49	Gudaghe Shbhangana Changdeo	100/-
50	Nikumbh Shubhangi Sunil	100/-
51	Borawake Manisha Anil	100/-
52	Kadam Priyanka Gorakh	100/-
53	Kardile Vaishnavi Mahesh	100/-
54	Badhe Dhanashri Annasaheb	100/-
55	Deokar Shraddha Dinkar	100/-
56	Gaikwad Vaishnavi Vinayak	100/-
57	Rahane Divya Sanjay	100/-
58	Gawali Aarati Somrath	100/-
59	Tanure Rahul Sarangdhar	100/-
60	Wakte Shreyash Navnath	100/-
61	Gavhane Mohini Janardan	100/-
62	Pangavhane Shivani Avinash	100/-
63	Rahane Divya Kisan	100/-
64	Ghare Nikita Narayan	100/-
65	More Jayashri Uttam	100/-
66	Raktate Bharati Sanjay	100/-
67	Wake Priyanka Rangnath	100/-
68	Gavhane Baleshwari Bhausahab	100/-
69	Gudaghe Maya Dattu	100/-

70	Gaikwad Shriram Dnyaneshwar	100/-
71	Khalkar Swapnali Bharat	100/-
72	Khalkar Komal Sharad	100/-
73	Hon Gaurav Babasaheb	100/-
74	Thombare Akshay Laxmann	100/-
75	Kolhe Shubham Atmarm	100/-
76	Ghumare Tanuja Annasaheb	100/-
77	Anarthe Gauri Dilip	100/-
78	Gite Shubhangi Bhagwat	100/-
79	Bhawar Rupali Ramesh	100/-
80	Rahane Runal Balasaheb	100/-
81	Limbhure Kalyani Maruti	100/-
82	Kadam Vaishnavi Vilasrao	100/-
83	Gursal Pravin Venudas	100/-
84	Jawale Vaibhav Gokul	100/-
85	Kale Rutuja Rajaram	100/-




 Head
 Department of Zoology
 K. J. Somaiya College, Kopergaon

01/02/2020

KOPARGAON TALUKA EDUCATION SOCIETY'S
K. J. SOMAIYA (PG) COLLEGE
Kopargaon, Dist: Ahmednagar

Misc. Fee Receipt

Section: P.G.

Receipt No.:	673	Date:	14/02/2020	Class:	
Registration No.:	0	Bank Receipt No.:		Division Type:	NON-GRANT
Name:	VERMICULTURE AND VARMICOMPOSTING			Roll No.:	0
				Division:	

Fee Details

Bus Fee	0	T.C. Fee	0	Cost of Book	0	College Dev. Fund	0
Library Fine	0	NCC Admission	0	Application Fee	0	Extra. Curi. Ac	0
Hostel Fee	0	Post / Telegram	0	Veri/Rev. Fee	0	Computerisation	0
Hostel Breakage	0	SCI.JOURNAL	0	Lib. Deposit	0	Equip. Maintanc	0
Term Fee	0	Canteen Rent	0	Xerox	0	Sci. Breakage	0

Fee In Words: Rupees Eight Thousand Five Hundred Only

Paid Fee 8500

Narration: 85x100

Seal & Sig.

For Principal
K. J. SOMAIYA (PG) COLLEGE



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

Certificate Course in Zoology
“Vermiculture and Vermicomposting”

Time Table: 2019 -2020

All Students of the Certificate Course ‘Vermiculture and Vermicomposting’ are hereby informed that their lectures for the said course will commence from 01/01/2020, as per the following scheduled time table.

Kindly note and co-operate.

With effect from: 01/01/2020

Time	Thursday	Friday	Saturday
1.30 To 3.30 P. M.	Lecture in Classroom (S-23)	Lecture in Classroom (S-23)	Field work / Practical (Botanical Garden)

Name of the Teacher: - Dr. R. D .Gawali (Zoology Department)

Course Coordinator

**Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon**

Principal

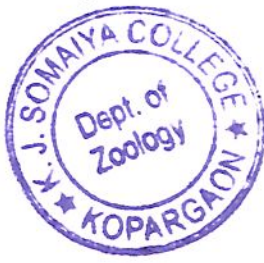


**Principal
K.J.Somaiya College
Kopargaon**

Certificate Course in Zoology
"Vermiculture & Vermicomposting"

STUDENT ATTENDANCE SHEET

Jan.-Feb.:2019-20



Sr. No.	Date→ Name of the students ↓	24/01/20	11/01/20	18/01/20	25/01/20	01/02/20	08/02/20	10/02/20	15/02/20	22/02/20	28/02/20	29/02/20	29/02/20				Remarks on Attendance
1	Rahane T.A.	A	P	P	P	A	P	P	A	P	P	P	P				
2	Wagh N.A	P	P	P	P	A	P	P	P	P	A	P	P				
3	Gaikwad S.P.	P	P	P	P	P	P	P	P	P	P	P	P				
4	Usare S.D.	P	P	P	P	P	P	P	P	P	P	P	P				
5	more I.C.	P	A	P	P	P	A	P	P	P	A	P	P				
6	Karale S.S.	P	A	P	P	P	P	A	P	P	P	A	A				
7	Thomabore S.B.	P	A	P	P	A	P	P	P	A	P	P	P				
8	Dube S.G.	P	P	P	A	P	P	P	P	P	P	A	A				
9	Sonawane R.P.	P	P	P	P	P	P	P	P	P	P	P	P				
10	Subbhe M.R.	P	P	P	P	P	P	P	P	P	A	A	A				
11	Night S.A.	P	P	P	P	P	P	P	P	A	P	P	P				
12	Singar V.R.	P	P	P	P	A	P	P	P	P	P	P	P				
13	Khadangle H.B.	A	P	P	P	A	P	P	P	P	P	P	P				
14	Sangpal V.N.	A	P	P	P	A	P	P	P	P	P	P	P				
15	Joshi S.U.	P	P	P	P	P	P	P	P	P	P	P	P				
16	Popalghat R.D.	P	A	P	A	P	P	P	P	A	P	P	P				
17	Mali S.D.	P	A	P	A	P	P	P	P	A	P	P	P				

Head
Department of Zoology
K. J. Somaiya College, Kopargaoon

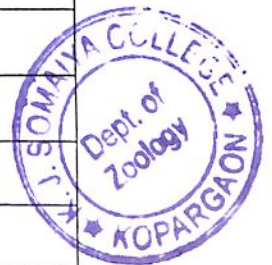
15/02/20

Certificate Course in Zoology
"Vermiculture & Vermicomposting"

STUDENT ATTENDANCE SHEET

Jan.-Feb.:2019-20

Sr. No.	Date→ Name of the students ↓	Jan. 20					Feb - 20								Remarks on Attendance	
		4	11	18	25	01	08	15	22	28	28					29
18	Jadhav B.S.	P	P	P	P	P	P	P	P	P	P	P				
19	Hengade P.P	P	P	P	P	P	P	P	A	P	P	P				
20	warner S.J.	P	P	A	P	P	P	P	A	P	P	A	A			
21	Arope m.m.	A	P	P	P	A	P	P	P	P	P	P	P			
22	Jadhav A.S.	A	P	P	P	P	A	P	P	P	P	P	P			
23	Sasade M.R	P	P	P	P	A	P	P	P	P	P	P	P			
24	manchase m.B	A	P	P	A	P	P	P	P	P	P	P	P			
25	Bhayade P.R	P	P	P	P	P	P	P	P	P	P	P	P			
26	Jamdar N.K	P	P	P	P	P	P	P	P	P	P	P	P			
27	Tampule G.D.	P	P	P	P	P	P	P	P	P	P	P	P			
28	Gogare K.B.	P	P	P	P	P	P	P	P	P	P	P	P			
29	magar V.R.	P	P	P	P	P	P	A	P	P	P	P	P			
30	chitike R.K.	P	P	P	P	P	P	P	A	P	P	P	P			
31	Chondhori S.D.	P	P	P	P	P	P	P	P	P	P	P	P			
32	Autade T.P.	P	P	P	P	P	P	P	P	P	P	P	P			
33	Autade S.B.	P	P	P	P	P	P	P	A	P	P	P	P			
34	Singh P.S.	P	P	P	P	A	P	P	P	P	P	P	P			

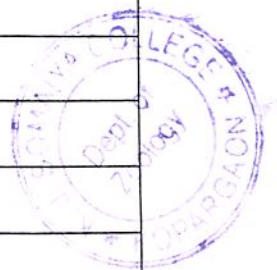


Certificate Course in Zoology
"Vermiculture & Vermicomposting"

STUDENT ATTENDANCE SHEET

Jan.-Feb.:2019-20

Sr. No.	Date→ Name of the students ↓	Jan. 20				Feb. 20								Remarks on Attendance
		04	11	18	25	01	08	10	15	22	28	28	29	
35	Gussal S.R.	P	P	P	P	P	P	P	P	P	P	P	P	
36	Vishwasrao V.S.	P	P	P	P	P	A	A	P	P	P	P	P	
37	Vishwasrao P.S.	P	P	P	A	A	P	P	P	P	P	P	P	
38	Khadangale T.B.	A	P	P	A	P	P	P	P	P	P	P	P	
39	Kadam V.R.	P	P	P	P	P	P	P	P	P	P	P	P	
40	Aher K.G.	A	P	P	A	P	P	A	P	P	P	P	P	
41	Landage S.M.	A	P	P	A	P	P	A	A	P	P	P	P	
42	Bhand R.B.	P	P	P	A	A	P	P	P	P	P	P	P	
43	Borhane A.B.	P	P	P	P	P	A	P	P	P	P	P	P	
44	Patel Naem N.	P	P	P	A	P	P	P	P	P	P	P	P	
45	Naikwad M.A.	P	A	P	P	A	A	P	P	P	A	A	A	
46	Khadangale H.R.	P	P	P	P	P	P	P	P	P	P	P	P	
47	Rashinkar A.D.	P	A	P	P	A	P	P	P	P	P	P	P	
48	Aufade P.A.	P	P	P	P	P	P	P	P	P	P	P	P	
49	Gudage S.C.	P	A	A	P	P	P	A	P	P	P	P	P	
50	Nikumbh S.S.	P	P	P	P	P	P	P	P	P	P	P	P	
51	Borhane M.A.	P	P	P	P	A	P	P	P	P	P	P	P	

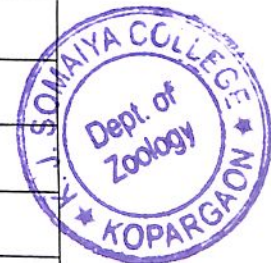


Certificate Course in Zoology
"Vermiculture & Vermicomposting"

STUDENT ATTENDANCE SHEET

Jan.-Feb.:2019-20

Sr. No.	Date→ Name of the students ↓	Jan-20				Feb-20								Remarks on Attendance
		04	11	18	25	01	08	10	15	22	23	28	29	
52	Kadam P.G.	P	A	A	P	P	P	A	P	P	A	A	A	
53	Kandale V.M.	P	P	P	P	P	P	P	P	P	P	P	P	
54	Badhe D.A.	P	A	P	P	P	A	A	P	P	P	P	P	
55	Drotekar S.D.	P	P	P	P	P	P	P	P	P	P	P	P	
56	Gailewad V.V.	P	P	A	P	P	A	P	P	P	A	P	P	
57	Rahane D.S.	P	P	A	P	P	P	A	A	P	P	P	P	
58	Grewal A.S.	P	P	P	P	P	P	P	P	P	P	P	P	
59	Tampure R.S.	P	P	P	P	P	A	P	P	P	P	P	P	
60	Walekar S.N.	P	A	P	P	P	P	A	A	P	P	P	P	
61	Garhane M.J.	P	A	P	P	P	A	P	P	P	P	P	P	
62	Pangavhane S.A.	P	A	P	P	A	P	P	P	P	P	A	P	
63	Rahane D.K.	P	P	P	P	P	P	P	P	P	P	P	P	
64	Ahane N.N.	P	A	P	P	A	P	P	P	P	A	P	P	
65	More J.U.	P	P	P	P	P	P	P	P	P	P	P	P	
66	Raktate B.S.	P	P	P	P	P	P	P	P	P	P	P	P	
67	Walke P.R.	P	P	P	P	P	P	P	P	P	P	P	P	
68	Garhane B.B.	P	P	P	P	P	P	P	P	P	P	P	P	



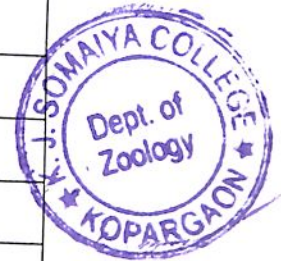
Certificate Course in Zoology
"Vermiculture & Vermicomposting"

STUDENT ATTENDANCE SHEET

Jan.-Feb.:2019-20

Sr. No.	Date→ Name of the students ↓	Jan-20					Feb-20					Remarks on Attendance	
		04	11	18	25	01	08	10	15	22	28		28
69	Gudaghe M.D.	P	A	P	P	P	A	P	P	P	P	P	
70	Gulwad S.D.	P	P	P	P	P	P	P	P	P	P	P	
71	Khalkekar S.B.	P	P	P	P	P	P	P	P	P	P	P	
72	Khalkekar K.S.	P	P	P	P	P	P	P	P	P	P	P	
73	Hoon G.B.	P	A	P	A	P	P	A	P	P	P	P	
74	Thombare A.H.	P	A	P	A	P	P	A	P	P	P	P	
75	Kolhe S.A.	P	P	P	P	P	P	P	P	P	P	P	
76	Ghumare T.A.	P	P	P	A	P	P	A	P	P	P	P	
77	Asarthe G.D.	P	P	P	P	P	P	P	P	P	P	P	
78	Gite S.B.	P	A	P	P	A	P	P	P	A	P	P	
79	Bhewar R.R.	P	P	P	P	P	P	P	P	P	P	P	
80	Rahave R.B.	P	P	P	P	P	P	P	P	P	P	P	
81	Limbhase K.M.	A	P	P	P	P	A	A	P	P	P	P	
82	Icedam V.V.	P	P	P	P	P	P	P	P	P	P	P	
83	Gusgal P.V.	P	P	A	P	P	P	P	A	P	P	P	
84	Jawale V.G.	P	P	P	P	P	P	P	P	P	P	P	
85	Icale R.R.	A	A	A	P	P	A	P	A	P	P	P	

Hea
Department
K. J. Somaiya Gol



15/08/20
Head

Department of Zoology
K. J. Somaiya College, Kopargaoon



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

DEPARTMENT OF ZOOLOGY

**Examination for Certificate Course in "Vermiculture and
Vermicomposting"**

NOTICE: 2019 - 2020

05/03/2020

All the students of Certificate Course in Zoology (**Vermiculture and
Vermicomposting**) are hereby informed that the examination for the said
certificate course will be conducted on dated **08/03/2020 at 12.30 P. M.**

Dr. R. D. Gawali,
Course Coordinator,
Department of Zoology
Head

**Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon**

Principal

**Principal
K.J.Somaiya College
Kopargaon**



K. J. Somaiya College of Arts, Commerce and Science, Kopergaon

List of students: Certificate Course

Vermiculture and Vermicomposting

Attendance/Record: (2019-2020)

Sr. No.	Name of the Students	Dates:-	Marks obtained	Grade
1	Rahane Jayshri Annasaheb		24	A
2	Wagh Nilesh Annasaheb		26	A
3	Gaikwad Saurabh Punjahari		32	O
4	Usare Shital Datta		29	O
5	More Ishwari Chandrakant		25	A
6	Karale Sakshi Sahebrao		22	B
7	Thombare Sujay Balasaheb		26	A
8	Dube Sanjivani Ganesh		23	B
9	Sonawane Rupali Prakash		29	O
10	Sumbhe Mangesh Rajendra		22	B
11	Nighot Swati Appasaheb		28	A
12	Singar Vaishali Rajendra		25	A
13	Khadangale Harsha Balasaheb		26	A
14	Sangpal Vaishnavi Nanasaheb		29	O
15	Joshi Saish Umesh		34	O
16	Popalghat Rushikesh Devidas		27	A
17	Mali Yash Dadasaheb		26	A
18	Jadhav Bhagyashri Suresh		34	O
19	Hengade Pratiksha Prakash		26	A
20	Warkar Savita Jayram		23	B
21	Arote Mayuri Madhukar		29	O
22	Jadhav Akshay Shantaram		25	A
23	Sarade Mansi Rajaram		28	O
24	Manchare Madhav Bhimrao		30	O
25	Bhujade Pallavi Rajendra		34	O
26	Jamdar Nikita Kailas		31	O
27	Tanpure Gita Dnyaneshwar		31	O
28	Gagare Komal Bandu		31	O
29	Magar Vaishnavi Ramesh		33	O
30	Chinke Rutvika kailas		36	O



↓ 23 - 'B'
24 - 27 - 'A'
28 - 35 ↑ 'O'

Head

Department of Zoology
K. J. Somaiya College, Kopergaon

15/03/20

[illegible]

70	• Gaikwad Shriram Dnyaneshwar							31	0
71	• Khalkar Swapnali Bharat							30	0
72	• Khalkar Komal Sharad							34	0
73	• Hon Gaurav Babasaheb							23	A
74	• Thombare Akshay Laxmann							25	A
75	• Kolhe Shubham Atmarm							31	0
76	• Ghumare Tanuja Annasaheb							26	A
77	• Anarthe Gauri Dilip							33	0
78	• Gite Shubhangi Bhagwat							28	0
79	• Bhawar Rupali Ramesh							32	0
80	• Rahane Runal Balasaheb							31	0
81	• Limbhure Kalyani Maruti							28	0
82	• Kadam Vaishnavi Vilasrao							31	0
83	• <u>Gusai Bansi Venudag</u>							26	A
84	• <u>Jawale vaibhar Gokul</u>							31	0
85	• <u>Kale Rupa Rajaram</u>							23	B
86									
87									
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103									
104									

Khalkar
Khalkar
Akshay
Thombare
Gite
Rahane
Kadam.V
vaibhar
Jawale



Dr. R. D. Gaware
Head
Department of Zoology
K. J. Somaiya College, Kopergaon

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Report of Certificate Course: Vermiculture and Vermicomposting

Academic Year: 2019 - 2020

Department of Zoology conducted Certificate Course, Vermiculture and Vermicomposting with duration of two months with weightage of 25 lectures including theory and practical experience, from 01st January 2020 to 29 February 2020 in the academic year 2019-2020.

This course will be the best platform for the students to get an idea about Vermitechnology, which could help them to create self-employment, organic farming, use of biofertilizer, ecofriendly techniques useful for environmental protection and also to interact with the teacher, making it responsible for them to develop a strong relationship with the respective to the subject, adviser and other students and become confident for higher graduation studies and placements.

Outcome of the Certificate Course:

- 5) Students learn to all basic concepts of Vermiculture techniques.
- 6) Students learn to solve environmental problems like pollution by using vermicompost as a biofertilizer for crop cultivation.
- 7) Students can implement vermiculture practices as profession and thus can solve the problem of unemployment.
- 8) Students learn to identify the types of earthworms species and aware of rearing techniques of earthworms.

Date: 31/03/2020



Course Coordinator,
HOD,

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Principal

Principal
K.J.Somaiya College
Kopergaon

Letter to IQAC for seeking permission for the Certificate Course

To,

The Coordinator,
IQAC,
K. J. Somaiya College, Kopargaon

Subject: Regarding the permission for starting new certificate course / Organize Seminar / Conference/ Webinar/ Departmental Activity in our department...

Respected Sir,


The Department of **Zoology** desires to start/organize a **certificate course** / Organize Seminar / Conference/ Webinar / Departmental Activity in '**Vermiculture and Vermicomposting**' for developing the skills and enhancing the employability of our students.

Name of the Activity	Certificate Course in 'Vermiculture and Vermicomposting'
Proposed Date and Time	01/04/2022 to 31/05/2022
Venue	Department of Zoology
Name of the Resource Person / Coordinator of the Course	Dr. R. D. Gawali.

The said course / seminar / conference/ webinar / activity will be of **Two Months** and the fees for the course/ Conference / Seminar/ Webinar / activity will be Rs. 100/- which is to be paid at cash counter of the college. At the end of the course/ Seminar/ Conference/ Webinar / activity of our department will issue the certificates to the successful student/ participants.

Kindly give the permission and thank you and look forward for kind cooperation.




15/02/2021
Yours sincerely,

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Allowed
mgf

Permission Letter from IQAC for Organizing Programme

From,
The IQAC Coordinator,
K. J. Somaiya College, Kopargaon

To,
Head,
Department of Zoology,
K. J. Somaiya College, Kopargaon



Subject: Permission for organizing 'Certificate Course in 'Vermiculture and Vermicomposting' in the Department of Zoology.

Dear Sir,

As per your letter dated **15th February 2021**, IQAC grants the permission for following activity:

Name of the Activity	Certificate Course in 'Vermiculture and Vermicomposting'
Proposed Date and Time	01/04/2021 to 31/05/2021
Venue	Department of Zoology
Name of the Resource Person	Dr. R. D. Gawali.

You are requested to complete the documentation and submit it to IQAC after programme within five working days.

Wish you all the best for programme.

Thank you.



Allowed.

Vijay Thange
Yours Sincerely,
Prof. Vijay Thange
Co-ordinator, IQAC
K. J. Somaiya College, Kopargaon



कोपरगांव तालुका एज्युकेशन सोसायटीचे

के. जे. सोमैया कला, वाणिज्य व विज्ञान महाविद्यालय,

मोहनीराजनगर, कोपरगांव - ४२३६०१, जि. अहमदनगर (महाराष्ट्र)

सावित्रीबाई फुले पुणे विद्यापीठाशी संलग्न : आयडी नं. पी.यु./ए.एन./ए.एस.सी./०७(१९६४)

☎ : 9146152000, 9146142000, Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

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AN ISO 9001-2015 CERTIFIED INSTITUTE

प्राचार्य - डॉ. बी. एस. यादव (एम.एस्सी., पीएच.डी.)

संस्थापक अध्यक्ष - कै. के.बी. रोहमारे (मा.आमदार)

संदर्भ क्रमांक :

दि. ०९ / ०३ / २०२१




सूचना

गांडुळ खत प्रशिक्षण कोर्स (२०२०-२१)

आपल्या महाविद्यालयामध्ये गांडुळ खत प्रशिक्षण कोर्स (Vermiculture & Vermicomposting) प्राणी शास्त्र विभागाने सुरु केलेला आहे.

या कोर्ससाठी शै.पात्रता एस.वाय.बी.ए. / बी.कॉम. / बी.एस्सी. / बी.सी.ए. / बी.सी.एस. ही आहे. सदर कोर्स २ महिने कालावधीचा आहे. सदर कोर्स करिता प्रवेश फी + परीक्षा फी रु.१००/- असून प्रवेश अर्ज लवकरात लवकर भरावा. सदर प्रशिक्षण कोर्सचे प्रवेश फॉर्म प्राणीशास्त्र विभागाकडे उपलब्ध आहे. हा कोर्स दि.१ एप्रिल, २०२१ पासून सुरु होईल. तरी पात्र विद्यार्थ्यांनी लवकरात लवकर प्रवेश घ्यावा.

अधीक माहितीसाठी विद्यार्थ्यांनी प्राणीशास्त्र विभाग प्रमुख डॉ.आर.डी. गवळी व प्रा. रायते डी.ए. यांच्याशी संपर्क साधावा.


(प्रा.डॉ. आर.डी. गवळी)

समन्वयक,
प्राणीशास्त्र विभाग




(डॉ. बी.एस. यादव)

प्राचार्य
के. जे. सोमैया कला, वाणिज्य
व विज्ञान महाविद्यालय, कोपरगांव

Head
Department of Zoology
K. J. Somaiya College, Kopergaon

Short Term Course Under Equal Opportunity Centre in Colleges
Funded by UGC (XIth Plan)

Certificate course in Vermiculture & Vermicomposting

(Syllabus)

* Theory *	No. Lectures
* Definition & Scope of Vermiculture.	01
* Taxonomic status/ Classification.	01
* Habit, Habitat & General Morphology.	02
* Useful Species of Earthworm.	01
* Methods of Vermiculture:	06
I) Preparation of Vermiculture bed.	
II) Culturing techniques in small scale.	
III) Bioconversion of kitchen waste using Vermiculture.	
IV) Culturing technique at farm & production of Vermicompost Technique.	
i) Containers ii) Shelter iii) Feed mixture	
iv) Manufacture of Vermicompost	
v) Harvesting.	
* Precautionary measures.	
* Factors influencing the culturing earthworms:	02
i) Food ii) Moisture iii) Temperature iv) Sunlight	
v) PH vi) Predators.	
* Significance of Gut in the formation of Vermicompost.	01
* Concept of Commercial Farming.	01
* Economic importance of earthworm.	01
* Vermicompost as a Bio-fertilizer.	01
* Concept of Vermiwash & Vermigold.	

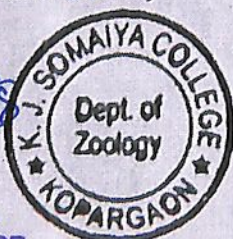
* PRACTICALS *

- * Practical based on above theory course- Preparation & maintenance of Vermiculture bed in field.
- * Field Report

Duration **60** Days

Total 25 Lectures

mm
mm
Head 18/05/19
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



mm
mm
Principal
K. J. Somaiya College
Kopergaon

Department of Zoology

Students List -Vermiculture and Vermicomposting:

(2020-21)



Sr. No	Name of The Students
01	Pawar Maya Changdeo
02	Honde Janardan Ramchandra
03	Raktate Pratiksha Nandkumar
04	Kadam Sadichha Rajendra
05	Gaikwad Arti Ramnath
06	Gaikwad Rahul Balasaheb
07	Gawali Akash Narayan
08	Dongare Shankar Nanasaheb
09	Narode Manoj Machhindra
10	Darunte Rushikesh Dilip
11	Vikhe Divya Dnyaneshwar
12	Tamboli Saniya Riyaj
13	Jadhav Sainath Sarjerao
14	Avhad Kantilal Chintaman
15	Jadhav Komal Sitaram
16	Sarode Jayshri Changdev
17	Jadhav Vaishnavi Changdeo
18	Shaikh Suhana Ramjan
19	Patole Gauri Sanjay
20	Dalkari Sakshi Krishna
21	Deogaonkar Saily Laxmikant
22	Bairagi Shital Onkardas
23	Pawar Aniket Subhash
24	Bhagwat Komal Rajendra
25	Kekan Shital Rajendra
26	Chavan Pratiksha Rajendra
27	Aher Vaibhav Kacheshwar
28	Jagdale Kartik Bhagwan
29	Narode pratiksha kishor
30	Kote Sujata Dattatray
31	Bhosale Pravin Dattatray
32	Chavan Pooja Shivaji
33	Kadam Rushikesh Gangadhar
34	Chaskar Ankita Balu
35	Vinchu Priti Annasaheb
36	Ghumare Nikita Dattatray
37	Deokar Geeta Ananda
38	Kape Akanksha Ravi
39	Shinde Shweta Changdev



Head

Department of Zoology

K. J. Somaiya College, Kopergaon

40	Devkar Pratiksha Nivrutti
41	Jadhav Pallavi Balasaheb
42	Mansuri Irshaad Iqbal
43	Arti Sahebrao Chandanshiv
44	Madake Sarthak Vishnupant
45	Sonawane Priya Rohidas
46	Gawali Prashant Raosaheb
47	Pingle Sakshi Ratnakar
48	Khatkake Shital Bapu
49	Maharnur Dhiraj Bhanudas
50	Ghumare Divya Subhash
51	Mhalaskar Anita Vijay
52	Ghanghav Aarti Bajirao
53	Bhosale Abhay Sanjay
54	Jamdar Anuja Macchindar
55	Raktate Komal Babasaheb
56	Kajale Pallavi Sitaram
57	Shevkar Pooja Bhuapatil
58	Bhavar Tejswini Kisan
59	Dighe Minakshi Sambhaji
60	Padol Krishna Vilas
61	Dahe Mahesh Genudas
62	Najgad Pranavi Gorakshnath
63	Nikam Pragati Shantaram
64	Darekar Komal Navanath
65	Inamke Rutuja Sachin
66	Diwate Prasad Shivaji
67	Thorat Nikita Navnath
68	Jagdale Aditya Ganesh
69	Maid Gayatri Bhausahab
70	Narode Darshan Bhausahab
71	Jore Vaibhav Keshav
72	Vaibhav Jaywantrao Nawale
73	Sabale Pooja Chandrakant
74	Rahane Aniket Navnath
75	Narode Atish Arun
76	Gosavi Sakshi Popat
77	Pangavhane Sayali Sarjerao
78	Dawange Abhishek Vinayak
79	Hivre Arti Tulshiram
80	Chaskar Shital Navnath
81	Kharat Nishigandha Bajirao
82	Pawar Patibha Santosh
83	Teke Suraj Rajendra
84	Nawale Vaibhav Jaivantrao
85	Katkade Saurabh Nanasaheb
86	Thot Vaishanvi Arjun
87	Jadhav Baliram Yuvaraj

88 Gavhane Akshada Dattajiray -



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

Certificate Course in Zoology
“Vermiculture and Vermicomposting”

Time Table: 2020 -2021

All Students of the Certificate Course ‘Vermiculture and Vermicomposting’ are hereby informed that their lectures for the said course will commence from 01/04/2021, as per the following scheduled time table.

Kindly note and co-operate.

With effect from: 01/04/2021

Time	Thursday	Friday	Saturday
1.30 To 3.30 P. M.	Lecture in Classroom (S-23)	Lecture in Classroom (S-23)	Field work / Practical (Botanical Garden)

Name of the Teacher: - Dr. R. D .Gawali (Zoology Department)

Course Coordinator

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon



Principal

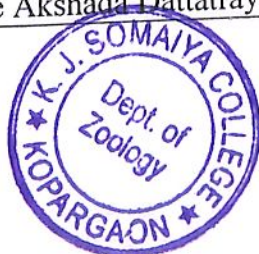
Principal
K.J.Somaiya College
Kopargaon



Department of Zoology
Attendance Sheet -Vermiculture and Vermicomposting:
(2020-21)

Sr. No	Name of The Students	5-4-21	12-4-21	19-4-21	23-5-21	10-5-21	17-5-21
01	Pawar Maya Changdeo	PMG	PMG	PMG	PMG	PMG	PMG
02	Honde Janardan Ramchandra	Honde	Honde	Honde	Honde	Ab	Honde
03	Raktate Pratiksha Nandkumar	Raktate	Raktate	Raktate	Raktate	Ab	Raktate
04	Kadam Sadichha Rajendra	Sadichha	Sadichha	Sadichha	Sadichha	Ab	Ab
05	Gaikwad Arti Ramnath	Arti	Arti	Arti	Arti	Arti	Ab
06	Gaikwad Rahul Balasaheb	Rahul	Rahul	Rahul	Rahul	Rahul	Rahul
07	Gawali Akash Narayan	GN	GN	GN	GN	GN	GN
08	Dongare Shankar Nanasaheb	Shankar	Shankar	Shankar	Shankar	Shankar	Shankar
09	Narode Manoj Machhindra	Manoj	Manoj	Manoj	Manoj	Manoj	Manoj
10	Darunte Rushikesh Dilip	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh
11	Vikhe Divya Dnyaneshwar	Divya	Divya	Divya	Divya	Divya	Divya
12	Tamboli Saniya Riyaj	Saniya	Saniya	Saniya	Saniya	Saniya	Saniya
13	Jadhav Sainath Sarjerao	Ab	Sainath	Sainath	Ab	Sainath	Sainath
14	Avhad Kantilal Chintaman	Chintaman	Chintaman	Chintaman	Ab	Chintaman	Chintaman
15	Jadhav Komal Sitaram	Komal	Komal	Komal	Komal	Komal	Komal
16	Sarode Jayshri Changdev	Jayshri	Jayshri	Jayshri	Jayshri	Jayshri	Ab
17	Jadhav Vaishnavi Changdeo	Vaishnavi	Vaishnavi	Vaishnavi	Ab	Vaishnavi	Vaishnavi
18	Shaikh Suhana Ramjan	Suhana	Suhana	Suhana	Ab	Ab	Suhana
19	Patole Gauri Sanjay	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri
20	Dalkari Sakshi Krishna	Sakshi	Sakshi	Sakshi	Sakshi	Sakshi	Ab
21	Deogaonkar Saily Laxmikant	Saily	Saily	Saily	Ab	Saily	Saily
22	Bairagi Shital Onkardas	B.S.O	B.S.O	B.S.O	B.S.O	B.S.O	B.S.O
23	Pawar Aniket Subhash	Aniket	Ab	Aniket	Aniket	Ab	Aniket
24	Bhagwat Komal Rajendra	Komal	Komal	Komal	Komal	Komal	Komal
25	Kekan Shital Rajendra	KSR	KSR	KSR	KSR	KSR	KSR
26	Chavan Pratiksha Rajendra	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha
27	Aher Vaibhav Kacheshwar	Vaibhav	Ab	Vaibhav	Vaibhav	Vaibhav	Vaibhav
28	Jagdale Kartik Bhagwan	Kartik	Kartik	Kartik	Ab	Kartik	Kartik
29	Narode pratiksha kishor	Pratiksha	Pratiksha	Narode	Narode	Narode	Narode
30	Kote Sujata Dattatray	Kote	Kote	Kote	Kote	Kote	Kote
31	Bhosale Pravin Dattatray	Pravin	Pravin	Pravin	Pravin	Pravin	Pravin
32	Chavan Pooja Shivaji	Pooja	Pooja	Pooja	Ab	Pooja	Pooja
33	Kadam Rushikesh Gangadhar	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Rushikesh	Ab
34	Chaskar Ankita Balu	Ankita	Ankita	Ankita	Ankita	Ankita	Ankita
35	Vinchu Priti Annasaheb	Priti	Priti	Priti	Priti	Priti	Priti
36	Ghumare Nikita Dattatray	Nikita	Nikita	Nikita	Ab	Nikita	Nikita
37	Deokar Geeta Ananda	Geeta	Geeta	Geeta	Geeta	Geeta	Geeta
38	Kape Akanksha Ravi	Ab	Ab	Ab	Ab	Ab	Ab
39	Shinde Shweta Changdev	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta
40	Devkar Pratiksha Nivrutti	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Pratiksha	Ab
41	Jadhav Pallavi Balasaheb	J.P.B	J.P.B	Ab	J.P.B	J.P.B	J.P.B
42	Mansuri Irshaad Iqbal	Irshaad	Irshaad	Irshaad	Irshaad	Irshaad	Irshaad
43	Arti Sahebrao Chandanshiv	Arti	Arti	Arti	Arti	Arti	Arti

44	Madake Sarthak Vishnupant	Madake	Madake	Madake	Madake	Madake	Madake
45	Sonawane Priya Rohidas	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane
46	Gawali Prashant Raosaheb	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
47	Pingle Sakshi Ratnakar	Pingle	Pingle	Pingle	Pingle	Pingle	Pingle
48	Khatkake Shital Bapu	Khatkake	Khatkake	Khatkake	Khatkake	Khatkake	Khatkake
49	Maharnur Dhiraj Bhanudas	Maharnur	Maharnur	Maharnur	Maharnur	Maharnur	Maharnur
50	Ghumare Divya Subhash	Ghumare	Ghumare	Ghumare	Ghumare	Ghumare	Ghumare
51	Mhalaskar Anita Vijay	Mhalaskar	Mhalaskar	Mhalaskar	Mhalaskar	Mhalaskar	Mhalaskar
52	Ghanghav Aarti Bajirao	Ghanghav	Ghanghav	Ghanghav	Ghanghav	Ghanghav	Ghanghav
53	Bhosale Abhay Sanjay	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale
54	Jamdar Anuja Macchindar	Anuja	Anuja	Anuja	Anuja	Anuja	Anuja
55	Raktate Komal Babasaheb	Raktate	Raktate	Raktate	Raktate	Raktate	Raktate
56	Kajale Pallavi Sitaram	Kajale	Kajale	Kajale	Kajale	Kajale	Kajale
57	Shevkar Pooja Bhuapatil	Shevkar	Shevkar	Shevkar	Shevkar	Shevkar	Shevkar
58	Bhavar Tejswini Kisan	Bhavar	Bhavar	Bhavar	Bhavar	Bhavar	Bhavar
59	Dighe Minakshi Sambhaji	Dighe	Dighe	Dighe	Dighe	Dighe	Dighe
60	Padol Krishna Vilas	Padol	Padol	Padol	Padol	Padol	Padol
61	Dahe Mahesh Genudas	Dahe	Dahe	Dahe	Dahe	Dahe	Dahe
62	Najgad Pranavi Gorakshnath	Najgad	Najgad	Najgad	Najgad	Najgad	Najgad
63	Nikam Pragati Shantaram	Nikam	Nikam	Nikam	Nikam	Nikam	Nikam
64	Darekar Komal Navanath	Darekar	Darekar	Darekar	Darekar	Darekar	Darekar
65	Inamke Rutuja Sachin	Inamke	Inamke	Inamke	Inamke	Inamke	Inamke
66	Diwate Prasad Shivaji	Diwate	Diwate	Diwate	Diwate	Diwate	Diwate
67	Thorat Nikita Navnath	Thorat	Thorat	Thorat	Thorat	Thorat	Thorat
68	Jagdale Aditya Ganesh	Jagdale	Jagdale	Jagdale	Jagdale	Jagdale	Jagdale
69	Maid Gayatri Bhausaheb	Maid	Maid	Maid	Maid	Maid	Maid
70	Narode Darshan Bhausaheb	Narode	Narode	Narode	Narode	Narode	Narode
71	Jore Vaibhav Keshav	Jore	Jore	Jore	Jore	Jore	Jore
72	Vaibhav Jaywantrao Nawale	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav
73	Sabale Pooja Chandrakant	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale
74	Rahane Aniket Navnath	Rahane	Rahane	Rahane	Rahane	Rahane	Rahane
75	Narode Atish Arun	Narode	Narode	Narode	Narode	Narode	Narode
76	Gosavi Sakshi Popat	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi
77	Pangavhane Sayali Sarjerao	Pangavhane	Pangavhane	Pangavhane	Pangavhane	Pangavhane	Pangavhane
78	Dawange Abhishek Vinayak	Dawange	Dawange	Dawange	Dawange	Dawange	Dawange
79	Hivre Arti Tulshiram	Hivre	Hivre	Hivre	Hivre	Hivre	Hivre
80	Chaskar Shital Navnath	Chaskar	Chaskar	Chaskar	Chaskar	Chaskar	Chaskar
81	Kharat Nishigandha Bajirao	Kharat	Kharat	Kharat	Kharat	Kharat	Kharat
82	Pawar Patibha Santosh	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
83	Teke Suraj Rajendra	Teke	Teke	Teke	Teke	Teke	Teke
84	Nawale Vaibhav Jaivantrao	Nawale	Nawale	Nawale	Nawale	Nawale	Nawale
85	Katkade Saurabh Nanasaheb	Katkade	Katkade	Katkade	Katkade	Katkade	Katkade
86	Thot Vaishanvi Arjun	Thot	Thot	Thot	Thot	Thot	Thot
87	Jadhav Baliram Yuvaraj	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
88	Gavhane Akshada Dattatraya	Gavhane	Gavhane	Gavhane	Gavhane	Gavhane	Gavhane



[Signature]

Côordinator

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

DEPARTMENT OF ZOOLOGY

**Examination for Certificate Course in "Vermiculture and
Vermicomposting"**

NOTICE: 2020 - 2021

07/10/2021

All the students of Certificate Course in Zoology (**Vermiculture and Vermicomposting**) are hereby informed that the examination for the said certificate course will be conducted on dated **08/10/2021 at 12.30 P. M.** online using Google Forms. Link of online examination will be shared with you before ten minutes of commencement of examination.

Dr. R. D. Gawali,
Course Coordinator,
Department of Zoology

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Principal

Principal
K.J.Somaiya College
Kopargaon



Department of Zoology

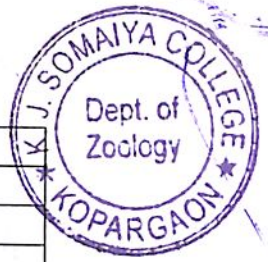
List of Students-Vermiculture and Vermicomposting:

Mark List: - (2020-21)



Sr. No	Name of The Students	Marks obtained out of 40	Grade obtained
01	Pawar Maya Changdeo	34	O
02	Honde Janardan Ramchandra	22	A
03	Raktate Pratiksha Nandkumar	22	A
04	Kadam Sadichha Rajendra	14	B
05	Gaikwad Arti Ramnath	12	B
06	Gaikwad Rahul Balasaheb	16	B
07	Gawali Akash Narayan	30	O
08	Dongare Shankar Nanasaheb	30	O
09	Narode Manoj Machhindra	22	A
10	Darunte Rushikesh Dilip	24	A+
11	Vikhe Divya Dnyaneshwar	26	A+
12	Tamboli Saniya Riyaj	24	A+
13	Jadhav Sainath Sarjerao	24	A+
14	Avhad Kantilal Chintaman	24	A+
15	Jadhav Komal Sitaram	28	O
16	Sarode Jayshri Changdev	32	O
17	Jadhav Vaishnavi Changdeo	30	O
18	Shaikh Suhana Ramjan	16	B
19	Patole Gauri Sanjay	14	B
20	Dalkari Sakshi Krishna	14	B
21	Deogaonkar Saily Laxmikant	20	A
22	Bairagi Shital Onkardas	24	A+
23	Pawar Aniket Subhash	20	A
24	Bhagwat Komal Rajendra	22	A
25	Kekan Shital Rajendra	26	A+
26	Chavan Pratiksha Rajendra	24	A+
27	Aher Vaibhav Kacheshwar	22	A
28	Jagdale Kartik Bhagwan	22	A
29	Narode pratiksha kishor	30	O
30	Kote Sujata Dattatray	30	O
31	Bhosale Pravin Dattatray	24	A+
32	Chavan Pooja Shivaji	26	A+
33	Kadam Rushikesh Gangadhar	24	A+
34	Chaskar Ankita Balu	30	O
35	Vinchu Priti Annasaheb	14	B
36	Ghumare Nikita Dattatray	16	B
37	Deokar Geeta Ananda	26	A+
38	Kape Akanksha Ravi	24	A+
39	Shinde Shweta Changdev	26	A+
40	Devkar Pratiksha Nivrutti	36	O
41	Jadhav Pallavi Balasaheb	28	O

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaoon



42	Mansuri Irshaad Iqbal	16	B
43	Arti Sahebrao Chandanshiv	16	B
44	Madake Sarthak Vishnupant	32	O
45	Sonawane Priya Rohidas	30	O
46	Gawali Prashant Raosaheb	24	A+
47	Pingle Sakshi Ratnakar	22	A
48	Khatkake Shital Bapu	26	A+
49	Maharnur Dhiraj Bhanudas	20	A
50	Ghumare Divya Subhash	24	A+
51	Mhalaskar Anita Vijay	28	O
52	Ghanghav Aarti Bajirao	32	O
53	Bhosale Abhay Sanjay	24	A+
54	Jamdar Anuja Macchindar	20	A
55	Raktate Komal Babasaheb	22	A
56	Kajale Pallavi Sitaram	32	O
57	Shevkar Pooja Bhuapatil	22	A
58	Bhavar Tejswini Kisan	32	O
59	Dighe Minakshi Sambhaji	32	O
60	Padol Krishna Vilas	30	O
61	Dahe Mahesh Genudas	32	O
62	Najgad Pranavi Gorakshnath	22	A
63	Nikam Pragati Shantaram	18	B
64	Darekar Komal Navanath	16	B
65	Inamke Rutuja Sachin	22	A
66	Diwate Prasad Shivaji	22	A
67	Thorat Nikita Navnath	30	O
68	Jagdale Aditya Ganesh	32	O
69	Maid Gayatri Bhausaheb	26	A+
70	Narode Darshan Bhausaheb	24	A+
71	Jore Vaibhav Keshav	28	O
72	Vaibhav Jaywantrao Nawale	30	O
73	Sabale Pooja Chandrakant	12	B
74	Rahane Aniket Navnath	18	B
75	Narode Atish Arun	20	A
76	Gosavi Sakshi Popat	24	A+
77	Pangavhane Sayali Sarjerao	22	A
78	Dawange Abhishek Vinayak	26	A+
79	Hivre Arti Tulshiram	22	A
80	Chaskar Shital Navnath	14	B
81	Kharat Nishigandha Bajirao	22	A
82	Pawar Patibha Santosh	14	B
83	Teke Suraj Rajendra	16	B
84	Nawale Vaibhav Jaivantrao	32	O
85	Katkade Saurabh Nanasaheb	20	A
86	Thot Vaishanvi Arjun	36	O
87	Jadhav Baliram Yuvaraj	16	B
88	Gavhane Akshada Dattatraya	20	A

Head
 Department of Zoology
 K. J. Somaiya College of Arts,
 Commerce & Science, Kopergaon

Report of Certificate Course: Vermiculture and Vermicomposting

Academic Year: 2020 - 2021

Department of Zoology conducted Certificate Course, Vermiculture and Vermicomposting with duration of two months with weightage of 25 lectures including theory and practical experience, from 01st April 2021 to 31th May 2021 in the academic year 2020-21.

This course will be the best platform for the students to get an idea about Vermitechnology, which could help them to create self-employment, organic farming, use of biofertilizer, ecofriendly techniques useful for environmental protection and also to interact with the teacher, making it responsible for them to develop a strong relationship with the respective to the subject, adviser and other students and become confident for higher graduation studies and placements.

Outcome of the Certificate Course:

- 9) Students learn to all basic concepts of Vermiculture techniques.
- 10) Students learn to solve environmental problems like pollution by using vermicompost as a biofertilizer for crop cultivation.
- 11) Students can implement vermiculture practices as profession and thus can solve the problem of unemployment.
- 12) Students learn to identify the types of earthworms species and aware of rearing techniques of earthworms.

Date: 08/05/2021



Course Coordinator,

HOD,
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Principal

Principal
K.J.Somaiya College
Kopergaon

Permission Letter from IQAC for Organizing Programme

From,
The IQAC Coordinator,
K. J. Somaiya College, Kopargaon

To,
Head,
Department of Zoology,
K. J. Somaiya College, Kopargaon

**Subject: Permission for organizing 'Certificate Course in
'Vermiculture and Vermicomposting' in the Department of Zoology.**

Dear Sir,

As per your letter dated **15th February 2021**, IQAC grants the permission for following activity:

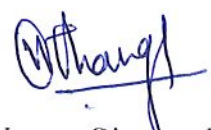
Name of the Activity	Certificate Course in 'Vermiculture and Vermicomposting'
Proposed Date and Time	01/04/2022 to 31/05/2022
Venue	Department of Zoology
Name of the Resource Person	Dr. R. D. Gawali.

You are requested to complete the documentation and submit it to IQAC after programme within five working days.

Wish you all the best for programme.

Thank you.




Yours Sincerely,
Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. Ahmednagar



कोपरगांव तालुका एज्युकेशन सोसायटीचे

के. जे. सोमैया कला, वाणिज्य व विज्ञान महाविद्यालय,

मोहनीराजनगर, कोपरगांव - ४२३६०१, जि. अहमदनगर (महाराष्ट्र)

सावित्रीबाई फुले पुणे विद्यापीठाशी संलग्न : आयडी नं. पी.यु./ए.एन./ए.एस.सी./०७(१९६४)

☎ : 9146152000, 9146142000, Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE

AN ISO 9001-2015 CERTIFIED INSTITUTE

प्राचार्य - डॉ. बी. एस. यादव (एम.एस्सी., पीएच.डी.)

संस्थापक अध्यक्ष - कै. के.बी. रोहमारे (मा.आमदार)

संदर्भ क्रमांक :

दि. 27/10 /2021

सूचना


गांडुळ खत प्रशिक्षण कोर्स (२०२१-२२)




आपल्या महाविद्यालयामध्ये गांडुळ खत प्रशिक्षण कोर्स (Vermiculture & Vermicomposting) प्राणी शास्त्र विभागाने सुरु केलेला आहे.

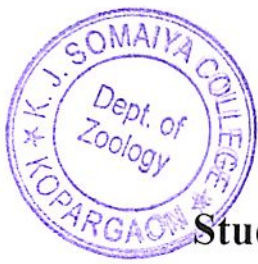
या कोर्ससाठी शै.पात्रता एस.वाय.बी.ए. / बी.कॉम. / बी.एस्सी. / बी.सी.ए. / बी.सी.एस. ही आहे. सदर कोर्स २ महिने कालावधीचा आहे. सदर कोर्स करिता प्रवेश फी + परीक्षा फी रु.१००/- असून प्रवेश अर्ज लवकरात लवकर भरावा. सदर प्रशिक्षण कोर्सचे प्रवेश फॉर्म प्राणीशास्त्र विभागाकडे उपलब्ध आहे. हा कोर्स दि.१ जानेवारी, २०२२ पासून सुरु होईल. तरी पात्र विद्यार्थ्यांनी लवकरात लवकर प्रवेश घ्यावा.

अधीक माहितीसाठी विद्यार्थ्यांनी प्राणीशास्त्र विभाग प्रमुख डॉ.आर.डी. गवळी व प्रा. रायते डी.ए. यांच्याशी संपर्क साधावा.


27/10/21
(प्रा.डॉ. आर.डी. गवळी)

समन्वयक,
प्राणीशास्त्र विभाग
Head
Department of Zoology
K. J. Somaiya College, Kopergaon


(डॉ. बी.एस. यादव)
प्राचार्य
के. जे. सोमैया कला, वाणिज्य
व विज्ञान महाविद्यालय, कोपरगांव

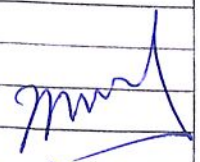


Department of Zoology

Students List -Vermiculture and Vermicomposting:

(2021-22)

Sr. No	Name of The Students	Fees Paid Rs.	Signature
01	Agwan Abhishek Kishore	100	
02	Barhate Sanket Kishor	100	
03	Bhingare Dipak Raosaheb	100	
04	Bhosale Pratik Sarjerao	100	
05	Bidwe Aditya Yuvraj	100	
06	Bondkhal Priyanka Machhindra	100	
07	Chavan Shashikala Dilip	100	
08	Chikane Kalyani Sanjay	100	
09	Chine Aditya Arun	100	
10	Dahe Siya Kalyan	100	
11	Devkar Nisha Babasaheb	100	
12	Dhumal Sayali Navnath	100	
13	Dighe Suvarna Chandrakant	100	
14	Dube Ashwini Popat	100	
15	Gadekar Vaishnavi Nandkumar	100	
16	Gaikwad Aditya Raosaheb	100	
17	Gavhane Jayshri Baban	100	
18	Gawali Vaishnavi Shivaji	100	
19	Ghare Monika Rajendra	100	
20	Gondkar Tejasvini Khandu	100	
21	Gorhe Vaibhavi Arun	100	
22	Hon Komal Subhash	100	
23	Hon Mohit Manikrao	100	
24	Hon Rutuja Dharmanath	100	
25	Jeughale Rupali Dattatray	100	
26	Jorvekar Kalyani Dattatray	100	
27	Kadu Prachi Somnath	100	
28	Kahandal Krushna Rangnath	100	
29	Kale Nikita Sanjay	100	
30	Kasar Pooja Vilas	100	
31	Kekane Shrushti Ram	100	
32	Khade Pooja Mahesh	100	
33	Khalkar Sanket Balasaheb	100	
34	Khandage Rutika Nanasaheb	100	
35	Kharat Arati Sudhakar	100	
36	Kharat Pratiksha Arjun	100	
37	Kokate Sakshi Ashok	100	
38	Kudale Khush Anand	100	
39	Kudale Pratiksha Ketan	100	
40	Lohakane Anushka Sudhakar	100	
41	Lohakane Satwik Vitthal	100	


Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

42	Londhe Pooja Pandurang	100	
43	Mehatre Hrushikesh Kailas	100	
44	More Dhanashri Sanjay	100	
45	Narode Gayatri Shantaram	100	
46	Narode Shital Appasaheb	100	
47	Pachore Kalyani Vijay	100	
48	Pachore Tejas Arun	100	
49	Pandit Aniket Ravindra	100	
50	Parmeshwar Amruta Ramkisan	100	
51	Pawar Nikita Dadasaheb	100	
52	Pawar Pratidnya Laxman	100	
53	Pawar Sagar Appasaheb	100	
54	Rahane Komal Kisan	100	
55	Rahane Pankaj Bandu	100	
56	Raktate Pooja Sanjay	100	
57	Sarode Megha Bhausaheb	100	
58	Shaikh Avej Arif	100	
59	Shinde Aadesh Mahesh	100	
60	Shinde Amol Tukaram	100	
61	Shinde Pragati Goraksh	100	
62	Singar Suraj Vijay	100	
63	Singar Vaishali Digambar	100	
64	Somvanshi Tanuja Dadasaheb	100	
65	Sumbhe Tushar Ashok	100	
66	Teke Nikita Machhindra	100	
67	Teke Snehal Shrikant	100	
68	Thange Bhushan Vijay	100	
69	Tibhe Vaishnavi Sanjay	100	
70	Tribhuwan Rahul Raosaheb	100	
71	Usare Nikita Nandu	100	
72	Vinchu Valmik Abasaheb	100	
73	Wable Amol Rajesh	100	
74	Wagh Nutan Prabhakar	100	
75	Wakte Rutuja Prakash	100	
76	Wani Kalyani Sahebrao	100	
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[Signature]
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

[Signature]
Co-ordinator

IQAC, K. J. Somaiya College
Kopergaon, Dist. A.N.





Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

Certificate Course in Zoology
“Vermiculture and Vermicomposting”

Time Table: 2021 -2022

All Students of the Certificate Course ‘Vermiculture and Vermicomposting’ are hereby informed that their lectures for the said course will commence from 08/04/2022, as per the following scheduled time table.

Kindly note and co-operate.

With effect from: 08/04/2022

Time	Thursday	Friday	Saturday
1.30 To 3.30 P. M.	Lecture in Classroom (S-23)	Lecture in Classroom (S-23)	Field work / Practical (Botanical Garden)

Name of the Teacher: - Dr. R. D .Gawali (Zoology Department)

**Course Coordinator
Head**

**Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon**



Principal

**Principal
K.J.Somaiya College
Kopargaon**

Department of Zoology



Attendance Sheet: Vermiculture and Vermicomposting

(2021-22)

Sr. No	Name of The Students	09-04-22	13-04-22	20-04-22	23-04-22	30-04-22	07-05-22	14-05-22
01	Agwan Abhishek Kishore	Agwan	Agwan	Agwan	Agwan	Agwan	Agwan	Agwan
02	Barhate Sanket Kishor	Barhate	Barhate	Barhate	Barhate	Barhate	Barhate	Barhate
03	Bhingare Dipak Raosaheb	Bhingare	Bhingare	Bhingare	Bhingare	Bhingare	Bhingare	Bhingare
04	Bhosale Pratik Sarjerao	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale	Bhosale
05	Bidwe Aditya Yuvraj	Bidwe	Bidwe	Bidwe	Bidwe	Bidwe	Bidwe	Bidwe
06	Bondkhal Priyanka Machh	Bondkhal	Bondkhal	Bondkhal	Bondkhal	Bondkhal	Bondkhal	Bondkhal
07	Chavan Shashikala Dilip	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan	Chavan
08	Chikane Kalyani Sanjay	Chikane	Chikane	Chikane	Chikane	Chikane	Chikane	Chikane
09	Chine Aditya Arun	Chine	Chine	Chine	Chine	Chine	Chine	Chine
10	Dahe Siya Kalyan	Dahe	Dahe	Dahe	Dahe	Dahe	Dahe	Dahe
11	Devkar Nisha Babasaheb	Devkar	Devkar	Devkar	Devkar	Devkar	Devkar	Devkar
12	Dhumal Sayali Navnath	Dhumal	Dhumal	Dhumal	Dhumal	Dhumal	Dhumal	Dhumal
13	Dighe Suvarna Chandrakant	Dighe	Dighe	Dighe	Dighe	Dighe	Dighe	Dighe
14	Dube Ashwini Popat	Dube	Dube	Dube	Dube	Dube	Dube	Dube
15	Gadekar Vaishnavi Nandkumar	Gadekar	Gadekar	Gadekar	Gadekar	Gadekar	Gadekar	Gadekar
16	Gaikwad Aditya Raosaheb	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad	Gaikwad
17	Gavhane Jayshri Baban	Gavhane	Gavhane	Gavhane	Gavhane	Gavhane	Gavhane	Gavhane
18	Gawali Vaishnavi Shivaji	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
19	Ghare Monika Rajendra	Ghare	Ghare	Ghare	Ghare	Ghare	Ghare	Ghare
20	Gondkar Tejasvini Khandu	Gondkar	Gondkar	Gondkar	Gondkar	Gondkar	Gondkar	Gondkar
21	Gorhe Vaibhavi Arun	Gorhe	Gorhe	Gorhe	Gorhe	Gorhe	Gorhe	Gorhe
22	Hon Komal Subhash	Komal	Komal	Komal	Komal	Komal	Komal	Komal
23	Hon Mohit Manikrao	Mohit	Mohit	Mohit	Mohit	Mohit	Mohit	Mohit
24	Hon Rutuja Dharmanath	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
25	Jeughale Rupali Dattatray	Rupali	Rupali	Rupali	Rupali	Rupali	Rupali	Rupali
26	Jorvekar Kalyani Dattatray	Jorvekar	Jorvekar	Jorvekar	Jorvekar	Jorvekar	Jorvekar	Jorvekar
27	Kadu Prachi Somnath	Kadu	Kadu	Kadu	Kadu	Kadu	Kadu	Kadu
28	Kahandal Krushna Rang	Kahandal	Kahandal	Kahandal	Kahandal	Kahandal	Kahandal	Kahandal
29	Kale Nikita Sanjay	Kale	Kale	Kale	Kale	Kale	Kale	Kale
30	Kasar Pooja Vilas	Kasar	Kasar	Kasar	Kasar	Kasar	Kasar	Kasar
31	Kekane Shrushti Ram	Kekane	Kekane	Kekane	Kekane	Kekane	Kekane	Kekane
32	Khade Pooja Mahesh	Khade	Khade	Khade	Khade	Khade	Khade	Khade
33	Khalkar Sanket Balasaheb	Khalkar	Khalkar	Khalkar	Khalkar	Khalkar	Khalkar	Khalkar
34	Khandage Rutika Nanasa	Khandage	Khandage	Khandage	Khandage	Khandage	Khandage	Khandage
35	Kharat Arati Sudhakar	Kharat	Kharat	Kharat	Kharat	Kharat	Kharat	Kharat
36	Kharat Pratiksha Arjun	Kharat	Kharat	Kharat	Kharat	Kharat	Kharat	Kharat
37	Kokate Sakshi Ashok	Kokate	Kokate	Kokate	Kokate	Kokate	Kokate	Kokate
38	Kudale Khush Anand	Kudale	Kudale	Kudale	Kudale	Kudale	Kudale	Kudale
39	Kudale Pratiksha Ketan	Kudale	Kudale	Kudale	Kudale	Kudale	Kudale	Kudale

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

Department of Zoology
Students List -Vermiculture and Vermicomposting:
(2021-22)

Sr. No	Name of The Students	Fees Paid Rs.	Signature
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03	Bhingare Dipak Raosaheb	100	<u>Dipak</u>
04	Bhosale Pratik Sarjerao	100	
05	Bidwe Aditya Yuvraj	100	<u>Bidwe</u>
06	Bondkhal Priyanka Machhindra	100	
07	Chavan Shashikala Dilip	100	
08	Chikane Kalyani Sanjay	100	
09	Chine Aditya Arun	100	<u>Chine</u>
10	Dahe Siya Kalyan	100	<u>Siya</u>
11	Devkar Nisha Babasaheb	100	<u>Nisha</u>
12	Dhumal Sayali Navnath	100	<u>Dhumal</u>
13	Dighe Suvarna Chandrakant	100	<u>Dighe</u>
14	Dube Ashwini Popat	100	<u>Dube</u>
15	Gadekar Vaishnavi Nandkumar	100	<u>Gadekar</u>
16	Gaikwad Aditya Raosaheb	100	<u>Gaikwad</u>
17	Gavhane Jayshri Baban	100	<u>Gavhane</u>
18	Gawali Vaishnavi Shivaji	100	
19	Ghare Monika Rajendra	100	<u>Ghare</u>
20	Gondkar Tejasvini Khandu	100	<u>Gondkar</u>
21	Gorhe Vaibhavi Arun	100	<u>Gorhe</u>
22	Hon Komal Subhash	100	<u>Komal</u>
23	Hon Mohit Manikrao	100	<u>Mohit</u>
24	Hon Rutuja Dharmanath	100	<u>Rutuja</u>
25	Jeughale Rupali Dattatray	100	<u>Rupali</u>
26	Jorvekar Kalyani Dattatray	100	<u>Jorvekar</u>
27	Kadu Prachi Somnath	100	
28	Kahandal Krushna Rangnath	100	
29	Kale Nikita Sanjay	100	<u>Kale</u>
30	Kasar Pooja Vilas	100	
31	Kekane Shrushti Ram	100	<u>S.R. Kekane</u>
32	Khade Pooja Mahesh	100	<u>Khade</u>
33	Khalkar Sanket Balasaheb	100	<u>Khalkar</u>
34	Khandage Rutika Nanasaheb	100	<u>Khandage</u>
35	Kharat Arati Sudhakar	100	<u>Kharat</u>
36	Kharat Pratiksha Arjun	100	<u>Kharat</u>
37	Kokate Sakshi Ashok	100	<u>Kokate</u>
38	Kudale Khush Anand	100	
39	Kudale Pratiksha Ketan	100	
40	Lohakane Anushka Sudhakar	100	<u>Lohakane</u>
41	Lohakane Satwik Vitthal	100	

Head

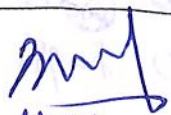
40	Lohakane Anushka Sudha	Lohakane	Lohakane	Lohakane	Lohakane	Lohakane	Lohakane	Lohakane
41	Lohakane Satwik Vitthal							
42	Londhe Pooja Pandurang	Londhe	Londhe	Londhe	Londhe	Londhe	Londhe	Londhe
43	Mehatre Hrushikesh Kailas	Mehatre	Mehatre	Mehatre	Mehatre	Mehatre	Mehatre	Mehatre
44	More Dhanashri Sanjay							
45	Narode Gayatri Shantaram	Narode	Narode	Narode	Narode	Narode	Narode	Narode
46	Narode Shital Appasaheb	Narode	Narode	Narode	Narode	Narode	Narode	Narode
47	Pachore Kalyani Vijay	Pachore	Pachore	Pachore	Pachore	Pachore	Pachore	Pachore
48	Pachore Tejas Arun	Pachore	Pachore	Pachore	Pachore	Pachore	Pachore	Pachore
49	Pandit Aniket Ravindra	Pandit	Pandit	Pandit	Pandit	Pandit	Pandit	Pandit
50	Parmeshwar Amruta Ramk							
51	Pawar Nikita Dadasaheb	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
52	Pawar Pratidnya Laxman	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
53	Pawar Sagar Appasaheb							
54	Rahane Komal Kisan	Rahane	Rahane	Rahane	Rahane	Rahane	Rahane	Rahane
55	Rahane Pankaj Bandu	Rahane	Rahane	Rahane	Rahane	Rahane	Rahane	Rahane
56	Raktate Pooja Sanjay	Raktate	Raktate	Raktate	Raktate	Raktate	Raktate	Raktate
57	Sarode Megha Bhausaheb	Sarode	Sarode	Sarode	Sarode	Sarode	Sarode	Sarode
58	Shaikh Avej Arif							
59	Shinde Aadesh Mahesh							
60	Shinde Amol Tukaram	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
61	Shinde Pragati Goraksh	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde
62	Singar Suraj Vijay	Singar	Singar	Singar	Singar	Singar	Singar	Singar
63	Singar Vaishali Digambar	Singar	Singar	Singar	Singar	Singar	Singar	Singar
64	Somvanshi Tanuja Dadasa	Somvanshi	Somvanshi	Somvanshi	Somvanshi	Somvanshi	Somvanshi	Somvanshi
65	Sumbhe Tushar Ashok							
66	Teke Nikita Machhindra							
67	Teke Snehal Shrikant							
68	Thange Bhushan Vijay	Thange	Thange	Thange	Thange	Thange	Thange	Thange
69	Tibhe Vaishnavi Sanjay	Tibhe	Tibhe	Tibhe	Tibhe	Tibhe	Tibhe	Tibhe
70	Tribhuwan Rahul Raosaheb							
71	Usare Nikita Nandu	Usare	Usare	Usare	Usare	Usare	Usare	Usare
72	Vinchu Valmik Abasaheb	Vinchu	Vinchu	Vinchu	Vinchu	Vinchu	Vinchu	Vinchu
73	Wable Amol Rajesh	Wable	Wable	Wable	Wable	Wable	Wable	Wable
74	Wagh Nutan Prabhakar	Wagh	Wagh	Wagh	Wagh	Wagh	Wagh	Wagh
75	Wakte Rutuja Prakash	Wakte	Wakte	Wakte	Wakte	Wakte	Wakte	Wakte
76	Wani Kalyani Sahebrao	Wani	Wani	Wani	Wani	Wani	Wani	Wani
77	Mansi Goring Surashe	Mansi	Mansi	Mansi	Mansi	Mansi	Mansi	Mansi
78	Kolhe Priti Ganesh	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe
79	Londhe Pratiksha Dnyaneshwar	Londhe	Londhe	Londhe	Londhe	Londhe	Londhe	Londhe
80	Shelke Nikita Dilip	Shelke	Shelke	Shelke	Shelke	Shelke	Shelke	Shelke
81	Gosavi Vaishnavi Laxman	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi
82	Raktate Madhuri Vikar	Raktate	Raktate	Raktate	Raktate	Raktate	Raktate	Raktate
83	Shingde Nikita	Shingde	Shingde	Shingde	Shingde	Shingde	Shingde	Shingde

Deshmukh Aditi D.

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

42	Londhe Pooja Pandurang	100	<u>Londhe</u>
43	Mehatre Hrushikesh Kailas	100	<u>Hrushikesh</u>
44	More Dhanashri Sanjay	100	
45	Narode Gayatri Shantaram	100	
46	Narode Shital Appasaheb	100	<u>Narode</u>
47	Pachore Kalyani Vijay	100	<u>Pachore</u>
48	Pachore Tejas Arun	100	<u>Tejas</u>
49	Pandit Aniket Ravindra	100	<u>Aniket</u>
50	Parmeshwar Amruta Ramkisan	100	
51	Pawar Nikita Dadasaheb	100	<u>Pawar</u>
52	Pawar Pratidnya Laxman	100	<u>Pawar</u>
53	Pawar Sagar Appasaheb	100	
54	Rahane Komal Kisan	100	<u>Rahane</u>
55	Rahane Pankaj Bandu	100	<u>Pankaj</u>
56	Raktate Pooja Sanjay	100	<u>Pooja</u>
57	Sarode Megha Bhausaheb	100	<u>Megha</u>
58	Shaikh Avej Arif	100	
59	Shinde Aadesh Mahesh	100	<u>Aadesh</u>
60	Shinde Amol Tukaram	100	<u>Amol</u>
61	Shinde Pragati Goraksh	100	<u>Pragati</u>
62	Singar Suraj Vijay	100	<u>Suraj</u>
63	Singar Vaishali Digambar	100	<u>Vaishali</u>
64	Somvanshi Tanuja Dadasaheb	100	<u>Tanuja</u>
65	Sumbhe Tushar Ashok	100	
66	Teke Nikita Machhindra	100	
67	Teke Snehal Shrikant	100	
68	Thange Bhushan Vijay	100	<u>Thange</u>
69	Tibhe Vaishnavi Sanjay	100	<u>Tibhe</u>
70	Tribhuwan Rahul Raosaheb	100	
71	Usare Nikita Nandu	100	
72	Vinchu Valmik Abasaheb	100	<u>Vinchu</u>
73	Wable Amol Rajesh	100	<u>Wable</u>
74	Wagh Nutan Prabhakar	100	<u>Nutan</u>
75	Wakte Rutuja Prakash	100	<u>Rutuja</u>
76	Wani Kalyani Sahebrao	100	<u>Wani</u>
77	surashe mansi Ganind	100	<u>Surashe</u>
78	kolhe priti Ganesh	100	<u>Kolhe</u>
79	shelke Nikita Dilip	100	<u>Shelke</u>
80	Londhe Pratiksha Dnyaneshwar	100	<u>Londhe</u>
81	Gosavi Vaishnavi Laxman	100	<u>Gosavi</u>
82	Raktate Madhavi Vilas	100	<u>Raktate</u>
83	Shingade Shrutika Ravindra	100	<u>Shingade</u>
84			
85			



Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

DEPARTMENT OF ZOOLOGY

**Examination for Certificate Course in "Vermiculture and
Vermicomposting"**

NOTICE: 2021 - 2022

15/05/2022

All the students of Certificate Course in Zoology (**Vermiculture and
Vermicomposting**) are hereby informed that the examination for the said
certificate course will be conducted on dated **18/05/2022 at 12.30 P. M.**

Dr. R. D. Gawali,
Course Coordinator,
Department of Zoology

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

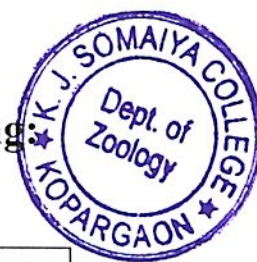
Principal
K.J.Somaiya College
Kopargaon



Department of Zoology

Mark-List -Vermiculture and Vermicomposting

(2021-22)



Sr. No	Name of The Students	Marks obtained out of 40	Grade obtained
01	Agwan Abhishek Kishore	28	A
02	Barhate Sanket Kishor	20	B
03	Bhingare Dipak Raosaheb	22	B
04	Bhosale Pratik Sarjerao	30	C
05	Bidwe Aditya Yuvraj	28	C
06	Bondkhal Priyanka Machhindra	28	C
07	Chavan Shashikala Dilip	31	C
08	Chikane Kalyani Sanjay	33	C
09	Chine Aditya Arun	25	A
10	Dahe Siya Kalyan	31	C
11	Devkar Nisha Babasaheb	31	C
12	Dhumal Sayali Navnath	29	C
13	Dighe Suvarna Chandrakant	30	C
14	Dube Ashwini Popat	31	C
15	Gadekar Vaishnavi Nandkumar	33	C
16	Gaikwad Aditya Raosaheb	30	C
17	Gavhane Jayshri Baban	33	C
18	Gawali Vaishnavi Shivaji	20	B
19	Ghare Monika Rajendra	31	C
20	Gondkar Tejasvini Khandu	28	C
21	Gorhe Vaibhavi Arun	30	C
22	Hon Komal Subhash	33	C
23	Hon Mohit Manikrao	23	B
24	Hon Rutuja Dharmanath	34	C
25	Jeughale Rupali Dattatray	32	C
26	Jorvekar Kalyani Dattatray	21	B
27	Kadu Prachi Somnath	20	B
28	Kahandal Krushna Rangnath	21	B
29	Kale Nikita Sanjay	21	B
30	Kasar Pooja Vilas	27	A
31	Kekane Shrushti Ram	31	C
32	Khade Pooja Mahesh	21	B
33	Khalkar Sanket Balasaheb	27	A
34	Khandage Rutika Nanasaheb	21	B
35	Kharat Arati Sudhakar	35	C
36	Kharat Pratiksha Arjun	30	C
37	Kokate Sakshi Ashok	22	B
38	Kudale Khush Anand	20	B
39	Kudale Pratiksha Ketan	21	B
40	Lohakane Anushka Sudhakar	29	C
41	Lohakane Satwik Vitthal	22	B

Head 18/05/22

42	Londhe Pooja Pandurang	29	O/Pdhe.
43	Mehatre Hrushikesh Kailas	22	B Hrush
44	More Dhanashri Sanjay	21	B Pratiksha
45	Narode Gayatri Shantaram	31	O Narode.
46	Narode Shital Appasaheb	22	B
47	Pachore Kalyani Vijay	31	O Pachore (Sistr)
48	Pachore Tejas Arun	25	A Pachore
49	Pandit Aniket Ravindra	21	B
50	Parmeshwar Amruta Ramkisan	22	B
51	Pawar Nikita Dadasaheb	33	O Pawar.
52	Pawar Pratidnya Laxman	32	O Pawar
53	Pawar Sagar Appasaheb	20	B
54	Rahane Komal Kisan	30	O Rahane
55	Rahane Pankaj Bandu	30	O Rahane
56	Raktate Pooja Sanjay	29	O Raktate
57	Sarode Megha Bhausaheb	27	A
58	Shaikh Avej Arif	22	O
59	Shinde Aadesh Mahesh	21	B
60	Shinde Amol Tukaram	28	O Shinde
61	Shinde Pragati Goraksh	29	O Shinde
62	Singar Suraj Vijay	28	O Singar
63	Singar Vaishali Digambar	32	O Singar
64	Somvanshi Tanuja Dadasaheb	31	O Somvanshi
65	Sumbhe Tushar Ashok	21	B
66	Teke Nikita Machhindra	31	O Teke
67	Teke Snehal Shrikant	34	O Teke
68	Thange Bhushan Vijay	22	B Thange
69	Tibhe Vaishnavi Sanjay	29	O Tibhe
70	Tribhuwan Rahul Raosaheb	21	B
71	Usare Nikita Nandu	28	O Usare
72	Vinchu Valmik Abasaheb	20	B
73	Wable Amol Rajesh	28	O
74	Wagh Nutan Prabhakar	31	O Wagh
75	Wakte Rutuja Prakash	27	A Wakte
76	Wani Kalyani Sahebrao	22	B
77	Kolhe Priti Ganesh	27	A Kolhe
78	Surase Mansi Govind	29	O Surase
79	Deshmukh Aditi Ashok	32	O Deshmukh
80	Londhe Pratiksha Dnyaneshwar	31	O Londhe
81	Shelke Nikita Dilip	33	O Shelke
82	Gosavi Vaishnavi Laxmikant	32	O Gosavi
83	Raktate Madhuri Vilas	34	O Raktate
84	Shingade Shrutika Ravindra	30	O
85	Gaikwad Vaishnavi Ramnath	21	B

28 A O

24 A A

20 A B

[Signature]

Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

Report of Certificate Course: Vermiculture and Vermicomposting

Academic Year: 2021 - 2022

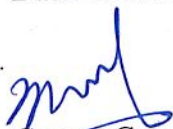
Department of Zoology conducted Certificate Course, Vermiculture and Vermicomposting with duration of two months with weightage of 25 lectures including theory and practical experience, from 01st April 2022 to 31th May 2022 in the academic year 2021-22.

This course will be the best platform for the students to get an idea about Vermitechnology, which could help them to create self-employment, organic farming, use of biofertilizer, ecofriendly techniques useful for environmental protection and also to interact with the teacher, making it responsible for them to develop a strong relationship with the respective to the subject, adviser and other students and become confident for higher graduation studies and placements.

Outcome of the Certificate Course:

- 13) Students learn to all basic concepts of Vermiculture techniques.
- 14) Students learn to solve environmental problems like pollution by using vermicompost as a biofertilizer for crop cultivation.
- 15) Students can implement vermiculture practices as profession and thus can solve the problem of unemployment.
- 16) Students learn to identify the types of earthworms species and aware of rearing techniques of earthworms.

Date: 31/05/2022



Course Coordinator,

HOD,
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Principal

Principal
K.J.Somaiya College
Kopergaon

Permission Letter from IQAC for Organizing Programme

From,
The IQAC Coordinator,
K. J. Somaiya College, Kopargaon

To,
Head,
Department of Zoology,
K. J. Somaiya College, Kopargaon

Subject: Permission for organizing 'Certificate Course in 'Vermiculture and Vermicomposting' in the Department of Zoology.

Dear Sir,


As per your letter dated **15th February 2023**, IQAC grants the permission for following activity:

Name of the Activity	Certificate Course in 'Vermiculture and Vermicomposting'
Proposed Date and Time	01/03/2023 to 30/04/2023
Venue	Department of Zoology
Name of the Resource Person	Dr. R. D. Gawali.

You are requested to complete the documentation and submit it to IQAC after programme within five working days.

Wish you all the best for programme.

Thank you.


Yours Sincerely,

Prof. Vijay Thange
Co-ordinator, IQAC
K. J. Somaiya College, Kopargaon

Letter to IQAC for seeking permission for the Certificate Course

To,
The Coordinator,
IQAC,
K. J. Somaiya College, Kopargaon

Subject: Regarding the permission for starting new certificate course / Organize Seminar / Conference/ Webinar/ Departmental Activity in our department...

Respected Sir,

The Department of Zoology desires to start/organize a certificate course / Organize Seminar / Conference/ Webinar / Departmental Activity in 'Vermiculture and Vermicomposting' for developing the skills and enhancing the employability of our students.

Name of the Activity	Certificate Course in 'Vermiculture and Vermicomposting'
Proposed Date and Time	01/03/2023 to 30/04/2023
Venue	Department of Zoology
Name of the Resource Person / Coordinator of the Course	Dr. R. D. Gawali.

The said course / seminar / conference/ webinar / activity will be of **Two Months** and the fees for the course/ Conference / Seminar/ Webinar / activity will be Rs. 100/- which is to be paid at cash counter of the college. At the end of the course/ Seminar/ Conference/ Webinar / activity of our department will issue the certificates to the successful student/ participants.

Kindly give the permission and thank you and look forward for kind cooperation.



Yours sincerely, 15.02.23

Head
Department of Zoology
K. J. Somaiya College, Kopargaon



कोपरगांव तालुका एज्युकेशन सोसायटीचे

के. जे. सोमैया कला, वाणिज्य व विज्ञान महाविद्यालय

मोहनीराजनगर, कोपरगांव - ४२३६०१, जि. अहमदनगर (महाराष्ट्र)

सावित्रीबाई फुले पुणे विद्यापीठाशी संलग्न : आयडी नं. पी.यु./ए.एन./ए.एस.सी./०७(१९६४)

☎ : 9146152000, 9146142000, Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE

AN ISO 9001-2015 CERTIFIED INSTITUTE

सावित्रीबाई फुले पुणे विद्यापीठ "उत्कृष्ट महाविद्यालय" पुरस्कार प्राप्त

प्राचार्य - डॉ. बी. एस. यादव (एम.एस्सी., पीएच.डी.)

संस्थापक अध्यक्ष - कै. के.बी. रोहमारे (मा.आमदार)

संदर्भ क्रमांक :

दि. 28/02/2023


सूचना

गांडुळ खत प्रशिक्षण कोर्स (२०२२-२३)

आपल्या महाविद्यालयामध्ये गांडुळ खत प्रशिक्षण कोर्स (Vermiculture & Vermicomposting) प्राणी शास्त्र विभागाने सुरु केलेला आहे.

या कोर्ससाठी शै.पात्रता एस.बाय.बी.ए. / बी.कॉम. / बी.एस्सी. / बी.सी.ए. / बी.सी.एस. ही आहे. सदर कोर्स २ महिने कालावधीचा आहे. सदर कोर्स करिता प्रवेश फी + परीक्षा फी रु.१००/- असून प्रवेश अर्ज लवकरात लवकर भरावा. सदर प्रशिक्षण कोर्सचे प्रवेश फॉर्म प्राणीशास्त्र विभागाकडे उपलब्ध आहे. हा कोर्स दि. १ मार्च, २०२३ पासून सुरु होईल. तरी पात्र विद्यार्थ्यांनी लवकरात लवकर प्रवेश घ्यावा.

अधिक माहितीसाठी विद्यार्थ्यांनी प्राणीशास्त्र विभाग प्रमुख डॉ. आर. डी. गवळी यांच्याशी संपर्क साधावा.


(प्रा.डॉ. आर.डी. गवळी)

समन्वयक,

प्राणीशास्त्र विभाग

Head

Department of Zoology

K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon


(डॉ. बी.एस. यादव)

प्राचार्य

के. जे. सोमैया कला, वाणिज्य
व विज्ञान महाविद्यालय, कोपरगांव





Department of Zoology
Students List -Vermiculture and Vermicomposting:
(2022-23)

Sr. No	Roll No.	Name of The Students	Fees Paid: Rs.	Signature
01	06	Nawale Vaishnavi Nanasaheb	100 paid	
02	07	Kolhe Tejas Kondaji	100 paid	
03	08	Khokale Satish Sanjay	100 paid	
04	09	Kajale Vaibhav Babasaheb	100 paid	
05	13	Dokhe Tejas Arun	100 paid	
06	14	Warkar Sanket Sanjay	100 paid	
07	15	Thange Pranjali Vijay	100 paid	
08	20	Gite Savita Dashrath	100 paid	
09	27	Shete Payal Sharad	100 paid	
10	28	Mahale Arati Sanjay	100 paid	
11	30	Jawale Bhakti Shamrav	100 paid	
12	31	Jawale Rutuja Arjun	100 paid	
13	32	Sonawane Pooja Babasaheb	100 paid	
14	33	Sonawane Gauri Navnath	100 paid	
15	34	Bhujade Tushar Narayan	100 paid	
16	38	More Kishor Balasaheb	100 paid	
17	39	Tambe Sagar Bhausaheb	100 paid	
18	40	Gawali Kartik Nanasaheb	100 paid	
19	41	Rohamare Pratik Pramod	100 paid	
20	42	Dighe Shantanu Narayan	100 paid	
21	43	Pawar Aniket Sanjay	100 paid	
22	44	Kolhe Mayur Vilas	100 paid	
23	43	Pawar Aniket Sanjay	100 paid	
24	44	Kolhe Mayur Vilas	100 paid	
25	54	Chaskar Sarika Balu	100 paid	
26	55	Gawali Trupti Anil	100 paid	
27	56	Bagal Chanchal Dnyaneshwar	100 paid	
28	57	Jagtap Rutuja Santosh	100 paid	
29	58	Dutte Tejasvini Narayan	100 paid	
30	59	Gursal Pranjali Rajesh	100 paid	
31	76	Kalwaghe Sejal Sudhir	100 paid	
32	80	Pawar Roshan Vishnu	100 paid	
33	84	Naikwade Vishal Anil	100 paid	
34	87	Deshmukh Tannvi Subhash	100 paid	
35	90	Gaikwad Sakshi Sharad	100 paid	
36	91	Shaikh Muskan Mustafa	100 paid	
37	94	Chavan Gayatri Somnath	100 paid	
38	95	Shaikh Meenaj Aslam	100 paid	
39	102	Dhakane Prajwal Ajinath	100 paid	
40	103	Gawali Vishal Rajendra	100 paid	
41	104	Shinde Nikita Sanjay	100 paid	
42	131	Jagdale Sakshi Ganesh	100 paid	


43	132	Fatangare Ashish Rajendra	100 paid	
44	133	Vahadane Dipali Babasaheb	100 paid	
45	140	Kakale Nalanda Sunil	100 paid	
46	141	Wani Janki Rajendra	100 paid	
47	142	Pandore Jyoti Sandip	100 paid	
48	144	Landbale Rutuja Navnath	100 paid	
49	147	Gaikwad Sakshi Sandeep	100 paid	
50	149	Sayyad Muddashir Faiyyaj	100 paid	
51	150	Avhad Sahil Vilas	100 paid	
52	155	Bhalrao Trupti Pramod	100 paid	
53	167	Kharat Harshvardhan Ranjeet	100 paid	



Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon

KOPARGAON TALUKA EDUCATION SOCIETY'S
K. J. SOMAIYA (PG) COLLEGE OF ARTS, COMMERCE & SCIENCE
 Kopargaon, Dist: Ahmednagar

Member ID: 0 Misc. Fee Receipt Section: P.G.

	Name:	PRINCIPAL K J SOMAIYA COLLEGE KOP	Class:	
GR/PRN No.:	0		Division Type:	NON-GRANT
Date:	23/05/2023		Roll No.:	0
Receipt No.:	1622	Session ID: 1,251	Division:	
Bank Details:		No.:	Pay Mode:	Cash

Ph.D.Interview	0	Cost of Book	0	Bonafide Fee	0	Assessment Book	0
Library Fine	0	Application Fee	0	Consultancy Fee	0	Canteen Deposit	0
Hostel Fee	0	Veri/Rev. Fee	0	Synopsis Fee	0	T&PAC	0
Hostel Breakage	0	Lib. Deposit	0	Eng. Speaking	0	ScrapMaterial	0
Term Fee	5300	Xerox	0	Seminar Fee	0	Prizes	0
T.C. Fee	0	CollegeDev.Fund	0	Competative Exa	0	Course Work Fee	0
NCC Admission	0	Extra. Curi. Ac	0	Cert.Course Fee	0		0
Post / Telegram	0	Computerisation	0	Alumni Con.Fund	0		0
SCI.JOURNAL	0	Equip. Maintanc	0	Prin.Relif Fund	0		0
Canteen Rent	0	Sci. Breakage	0	Re. Gen. Fund	0	***	0

Fee In Words: Rupees Five Thousand Three Hundred Only Paid Fee 5300

Total Pending Fee Till Date: 0
 Narration: Vermiculture Admission 53x100

DRB
Seal & Sign.

For Principal

 K. J. SOMAIYA (PG) COLLEGE OF ARTS, COMMERCE & SCIENCE

Printed By: DRB



Kopargaon Taluka Education Society's
K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601

Certificate Course in Zoology
“Vermiculture and Vermicomposting”

Time Table: 2022 -2023

All Students of the Certificate Course ‘Vermiculture and Vermicomposting’ are hereby informed that their lectures for the said course will commence from 01/03/2023, as per the following scheduled time table.

Kindly note and co-operate.

With effect from: 01/03/2023

Time	Thursday	Friday	Saturday
1.30 To 3.30 P. M.	Lecture in Classroom (S-23)	Lecture in Classroom (S-23)	Field work / Practical (Botanical Garden)

Name of the Teacher: - Dr. R. D .Gawali (Zoology Department)

Course Coordinator
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Principal

Principal
K.J.Somaiya College
Kopargaon



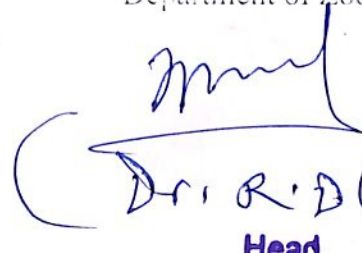
Department of Zoology
Attendance Sheet -Vermiculture and Vermicomposting
(2022-23)



Sr. No	Name of the Students	07.04.23	14.04.23	21.04.23	28.04.23	05.05.23	12.05.23
01	Nawale Vaishnavi Nanasaheb	Nawale	Nawale	Nawale	Nawale	Nawale	Nawale
02	Kolhe Tejas Kondaji	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe
03	Khokale Satish Sanjay	Khokale	Khokale	Khokale	Khokale	Khokale	Khokale
04	Kajale Vaibhav Babasaheb	Kajale	Kajale	Kajale	Kajale	Kajale	Kajale
05	Abhale Vishakha Keshav	Abhale	Abhale	Abhale	Abhale	Abhale	Abhale
06	Sonawane Sapana Kailas	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane
07	Dokhe Tejas Arun	Dokhe	Dokhe	Dokhe	Dokhe	Dokhe	Dokhe
08	Warkar Sanket Sanjay	Warkar	Warkar	Warkar	Warkar	Warkar	Warkar
09	Thange Pranjali Vijay	Thange	Thange	Thange	Thange	Thange	Thange
10	Gite Savita Dashrath	Gite	Gite	Gite	Gite	Gite	Gite
11	Fatangare Nikita Ravindra	Fatangare	Fatangare	Fatangare	Fatangare	Fatangare	Fatangare
12	Shete Payal Sharad	Shete	Shete	Shete	Shete	Shete	Shete
13	Mahale Arati Sanjay	Mahale	Mahale	Mahale	Mahale	Mahale	Mahale
14	Jawale Bhakti Shamrav	Jawale	Jawale	Jawale	Jawale	Jawale	Jawale
15	Jawale Rutuja Arjun	Jawale	Jawale	Jawale	Jawale	Jawale	Jawale
16	Sonawane Pooja Babasaheb	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane
17	Sonawane Gauri Navnath	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane
18	Bhujade Tushar Narayan	Bhujade	Bhujade	Bhujade	Bhujade	Bhujade	Bhujade
19	Aher Snehal Ashok	Aher	Aher	Aher	Aher	Aher	Aher
20	More Kishor Balasaheb	More	More	More	More	More	More
21	Tambe Sagar Bhausaheb	Tambe	Tambe	Tambe	Tambe	Tambe	Tambe
22	Gawali Kartik Nanasaheb	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
23	Rohamare Pratik Pramod	Rohamare	Rohamare	Rohamare	Rohamare	Rohamare	Rohamare
24	Dighe Shantanu Narayan	Dighe	Dighe	Dighe	Dighe	Dighe	Dighe
25	Pawar Aniket Sanjay	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
26	Kolhe Mayur Vilas	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe	Kolhe
27	Chaskar Sarika Balu	Chaskar	Chaskar	Chaskar	Chaskar	Chaskar	Chaskar
28	Gawali Trupti Anil	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
29	Bagal Chanchal Dnyaneshwar	Bagal	Bagal	Bagal	Bagal	Bagal	Bagal
30	Jagtap Rutuja Santosh	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap	Jagtap
31	Dutte Tejasvini Narayan	Dutte	Dutte	Dutte	Dutte	Dutte	Dutte
32	Gursai Pranjal Rajesh	Gursai	Gursai	Gursai	Gursai	Gursai	Gursai
33	Sonawane Akshada Suresh	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane	Sonawane
34	Shaikh Ayesha Wasim	Shaikh	Shaikh	Shaikh	Shaikh	Shaikh	Shaikh
35	Kalwaghe Sejal Sudhir	Kalwaghe	Kalwaghe	Kalwaghe	Kalwaghe	Kalwaghe	Kalwaghe
36	Pawar Roshan Vishnu	Pawar	Pawar	Pawar	Pawar	Pawar	Pawar
37	Naikwade Vishal Anil	Naikwade	Naikwade	Naikwade	Naikwade	Naikwade	Naikwade
38	Deshmukh Tannvi Subhash	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh	Deshmukh
39	Shaikh Meenaj Aslam	Shaikh	Shaikh	Shaikh	Shaikh	Shaikh	Shaikh
40	Gawali Vishal Rajendra	Gawali	Gawali	Gawali	Gawali	Gawali	Gawali
41	Jagdale Sakshi Ganesh	Jagdale	Jagdale	Jagdale	Jagdale	Jagdale	Jagdale

42	Fatangare Ashish Rajendra	def	def	def	def	def	def
43	Vahadane Dipali Babasaheb	aipau	aipau	aipau	aipau	aipau	aipau
44	Bankar Sakshi Appasaheb	BSA	BSA	BSA	BSA	BSA	BSA
45	Patil Sakshi Vivek	SPatil	SPatil	SPatil	SPatil	SPatil	SPatil
46	Kakale Nalanda Sunil	NKakale	NKakale	NKakale	NKakale	NKakale	NKakale
47	Wani Janki Rajendra	Janki	Janki	Janki	Janki	Janki	Janki
48	Pandore Jyoti Sandip	Pandore	Pandore	Pandore	Pandore	Pandore	Pandore
49	Jadhav Snehal Sandip	JSS	JSS	JSS	JSS	JSS	JSS
50	Landbale Rutuja Navnath	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
51	Gawali Priyanka Narayan	PGawali	PGawali	PGawali	PGawali	PGawali	PGawali
52	Gaikwad Sakshi Sandeep	SGaikwad	SGaikwad	SGaikwad	SGaikwad	SGaikwad	SGaikwad
53	Sayyad Muddashir Faiyyaj	MSayyad	MSayyad	MSayyad	MSayyad	MSayyad	MSayyad
54	Bhalrao Trupti Pramod	TBhalrao	TBhalrao	TBhalrao	TBhalrao	TBhalrao	TBhalrao
55	Kharat Harshvardhan Ranjeet	KHR	KHR	KHR	KHR	KHR	KHR
56	Chavan Puja Nanasaheb	CP	CP	CP	CP	CP	CP
57	Charan Gayatri Somnath	GCharan	GCharan	GCharan	GCharan	GCharan	GCharan
58	Gaikwad Sakshi Shrawan	SGaikwad	SGaikwad	SGaikwad	SGaikwad	SGaikwad	SGaikwad
59	Shaikh Mustun Mustafa	MShaikh	MShaikh	MShaikh	MShaikh	MShaikh	MShaikh
60	Dhakane Prajwal Jitendra	PDhakane	PDhakane	PDhakane	PDhakane	PDhakane	PDhakane
61	Dubad Sahil Vilas	SDubad	SDubad	SDubad	SDubad	SDubad	SDubad
62	Shinde Nikita Sanjay	NShinde	NShinde	NShinde	NShinde	NShinde	NShinde
63	Wakate Saurav Kacaso	SWakate	SWakate	SWakate	SWakate	SWakate	SWakate

Dr. R. D. Gawali,
Assistant Professor,
Department of Zoology


(Dr. R. D. Gawali)
Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Kopargaon Taluka Education Society's
**K. J. Somaiya College of Arts Commerce & Science, Mohinirajnagar,
Kopargaon, 423601**

DEPARTMENT OF ZOOLOGY

**Examination for Certificate Course in "Vermiculture and
Vermicomposting"**

NOTICE: 2022 - 2023

15/05/2023

All the students of Certificate Course in Zoology (**Vermiculture and
Vermicomposting**) are hereby informed that the examination for the said
certificate course will be conducted on dated **16/05/2023 at 12.30 P. M.**

Dr. R. D. Gawali,
Course Coordinator,
Department of Zoology

Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaon

Principal
K.J.Somaiya College
Kopargaon



KOPARGAON TALUKA EDUCATION SOCIETY'S
K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE
 Kopargaon, Dist: Ahmednagar

Member ID: 0

Misc. Fee Receipt

Section: P.G.

Name:	ZOOLOGY DEPARTMENT			Class:		
GR/PRN No.:	0			Division Type:	NON-GRANT	
Date:	29/03/2023			Roll No.:	0	
Receipt No.:	1134			Division:		
Bank Details:	No.:			Pay Mode:	Cash	

Ph.D.Interview	0	Cost of Book	0	Bonafide Fee	0	Assessment Book	0
Library Fine	0	Application Fee	0	Consultancy Fee	4575	Canteen Deposit	0
Hostel Fee	0	Veri/Rev. Fee	0	Synopsis Fee	0	T&PAC	0
Hostel Breakage	0	Lib. Deposit	0	Eng. Speaking	0	ScrapMaterial	0
Term Fee	0	Xerox	0	Seminar Fee	0	Prizes	0
T.C. Fee	0	CollegeDev.Fund	0	Competative Exa	0	Course Work Fee	0
NCC Admission	0	Extra. Curi. Ac	0	Cert.Course Fee	0		0
Post / Telegram	0	Computerisation	0	Alumni Con.Fund	0		0
SCI.JOURNAL	0	Equip. Maintanc	0	Prin.Relif Fund	0		0
Canteen Rent	0	Sci. Breakage	0	Re. Gen. Fund	0	***	0

Fee In Words: Rupees Four Thousand Five Hundred Seventy Five Only	Paid Fee	4575
Total Pending Fee Till Date: 0		
Narration: VERMICOMPOST INCOME		

www.vridhisoftware.com

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For Principal

Printed By: DRB

K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE

Date: 18/05/2022

Marks: 40

(Time: Two Hours)

Q.1 Solve the following multiple choice questions.

(20)

I) Vermicompost is a rich biofertilizer.

a) Nitrogen, b) Potassium, c) Phosphorous

II) Earthworms respire by means of

a) Lungs, b) Gills, c) Skin

III) The ideal pH range of vermiculture bed is

a) 5.5 - 6.5, b) 6.5 - 7.5, c) 7.5 - 8.5

IV) The moisture content in vermiculture bed or humidity should be in the range of

a) 50 - 60, b) 60 - 70, c) 70 - 80

V) The alimentary canal of earthworm acts as a bioreactor & allows growth of desired

a) Bacteria, b) viruses, c) Fungi

VI) The most popular species of earthworm for vermiculture is

a) *Eudrilus eugeniae*, b) *Pheritma posthuma*, c) *Eisenia foetida*

VII) Earthworms are in feeding habit. a) Omnivorous, b) Herbivorous, c) scavengers.

VIII) Vermicompost is fertilizer.

a) Chemical, b) Biological, c) Both of these.

IX) is called as a grinding mill of earthworm.

a) Gizzard, b) Stomach, c) intestine.

X) The liquid fertilizer obtained from vermiculture bed is called as

a) Vermiwash, b) Vermigold, c) Vermicompost.

Q.2 Write the short notes on (Any Two)

(10)

A) Morphological features of Earthworm.

B) Economic importance of earthworm.

C) Vermicompost as a Biofertilizer.

Q.3 Give an account of preparation of Vermiculture bed.

(10)



Head
Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopargaoon

Principal
K.J.Somaiya College
Kopargaoon



Kopergaon Taluka Education Society's

K.J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE, KOPARGAON

Mohanirajnagar, Kopergaon, Dist. Ahmednagar,

(Affiliated to Savitribai Phule Pune University, Pune)

NAAC RE-ACCREDITED "A" GRADE An ISO 9001:2015 Certified Institute

Best College Awarded by S.P. Pune University



Certificate

This is to certify that Mr./Mrs. Fatangare Ashish Rajendra

has successfully completed the Certificate Course/Short Term Course in "**Vermiculture & Vermicomposting**" Conducted by Department of Zoology, K. J. Somaiya College of Arts, Commerce & Science, Kopergaon with 'O' grade

The said course was organised from 01/03/2023 to 30/04/2023


Co-ordinator

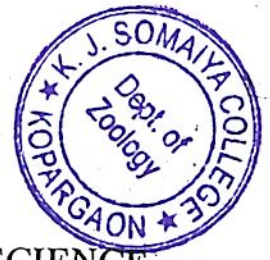

Principal




Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon


Principal
K.J. Somaiya College
Kopergaon



Kopergaon Taluka Education Society's
K. J. SOMAIYA COLLEGE OF ARTS, COMMERCE & SCIENCE,
Mohanirajnagar, Kopergaon, Tal: - Kopergaon, Dist.- Ahmednagar, Maharashtra, 423601.
Website: www. kjscollege.com, Email- kjscollege@rediffmail.com

ADMISSION FORM FOR CERTIFICATE COURSE (2019-20) -21

Certificate course in the subject of: - **ZOOLOGY**

Name of the Certificate Course: - **VERMICULTURE AND VERMICOMPOSTING**

Personal Information

Name of the Student: - _____
Class: - _____ Roll No. _____ Category _____
Address: _____
Mobile No. _____ E-mail ID- _____
Last Qualification: - _____ Percentage: - _____ %
Computer Knowledge: - ☒ Yes. / ☐ No.
Name of the Completed Computer Course: - _____

Declaration:

I am declared that, as per my knowledge the above information is true and correct.

Student Signature

DEPARTMENTAL USE ONLY

Mr. /Miss. / Mrs. _____ Class S.Y.B.Sc is
admitted in certificate course in the subject of Zoology: 'Vermiculture & Vermicomposting' for
the Period of _____ to _____ and his / her Roll No is _____ for this course.
Date: - ____ / ____ / 20____

Head,

Department of Zoology

Department of Zoology,
**K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon**

Dept. Seal



Principal

Report of Certificate Course: Vermiculture and Vermicomposting

Academic Year: 2022 - 2023

Department of Zoology conducted Certificate Course, Vermiculture and Vermicomposting with duration of two months with weightage of 25 lectures including theory and practical experience, from 01st March 2023 to 30th April 2023 in the academic year 2022-23.

This course will be the best platform for the students to get an idea about Vermitechnology, which could help them to create self-employment, organic farming, use of biofertilizer, ecofriendly techniques useful for environmental protection and also to interact with the teacher, making it responsible for them to develop a strong relationship with the respective to the subject, adviser and other students and become confident for higher graduation studies and placements.

Outcome of the Certificate Course:

- 17) Students learn to all basic concepts of Vermiculture techniques.
- 18) Students learn to solve environmental problems like pollution by using vermicompost as a biofertilizer for crop cultivation.
- 19) Students can implement vermiculture practices as profession and thus can solve the problem of unemployment.
- 20) Students learn to identify the types of earthworms species and aware of rearing techniques of earthworms.

Date: 30/04/2023



Course Coordinator,

HOD,
Head

Department of Zoology
K. J. Somaiya College of Arts,
Commerce & Science, Kopergaon



Principal

Principal
K. J. Somaiya College
Kopergaon



Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Criterion 7- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

Library Book Right off





Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

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NAAC ACCREDITED 'A' GRADE

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SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. : 17/2018-19

Date : 30/05/2018

To,
The Principal,
K.J. Somaiya College,
Kopargaon

Subject: - To write off the books and recovery of the price of the lost books.

Respected sir,

With reference to above subject, it was decided in the meeting of library committee on 16th April 2019, to write off 2077 books from library collection according to the permissions by respective HODs of the various departments.

Kindly give us the permission for the same.


(Shinde N.B.)

Librarian

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon
Pin - 423601, Dist. Ahmednagar



(Prof. Thange V.C.)

Co ordinator

IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar



(Dr. Yadav B.S.)

Principal

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



Kopargaon Taluka Education Society's

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Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. : 18/2019-20

Date : 17/05/2019

To,
The Principal,
K.J. Somaiya College,
Kopargaon

Subject: - To write off the books and recovery of the price of the lost books.

Respected sir,

With reference to above subject, it was decided in the meeting of library committee on 3rd March 2020, to write off 679 books from library collection according to the permissions by respective HODs of the various departments.

Kindly give us the permission for the same.

*Permission
Granted*

(Shinde N.B.)

Librarian

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon
Pin - 423601, Dist. Ahmednagar

(Prof. Thangé V.C.)

Co ordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar

(Dr. Yadav B.S.)

Principal

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon



Kopargaon Taluka Education Society's

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SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. : 20/2022-23

Date : 30/05/2022

To,
The Principal,
K.J. Somaiya College,
Kopargaon

Subject: - To write off the books and recovery of the price of the lost books. ✓

Respected sir,

With reference to above subject, it was decided in the meeting of library committee on 21st April 2022, to write off 3458 books received as a donation for Book Bank from Shri Siddivinayak Trust, Mumbai from library collection according to the permissions by respective HODs of the various departments.

Kindly give us the permission for the same.



(Shinde N.B.)

Librarian

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon
Pin - 423601, Dist. Ahmednagar


(Prof. Thange V.C.)
Coordinator

IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar


(Dr. Yadav B.S.)
Principal

K. J. Somaiya College of Arts
Commerce & Science, Kopargaon

*Permission
Granted*



Kopargaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopargaon

Criterion 7- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

**Laboratory Safety and Hazardous
Chemicals**





Kopargaoon Taluka Education Society's
**K.J. Somaiya Arts, Commerce and Science
College, Kopargaoon**

Chemical and Lab Safety

Introduction

The purpose of this information is to promote safety awareness and encourage safe working practices in the laboratory. These brief guidelines should serve as a reminder things, you can do work more safely and are applicable to all users of the laboratory.

Your safety in the laboratory is determined not only by your own actions but also by the actions of those around you. Since the staff is not around most of the time, the users therefore must be in the best position to observe the behavior of others. Thoughtless behavior, violations of the laboratory or chemical guidelines would not be tolerated.

1) General Safety Awareness

- i) Familiarize yourself with all aspects of safety before using any equipment.
- ii) Be alert to unsafe conditions of the equipment, procedures and actions and follow the instructions given by the staff.
- iii) Avoid distracting other worker.
- iv) Pour more concentrated solutions into less concentrated solutions to avoid violent reactions (i.e. add acid to water, not water to acid.)
- v) Use equipment only for its designated purpose.

2) Personal Safety

- i) Always wear laboratory coat / apron in the laboratory.
- ii) Always wear safety glasses or goggles at all times in the laboratory.
- iii) Always use extracted wet benches for chemical work.
- iv) Appropriate gloves should be worn as needed.
- v) Appropriate shoes should be worn in the laboratory.



vi) Wear breathing mask as and when appropriate.

3) Personal Hygiene

i) Wash your hands before leaving the laboratory.

ii) Never mouth suck anything in a pipette in the laboratory.

iii) No food or drink is allowed in laboratories.

iv) No food should be stored in a laboratory refrigerator.

v) Keep exposed skin covered in the laboratory.

4) First Aid and Emergency Procedures

Please familiarize with the first aid and emergency procedures so that mishaps can be speedily contained.

i) Wounds Cleanse area with water as appropriate small cuts and scratches place sterile pad over wound and apply gentle pressure evenly with the opposite hand. If direct gentle pressure does not control bleeding raise the area above the level of the heart. Apply dressing plaster as appropriate.

ii) Thermal Burns: First degree burns are characterized by redness or discoloration of the skin mild swelling and pain. These can be treated by rinsing or immersing in water for at least 10 minutes and applying a skin cream as appropriate and seeking further medical treatment as needed.

Second and third degree burns are characterized by red or scared skin with blisters (second degree) white or charred skin (third degree). Immediate first aid is to clean the area if possible and keep it dry and call Health centre for medical help immediately.

iii) Chemical Burns: If hazardous chemicals should come into contact with skin or eyes, follow the first aid procedures given below.

a) Skin: Remove garments as required and rinse the affected area with large quantities of water for at least 15 minutes (sink, shower) Do not apply burn ointments / spray to affected areas. Call the Health centre for medical help without delay.



b) Eyes: Rinse area of eyes, eyelids and face thoroughly with lukewarm water for at least 15 minutes at the eye wash station and call the Health centre without delay.

5) Chemical Storage Cabinets

- i) Storage of flammable and corrosive chemicals in the lab should be limited to small quantities as far as possible. Flammable materials should be stored in storage cabinets.
- ii) Leaving chemicals on benches or working areas is hazardous and is not acceptable, hence materials used in current process must be returned after use to the appropriate storage cabinets.
- iii) Plastic cabinets are designed for corrosion resistance and used for storing acid and other corrosive materials.
- iv) Acids and other corrosive chemicals in the chemistry laboratory are stored under the fume hoods.

6) Fire Safety Equipment

Fire Extinguishers are located near exits in most laboratories. Only use a fire extinguisher if the fire is controllable otherwise trigger a fire alarm.

B) Chemical Safety

All chemicals have some degree of risk attached to their use. Therefore it is important that a careful investigation is made about the nature and the reaction of the chemicals before its use. The aim is to protect people against the risks to their health whether immediate or delayed. If the chemical is hazardous then it must be prevented or controlled and the necessary controls must be properly used.

1) COSHH Assessment Requirements

People carrying out assessment should note the hazards associated with chemicals which can be classified under the general headings:

- i) Toxicity, ii) Flammability, iii) Explosibility, iv) Biological effect, v) Generally offensive

i) Toxicity Chemical



Definition: As per Environmental Protection Agency (EPA) a toxic chemical as any substance which may be harmful to the environment or hazardous to your health if inhaled, ingested or absorbed through the skin.

Are All Chemicals Toxic?

Labeling a chemical as "toxic" or "non-toxic" is misleading because any compound can be toxic, depending on the route of exposure and the dose for example, even water is toxic, if you drink enough of it. Toxicity depends on other factors besides dose and exposure, including species, age and gender. For example, humans can eat chocolate, yet it is toxic to dogs. In a way all chemicals are toxic. Similarly, there is a minimum dose for nearly all substances below which toxic effects are not seen, called the toxic endpoint. A chemical can be both necessary for life and toxic. An example is iron. Humans need low doses of iron to make blood cells and perform other biological tasks, yet an overdose of iron is deadly.

Types of Toxins

Toxins may be categorized into four groups. It is possible for a substance to belong to more than one group.

a) Chemical Toxicants: Chemical toxicants include both inorganic substances like mercury and carbon monoxide, and organic compounds, such as methyl alcohol.

b) Biological Toxins: Many organisms secrete toxic compounds. Some sources consider pathogenic organisms to be toxin. A good example of a biological toxin is tetanus.

c) Physical Toxicants: These are substances that interfere with biological processes. Examples include asbestos and silica.

d) Radiation: Radiation has a toxic effect on many organisms. Example gamma radiation and microwaves.

C) Toxicity of the Compounds used in Chemistry Laboratory

In the Chemistry laboratory we are handling many common lab chemicals; some of them are dangerous and harmful to our body. A list of common dangerous chemicals and their effect on our body is given below.



1) Acids and Bases: Due to their corrosive nature they can irritate or even burn the eyes irritate the skin and cause respiratory distress. The risk is higher when they are concentrated, but even when diluted they can be hazardous. Protective equipment, including chemical gloves, goggles and aprons is essential.

Examples:-

a) Acids: Hydrochloric acid, nitric acid, sulphuric acid, phosphoric acid, acetic acid.

b) Bases: Sodium hydroxide, potassium hydroxide, ammonia.

ii) Corrosives: These can cause severe burns on contact. It is important to minimize exposure to these by wearing chemical goggles, gloves and aprons to prevent damage to the skin or eyes.

eg. Acids-HCl, H_2SO_4 , HNO_3

Bases - NaOH, KOH, NH_4OH

Gases - NO_2 , NH_3

Oxidizing agents - KMnO_4 , H_2O_2 , HNO_3

iii) Flammables: These are most commonly used in the laboratory as solvents, Never use any type of open flame or any source of ignition around flammable chemicals. eg. acetone, ethanol, ethyl acetate, methanol, hexane.

iv) Halogens: These elements are highly reactive, toxic, corrosive and capable of irritating the skin. eg. Fluorine, chlorine, bromine, iodine. Fluorine is extremely poisonous and requires special equipment and handling.

v) Oxidizing agents and Reducing agents

a) Oxidizing agent: It is a substance that causes oxidations, or the loss of electrons from an atom, compound or molecule eg. chlorates, chromates dichromates, hypochlorites, nitrates, nitric acid, nitrites, perchlorates permanganates, peroxides.

b) Reducing agent: It is a substance that causes reduction, or the gain of electrons eg. alkali metals, alkaline earth metals, hydrogen gas, carbon monoxide.



Oxidation reduction reactions always occur together. Oxidation reduction reactions lead to release heat, so oxidizers and reducing agents can cause other materials to combust more readily. Always store oxidising and reducing agents away from each other, and from flammable materials.

vi) Some Organic compounds

a) Chloroform: This volatile solvent can irritate the skin eyes and lungs. It also acts as an anesthetic that depresses the central nervous system, once inside the body, it converts to highly toxic phosgene, a chemical weapon used during world War - 1

b) Acetonitrile: It is flammable and irritant. Once this solvent is inhaled, ingested or absorbed through the skin it converts to cyanide and causes death.

c) Dimethyl sulfoxide (DMSO): It is such an excellent solvent that it crosses healthy, intact skin and takes whatever is dissolved along with it. If you are dissolving large amounts of something toxic (eg. neurotoxic, pesticide rotenone) in DMSO always wear your butyl rubber gloves.

d) Formaldehyde: It is a suspected human carcinogen. It can cause dermatitis, sinusitis and asthma. Do not buffer formaldehyde with hydrochloric acid because together they form a potent carcinogen, bis chloromethyl ether.

e) Tetrahydrofuran (THF): It is a flammable solvent over time, THF produces shock sensitive, explosive peroxides. If the THF evaporates off, peroxides will concentrate in the remaining solution.

Safety Symbol on labels of pack of chemicals and its meaning

Hazard pictograms alert us to the presence of a hazardous chemical. The pictograms help us to know that the chemicals we are using might cause harm to people or the environment. The CLP hazard pictograms are very similar to those used in the old labelling system and appear in the shape of a diamond with a distinctive red border and white background. One or more pictograms might appear on the labelling of a single chemical. Some of the safety symbols and their meanings are listed below –



Some of the safety symbols and their meanings are listed below -

1) Explosive (Symbol: exploding bomb): The exploding bomb symbol will appear on chemicals in the lab that have explosive properties, these include unstable explosives (solid or liquid chemicals capable of a chemical reaction that damages surroundings), self reactive substances and organic peroxides.



2) Flammable (Symbol: Flame): The flammable and combustible symbol signifies substances that will ignite and continue to burn in air. The substances in this category may be gases, aerosols, liquids or solids and include many solvents and cleaning materials that are commonly used in the laboratory. We should always keep flammable materials away from open flame.



3) Oxidizing (Symbol: Flame over circle): The symbol for oxidizing materials indicates the presence of chemicals that readily give off oxygen or other oxidizing substances. Oxidizing materials may intensify fires and cause explosions and may be toxic or corrosive. Some common oxidizing liquids and solids are bromine, chlorates, nitrates, perchloric acid and epoxides.



4) Acute Toxicity (Symbol: Skull and crossbones): The toxic material symbol indicate the presence of substances that may harm an individual if they enter the body. The possible routes of exposure to toxic materials are through inhalation, skin contact and ingestion eg. gases like bromine, cyanides, carbon monoxide.





5) Hazardous to the Environment (Symbol: Dead tree and fish): This symbol indicates that these substances can cause damage to the environment, and is most often used to label chemicals that are toxic to aquatic wildlife. These chemicals should be disposed of properly, and ensure that they do not get washed down the drain.



6) Serious health hazard (Symbol: health hazard): The health hazard sign denotes chemicals in the lab that can cause serious, often long term health problems. Hazardous include carcinogens, respiratory sensitizers, reproductive toxins, aspiration toxins, target organ toxins and mutagens.



7) Gas under pressure (Symbol: Gas cylinder): Compressed gases, as indicated by the symbol, are routinely used in laboratories. There are three major types of gases that get stored under pressure in cylinders liquefied gases (gases that can become liquids when compressed at room temperature) non-liquefied gases and dissolved gases. The high pressure within a cylinder makes compressed gases hazardous, as gas can flow rapidly from the cylinder and cause injury, fires or explosions.





What is MSDS Sheets?

A Material Safety Data Sheet (MSDS) is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product.

Principles of MSDS Sheet

- i) It is an essential starting point for the development of a complete health and safety program.
- ii) It also contains information on the use, storage, handling and emergency procedures all related to the hazards of the material.
- iii) The MSDS contains much more information about the material than the label.
- iv) It is intended to tell :-
 - a) What the hazards of the product are
 - b) How to use the product safely
 - c) What to expect if the recommendations are not followed.
 - d) What to do if accidents occur.
 - e) How to recognise symptoms of overexposure,
 - f) What to do if such incidents occur.

MSDS Sheet

There are about 16 categories of information that must be present on an MSDS Sheet. All headings and subheadings that are on the MSDS must be addressed by providing the required information or by stating that the information is not available or not applicable, whichever is appropriate.



The MSDS sheets for some of the hazardous chemicals is given below.

1] POTASSIUM DICHROMATE

Section 1: Product and Company Identification

- i) MSDS Name: Potassium dichromate.
- ii) Synonyms: Potassium dichromate; oxidimetric standard.
- iii) Company Identification: Labchem, Inc. 200 William Pitt way Pittsburgh, PA 15238
- iv) Company Phone Number: (412) 826-5230
- v) Emergency Phone Number: (800) 424-9300

Section 2: Hazards Identification

- i) Appearance: Orange crystals
- ii) Danger!: May cause eye and skin irritation. Cancer hazard.
- iii) Target Organs: Blood, kidneys, liver, lungs, teeth.
- iv) Potential Health Effects: (a) Eye: May cause eye irritation. (b) Skin: May cause skin irritation. (c) Ingestion: May cause irritation of the digestive tract. (d) Inhalation: May cause respiratory tract irritation. (e) Chronic: May cause dermatitis, conjunctivitis, digestive and respiratory tract irritation. May cause cancer.

Section 3: Composition, Information on Ingredients

- i) Chemical Name: Potassium dichromate
- ii) CAS#: 7778-50-9
- iii) Percent: 100%

Section 4: First Aid Measures

- i) Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.



ii) Skin: Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

iii) Ingestion: Get medical aid at once. If victim is conscious give 2-4 glasses of water.

iv) Inhalation: Give artificial respiration if necessary. Get medical aid. Keep victim warm at rest. Move victim to fresh air.

Section 5: Fire Fighting Measures

i) General Information: Oxidizer. Generally increases the burning rate of combustible materials. Negligible fire and explosion hazard when exposed to heat or flame. More container if possible, avoid breathing vapours or dust.

ii) Extinguishing Media: For small fires, use dry chemicals, carbon dioxide, water spray or alcohol resistant foams.

iii) Auto ignition Temperature: No information found.

iv) Flash Point: No information found

v) NFPA Rating : CAS #7778-50-9: Not published

vi) Explosion Limits: Lower:- Upper-

Section 6: Accidental Release Measures

i) General Information: Use protective equipment.

ii) Spills/Leaks: Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Area may be washed down with water.

Section 7: Handling and Storage

i) Handling: Wash thoroughly after handling. Avoid breathing dust, vapour, mist or gas.

ii) Storage: Store capped at room temperature. Protect from heat and incompatibles.

Section 8: Exposure Controls/Personal Protection

i) Engineering controls: Provide local exhaust or general dilution ventilation.

ii) Personal Protective Equipment



a) Eyes: Do not wear contact lenses when working with chemicals. An eye wash fountain should be available in the immediate work area. Wear splash proof safety goggles.

b) Skin: Wear appropriate protective gloves to prevent skin exposure.

c) Clothing: Wear appropriate protective clothing to prevent skin exposure.

d) Respirators: Not required for normal use. Fire fighting any self-contained breathing apparatus with full facepiece operated in pressure demand mode.

Section 9: Physical and Chemical Properties

Physical State: Crystals Odour: Odourless Boiling Point: 500°C

Solubility in Water: Soluble Molecular formula: K_2Cr_2O Colour: Orange

pH: 4.0 (1% solution) Melting Point: 398°C Specific density: 2.676

Molecular Weight: 294.18

Section 10: Solubility and Reactivity

i) Chemical solubility: Stable under normal temperatures and pressures.

ii) Conditions to avoid in compatible materials.

iii) Incompatibilities with other materials: Oxidizable materials, organic matter, hydrazine, iron.

iv) Hazardous Decomposition Products: Oxides of potassium, chromium dioxide.

Section 11: Toxicological Information

i) RTECS: CAS # 7778-50-9: HX 7680000.

ii) LDSO/LCSO: CAS 7778-50-9. Oral mouse LDSO 190 mg/kg Oral rat LD50-20 mg/kg.

iii) Carcinogenicity: CAS #7778-50-9 IARC Group 1,

Section 12: Ecological Information

No information found

Section 13: Disposal Considerations

Dispose of in accordance with Federal, state and local regulations.



Section 14: Transport Information

- i) Dot Shipping Name: Oxidizing solid, n.o.s. (Potassium dichromate)
- ii) Hazard class : 5.1
- iii) UN Number: UN 1479
- iv) Packing group: II

Section 15: Regulatory Information

- i) TSCA: CAS # 7778-50-9 is listed on the TSCA Inventory.
- ii) SARA Reportable Quantities (RQ): CAS # 7778-50-9, Final RQ = 10 pounds (4.54 kg)
- iii) OSHA - Highly Hazardous: Non of the components are on this list.
- iv) State Right to know: Potassium dichromate can be found on the following state Right to know lists: California, New Jersey, Florida, Pennsylvania, Massachusetts.

Section 16: Other Information

- i) MSDS Creation Date: November 22, 2004
- ii) Revision Date: October 22, 2008

2] SODIUM METAL

Section 1: Product and Company Identification

- i) General Name: Nitrium
- ii) Product use: For educational use only.
- iii) Manufacturer: Columbus Chemical Industries, Inc, Columbus, WI 53925,
- iv) Emergency phone No.: Chemtrec (USA): 800-424-9300
Canutec (Canada): 613-424-6666
- v) Company Identification: Schol AR Chemistry, 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.scholorchemistry.com.

Section 2: Hazards Identification



- i) Appearance: Silvery white metal cubes, sticks or lumps, no odour.
- ii) Warning: Flammable solid, dangerous when wet. Flammable solid, keep away from all ignition sources. Contact with water produces flammable gas.
- iii) Target organs: None available.

Section 3: Composition Information on Ingredients

- 1) Chemical Name: Sodium
- ii) CAS No.: (7440-23-5)
- iii) Percentage: 99%

Section 4: First Aid Measures

- i) Eyes: Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.
- ii) Skin: Immediately flush skin with excess water for 15, minutes while removing contaminated clothing.
- iii) Ingestion: Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 tbsp of activated charcoal mixed with 8 oz water.
- iv) Inhalation: Remove to fresh air. If not breathing give artificial respiration.

Section 5: Fire fighting Measures

- i) General information: Flammable solid when heated to decomposition, emits acrid fumes of NaO.
- ii) Extinguishing media: Do not use carbon dioxide, foam, water or halogenated extinguishing agents. Use class D extinguisher or smother with soda ash, dry sand, dry clay, dry sodium chloride or dry graphite.
- iii) Protective equipment: Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Material is not sensitive to medical impact or static discharge.

Section 6: Accidental Release Measures



i) General Information: Use proper personal protective equipment.

ii) Spills / Leaks: Vacuum or sweep up material and place into a suitable disposal container. Remove all source of ignition. Provide ventilation. Do not expose spill to water. sweep up spill and place material in dry container and cover completely with pure mineral oil (kerosine) for disposal.

Section 7: Handling and Storage

i) Handling': Use with adequate ventilation and do not breathe dust or vapour. Avoid contact with skins eyes or clothing, wash hands thoroughly after handling.

ii) Storage - Store in Flammable Area (Red storage) with other flammable materials and away from any strong oxidizers Store in a dedicated flammables carbinet Store in a cool, dry, well-ventilated, locked store room away from incompatible materials. Keep sodinum metal immersed in mineral oil.

Section 8: Exposure Controls/Personal Protection

i) Engineering control 1. Use ventilation to keep airborne concentrations below exposure limit

ii) Personal protective equipments: Have approved eye wash facility, safety shower and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash thoroughly after handling material and before eating and drinking.

Section 9: Physical and Chemical Properties

i) Appearance: Silvery white metal cubes or lumps.

ii) Molecular formula: Na

iii) Molecular weight: 22.99

iv) Specific gravity: 0.97g/ml.

v) Melting Point: 98°C

vi) Boiling Point: 883°C

vii) Solubility: Reacts violently.



viii) Autoignition Temp.: 473°C (883°F)

Section 10: Stability and Reactivity

- i) **Stability:** Stable under normal conditions of use. Indefinite life if stored properly.
- ii) **Incompatibility:** Water, acids, oxidizing agents, oxygen, nitrogen and carbon dioxide.
- iii) **Reactivity:** Contact with water produces flammable hydrogen gas, Avoid heat and ignition sources.

Section 11: Toxicology Information

i) Acute symptoms/signs of exposure

- a) Eyes:** Stinging pain, burns, watering of eyes, inflammation of eyelids and conjunctivities. Avoid looking at burning magnesium.
- b) Skin:** Irritation, redness, burns. Powdered metal ignites readily on skin causing burns.
- c) Ingestion:** Nausea, vomiting and headache.
- d) Inhalation:** Rapid irregular breathing, headache, burns to mucous membranes. Inhalation of dust or fumes causes metal fume fever.

ii) Chronic effects: Repeated/prolonged skin contact may cause dryness or rashes.

Section 12: Ecological Information

- i) **Ecotoxicity:** Ecological impact has not been determined.

Section 13: Disposal Consideration

- i) Local regulations may be more stringent than regional or national regulations.
- ii) Use a licensed chemical waste disposal firm for proper disposal.

Section 14: Transport Information

- i) DOT Shipping name: Sodium
- ii) Canada TDG: Sodium
- iii) DOT Hazard Class: 4.3, pg 1



iv) Hazard Class: 4.3 pg 1

v) Identification No.: UN 1428

vi) Un No.: UN 1428

Section 15: Regulatory Information

i) EINECS: Listed (231-132-9)

ii) WHMIS Canada: B6E: Reactive flammable material, corrosive.

iii) TSCA: All components are listed or are exempt.

iv) California Proposition 65: Not listed

The MSDS contain all the information required by the controlled Products Regulations.

Section 16: Other Information

Current Issue Date: January 23, 2009

3] CADMIUM NITRATE

Section 1: Product and Company Identification

i) MSDS Name: Cadmium Nitrate

ii) Product Use: For educational use only.

iii) Manufacture: Columbus Chemical Industries, Inc, Columbus, WI 53925

iv) Emergency Phone No.: Chemtrec (USA): 800-424-9300 Canutec (Canada): 613-424-6666

v) Company Identification: Schol AR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.scholarchemistry.com.

Section 2: Hazards Identification

i) Appearance: White crystals; no odour.

ii) Warning: Strong oxidizing agent, highly toxic by ingestion and known carcinogen.

iii) Target organs: Liver, kidneys, blood.



Section 3: Composition / Information on Ingredients

i) Chemical name: Cadmium Nitrate, Tetrahydrate.

ii) CAS#: (10022-68-1)

iii) Percentage: 100%

Section 4: First Aid Measures

i) Eyes: Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.

ii) Skin: Immediately flush skin with excess water for 15 minutes while removing contaminated clothing

iii) Ingestion: Call poison control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately

iv) Inhalation: Remove to fresh air. If not breathing, give artificial respiration.

Section 5: Fire Fighting Measures

i) General Information: It is a strong oxidizer. When heated to decomposition, emits acrid fumes.

ii) Extinguishing media: Use foam or dry chemical to extinguish fire. Firefighters should wear full firefighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to chemical impact or static discharge.

Section 6: Accidental Release Measures

i) General Information: Use proper personal protective equipment. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

ii) Spills/Leaks: Sweep up spill and place in sealed bag or container for disposal. Wash spill area after pickup is complete.

Section 7: Handling and Storage

i) Handling: Use with adequate ventilation and do not breathe dust or vapour. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling.



ii) Storage: Store in oxidizer storage area (Yellow Storage) with other oxidizers and always from any combustible materials. Store in cool dry, well-ventilated, locked store room away from incompatible materials.

Section 8: Exposure Controls/Personal Protection

- i) Engineering control: Use ventilation to keep airborne concentrations below exposure limit.
- ii) Personal Protective equipments: Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands after handling material and before eating or drinking.

Section 9: Physical and Chemical Properties

- i) Molecular formula: $\text{Cd}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$
- ii) Molecular weight: 308.49
- iii) Melting point: 59.5°C
- iv) Boiling point: 132°C
- v) Appearance: White crystals
- vi) Specific gravity :2.45 g/mL
- vii) Solubility: Soluble
- viii) Autoignition Temp.: N/A

Section 10: Stability and Reactivity

- i) Stability: Stable under normal conditions for use and storage. Avoid heat and ignition sources,
- ii) Incompatibility: Reducing agents, hydrides, halogens, combustibles and oxidizers.
- iii) Self life: Indefinite if stored properly.

Section 11: Toxicology Information

- i) Acute symptoms/Signs of exposure
 - a) Eyes : Redness, tearing, itching, burning conjunctivitis.



b) Skin: Redness, itching.

c) Ingestion: Irritation and burning sensations of mouth and throat, nausea, vomiting and abdominal pain.

d) Inhalation: Irritation of mucous membranes, coughing, wheezing, shortness of breath,

ii) Chronic Effects: Carcinogen: IARC group I, NTP known, ACGIH A2

iii) Sensitization: none expected.

Section 12: Ecological Information

Ecotoxicity: Contains a heavy metal toxic to terrestrial and aquatic plants and animals. Do not release to environment.

Section 13: Disposal Consideration

i) Local regulations may be more stringent than regional or national regulations.

ii) Use a licensed chemical waste disposal firm for proper disposal.

Section 14: Transport Information

i) DOT Shipping name: Oxidizing solid, Toxic, n.o.s.

ii) Canada TDG: Oxidizing solid, Toxic, n.o.s

iii) DOT Hazard Class: 5.1, (6.1), pg II

iv) Hazard class: 5.1, (6.1); pg II

v) Identification No.: UN 3087

vi) UN No.: 3087

Section 15: Regulatory Information

i) EINECS: Not listed

ii) WHMIS Canada: C: DIA: D2 A Oxidizing material, carcinogen.

iii) TSCA: All components are listed or are exempt.

iv) California Proposition 65: Listed as a carcinogen.



Section 16: Other Information

Current Issue Date: January 23, 2009

4) BENZENE

Section 1: Product and Company Identification

MSDS Name: Benzene

Synonym: Benzol, aromatic hydrocarbons (C₆H₆), Cyclohexatriene.

Manufacturer: Petro Canada P. O. Box 2844, Calgary, Alberta T2P3E3.

iv) Material Uses: Petrochemical manufactured by extraction process of petroleum fraction, Component of crude oil. Found in various refinery streams (eg. gasoline). Laboratory solvent. Used in manufacture of organic compounds (eg. detergents, dyes, insecticides.)

Section 2: Hazards Identification

- i) Appearance: Colourless liquid, Exercise caution when handling this material.
- ii) Warning: Flammable liquid, Exercise caution when handling this material.
- iii) Target organs: Skin, eyes, lungs.

Section 3: Composition/Information on Ingredients

- i) Benzene: CAS#71-43-2 (99.6% v/v)
- ii) Toluene: CAS#108-88-3 (0.3% v/v)
- iii) Non-aromatic: CAS # Mixture (0.1% v/v)
- iv) Manufacturer: Not applicable
- v) Other Exposure limits: Consult local, State, Provincial or territory authorities for acceptable exposure limits.

Section 4: First Aid Measures

- i) Eyes: Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.



- ii) Skin: Remove contaminated clothing-laundry before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
- iii) Inhalation: Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Seek medical attention.
- iv) Ingestion: Do not induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.

Section 5: Fire Fighting Measures

- i) General Information: Extremely flammable in presence of open flame. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. Containers may explode in heat of fire, Run off to sewer may create fire or explosion hazard.
- ii) Extinguishing media
 - a) For small fires: dry chemical, CO, water spray or regular foam.
 - b) For large fires: Water spray, fog or regular foam. Do not use straight streams.
 - c) Fire involving tank or car/trailer loads : Fight fire from maximum distance Always stay away from the ends of tanks.
 - d) For massive fire: use unmanned hose holders or monitor nozzles, if this is impossible with draw from area and let the fire burn.

Section 6: Accidental Release Measures

- i) General information: Wear positive pressure self contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.
- ii) Spill/Leaks: Extinguish all ignition sources. Ventilate area stop leak if safe to do. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid breathing vapours or mists of material. Avoid contaminating mining sewers, streams, rivers and other water sources with spilled material. Notify appropriate authorities immediately.

Section 7: Handling and storage



i) Handling: Handle with care. Avoid contact with any sources of ignition, flames, heat and sparks. Avoid skin and eye contact. Do not inhale the product vapours or mists. Thoroughly wash all severely contaminated clothing before reuse.

ii) Storage: Store away from heat and sources of ignition. Store in dry, cool, well ventilated area. Store away from incompatible and reactive materials. Avoid direct sunlight.

Section 8: Exposure Controls/Personal Protection

i) Engineering Controls: For normal application, special ventilation is not necessary. If user's operations generate vapours or mists, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation, Ensure that eyewash station and safety shower are close to work-station.

ii) Personal Protection: Wear appropriate clothing to prevent skin contact. Use safety glasses, safety goggles and face-shield to protect eyes. Wear appropriate chemically protective hand gloves. Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section 9: Physical and Chemical Properties

i) Physical State: Clear liquid

ii) Odour: Sweetish aromatic

iii) Density: 0.88 at 15°C

iv) Vapour pressure: 75 mm Hg (20°C)

v) Colour: Colourless

vi) Boiling point: 80°C (176°F)

vii) Vapour density: 2.8 (Air = 1)

viii) Viscosity: Not available

xi) Solubility: Soluble in alcohol, petroleum oil, carbon disulphide chloroform, ether and acetone. Insoluble in water.

Section 10: Stability and Reactivity

i) Stability: The product is stable under normal handling at normal temperature and pressure



- ii) Conditions to Avoid: Ignition source, excess heat, sparks, flame, confined spaces.
- iii) Reactivity: It is reactive with oxidizing agents, acids, chlorine, ozones, peroxides, plastics, rubbers, and coatings. It may release CO, CO₂, aldehydes, ketones, smoke and irritating vapours when heated to decomposition.

Section 11: Toxicological Information

a) Route of exposure

- i) Inhalation: May be fatal if swallowed and enters airways.
- ii) Ingestion: Harmful if swallowed, causes depression.
- iii) Skin contact: Causes skin irritation.
- iv) Eye contact: Causes serious eye irritation.

Section 12: Ecological Information

- i) Environmental Fate: Not available
- ii) BODS and COD: Not available
- iii) Persistence: Not available
- iv) Product of Biodegradation: Not available

Section 13: Disposal Considerations

- i) Waste Disposal: Spent /used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities.

Section 14: Transport Information

- i) TDG classification: Benzene, UN1114, PGII (CL - TDG)

Section 15: Regulatory Information

- i) HCS (USA) Class: Contains material which may cause cancer. It is flammable liquid having flash point lower than 37.8°C (100°F) It is irritating substance.
- ii) DSD/DPD (Europe): Not evaluated.



Section 16: Other Information

References: Available upon request.

Marque the commerce de Petro - Canada - Treadmark.

Precautions in handling of Hazardous Substances

All chemical have some degree of risk attached to their use. The first step to take when working with chemicals to find out as much as possible about the concerned chemicals and the possible by products from published sources. Hazard pictorograms alert us to the presence of a hazardous chemical. We must take precautions in handling of hazardous substance.

Some of the hazardous substances and precautions in handling these substances are discussed below.

1) Conc. Acids

Acids are commonly used in most chemical laboratories. Concentrated acids are strongly corrosive to all body tissues, especially eyes and skin. Concentrated acids are highly toxic due to their extreme corrosiveness. Hydrochloric and acetic acids are also toxic by inhalation.

Some important properties of acids are given below.

Acid		Formula	F.W.g/mol	Specific gravity	Molarity	1M (mL/L) solution
1	Hydrochloric	HCl	36.46	1.19	12.1	82.6
2	Nitric	HNO ₃	63.02	1.42	15.8	63.3
3	Sulphuric	H ₂ SO ₄	98.08	1.84	18.0	55.6
4	Acetic	C ₂ H ₄ O ₂	60.05	1.05	17.4	57.6
5	Phosphoric	H ₃ PO ₄	98.00	1.70	14.8	67.8

Procedures for Safe Handling of Concentrated Acids

1) Before commencing work



Read and familize yourself with the Material Safety Date Sheets (MSDS) for each other hazardous materials that you will be using. MSDS are easily found from supplier websites.

2) General handling, transportation and storage

i) When transporting concentrated acids, you must place the acid bottle into a plastic transport container.

ii) Store all acids / acid waste in labeled chemically compatible containers (eg. polyethylene or Teflon) Do not store in glass metal and ceramic containers as they are not compatible with some acids. Store all concentrated acid containers inside acid cabinets (under fume hoods).

iii) When diluting acids, slowly pour the acid into the water, never the water into the acid.

3) Personal protective equipment (PPE)

Before any acid is taken out of the acid-storage cabinets, ensure that the following projective equipment is available to you: (i) Goggles (ii) Gloves (nitrile) (iii) Closed toe shoes with socks (iv) Long pants (v) Neoprene apron or lab coat (vi) Chemical spill kit (vii) No contact lenses. (viii) Verify that emergency eye wash/shower is accessible (ix) Good ventilation and acid spill control materials (sand, absorbents) must be available.

4) Engineering controls

All work with concentrated acids must be done in the fume hood, with no other persons working close enough to interfere or come into contact with the acid. A co-worker must be present in the immediate area in case of an emergency. After use of acid, close the mouth of the acid bottle in the fume-hood so that fumes will not come back to the users face.

5) Emergency responce in the case of spill or other accident

i) If you accidentally spilled concentrated acid (eg. while pouring an acid into the measuring cylinder); do not panic. Remain calm. If the spill is minor (less than 30 mL) and will not pose a health issue, use the spill containment kit; pour the absorbent to minimize contact with the acid during clean-up, use the small broom and dust pan to move the soaked absorbent into the bottle. All this must be done in fume-hood.



ii) If the spill is greater than 30 mL or clean-up takes longer than 15 minutes or the concentrated acid is running out of the fume-hood, place spill- containment absorbent on the spill and contact EH and S' authority immediately.

iii) If a fire breaks out because of the **acid spill** leave the area immediately. activate the fire alarm and call fire-fighter. Stay close to the building to inform emergency personal of what started the fire and what other chemicals are in the immediate area of the fire.

6) Waste disposal

If you have spilled a concentrated acid and soaked up it using an absorbent, make sure that the material is disposed of into a neoprene bottle. The waste container must be appropriately and accurately labeled as hazardous waste and called in for pick-up by 'EH and S'. All glassware and measuring cylinder that have been used during the process of mixing of acid should be thoroughly rinsed with deionized water (3 times) and then soap and water.

7) First Aid

i) The best first aid for any chemical exposure to body tissue or eyes is immediate dilution with water.

ii) If an acid is splashed into bare skin, rinse with water for at least 15-20 minutes.

iii) If an acid is splashed in the eyes, use an eyewash to irrigate the eyes for at least 15-20 minutes. Make sure that eyelids are hold open to properly irrigate them. Ask the victim to look up, and down to better reach all part of the eye.

iv) If an acid is splashed onto clothing, consider removing the clothing immediately before the acid soaks through the clothing and reaches the skin.

v) If an acid is ingested, the primary goal is to dilute the acid in the stomach and prevent further injury caused by vomiting. If the victim is conscious, immediately have the victim rinse their mouth out with water. Have the victim drink one or two cups of water or milk.

vi) Call a poison control centre or hospital emergency room and follow their directions.



Ammonia is widely used as a refrigerant gas well as in the fertilizer industry. A colourless gas with a sharp, penetrating, intensely irritating odour and a colourless liquid under pressure. It decomposes at high temperature and forms very flammable hydrogen and toxic nitrogen dioxide. Ammonia gas may cause lung injury and the liquified gas can cause frostbite and corrosive injury to eyes and skin. It is a compressed gas and a confined space explosion and toxicity hazard. Anhydrous ammonia is a strong alkali that can cause death or severe injury to body tissue due to its caustic, corrosive freezing and dehydrating action.

1) Safe Working with Ammonia

- i) Working with ammonia we must wear protective equipment that includes skin, face and eyes protection. Additional respiratory protection is necessary with gaseous ammonia.
- ii) Always be sure that there is enough ventilation and that it will not spark or explode.
- iii) Always keep ammonia away from chemicals that are not compatible with it. Store this chemical a way from sources of ignition or heat.
- iv) In the event of leak or spill, locate the emergency respirators and immediately evacuate the area, reporting the spill such that it can be properly controlled.
- v) Liquid ammonia burns the eyes, so immediately find and use emergency eyewash in the area.

2) First Aid Measures

After being exposed to a high amount of ammonia, it is important to seek immediate medical attention. Until then, there are some steps to take as you wait for medical help.

- i) Eyes: Immediately proceed to eye washing station and flush the eyes completely, lifting the eyelids as necessary.
- ii) Skin: If there is irritation, blot away the chemical and immediately flush the skin with clean water. If any clothing is affected, remove the article and wash away the area of skin with water.
- iii) Inhalation: Immediately head to fresh air. If the worker is not breathing initiate artificial respiration immediately. Take care that the worker is warm until medical assistance arrives to take over treatment.

3) Organic Solvents



i) What is a solvent?

Many chemical substances that are used to dissolve or dilute other substances and materials are called solvents. Industrial solvents are often mixtures of several individual substances.

ii) How can solvents get into our body

(a) If you breathe in vapours and fumes (b) If they come into contact with your skin, either directly or through solvent contaminated work clothes and get absorbed (c) If you swallow liquid solvents.

iii) How can solvents affect our life

Different solvents can affect our health in different ways. They may cause irritation of eyes, skin, lungs and cause headache, nausea, dizziness etc. Unconsciousness and even death can result from exposure to high concentrations of solvent vapours.

As a chemistry student working in laboratory, you must learn how to work safely with these hazards organic solvents in order to prevent injury to yourself and other around you. The following guidelines are here to help you.

iv) Safe working with Organic solvents

- a) The vapours of many organic solvents are flammable or combustible. Do not expose electric sparks, open flames and heating elements to organic solvents vapours.
- b) Many chemicals (solid, liquid or vapours) are poisonous. Do not taste chemicals.
- c) Do not pipet out any organic solvent with your mouth.
- d) Be extremely careful when transferring, distilling or refluxing volatile liquids.
- e) Do not heat, measure or mix any chemicals in front of your face.
- f) Do not return used chemicals back to the stock container.
- g) Never heat a closed system - it will act as a bomb!
- h) Never pour water into concentrated acid, as it is exothermic. Pour acid slowly into water stirring constantly.
- i) Concentrated acids and bases are stored in the fume hood. Do not carry them to your bench.



j) Make sure test tubes containing reactions are pointed away from people, especially when they are being heated.

k) Pressurized gas cylinders must only be operated by the TA.

v) Personal Safety -

a) Properly wear protective oral nasal mask or face guard.

b) Wear rubber shoes and gloves to prevent skin from coming into contact with any chemicals.

c) Retrieve chemicals by using clean spoon or tweezers.

d) Clean up any containers or utensils used by water rinsing after finish the experiment.

e) First rinse the skin coming into contact with chemicals by water, then send for medical attention.

vi) Waste Disposal

a) Organic liquid waste should be disposed in the 'Organic Liquid' waste container located in the fume hood.

b) Organic solid waste should be disposed in the 'Solid Waste' container in the fume hood.

c) Paper waster is discarded in the waste paper basket found under the centra sink.

d) Silica gel and TLC plates should be disposed off in the silica wast container (in the fume hood)

e) Do not pour any organic liquids (including acetone) down the drain.





Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Criterion 7- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

**Report on Hazardous Chemicals Waste
Management**





Kopargaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopargaon

“Report on management of the various types of degradable and non-degradable waste 2018-19 to 2022-23”


Hazardous Chemicals Waste Management

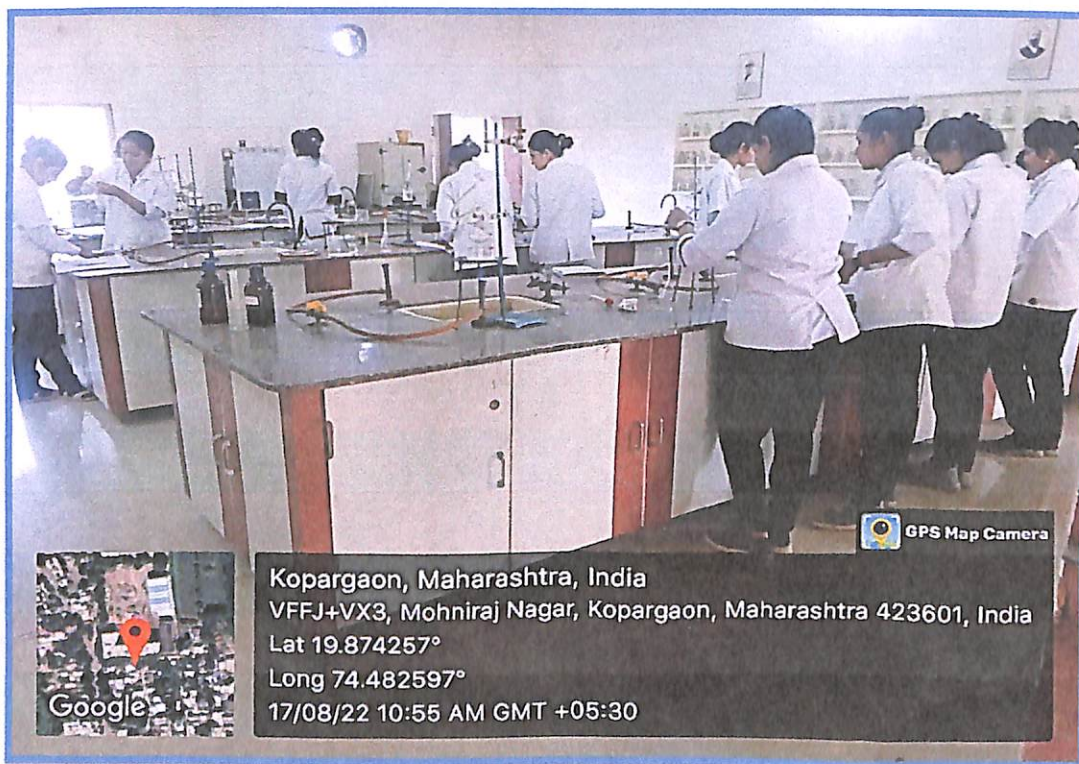
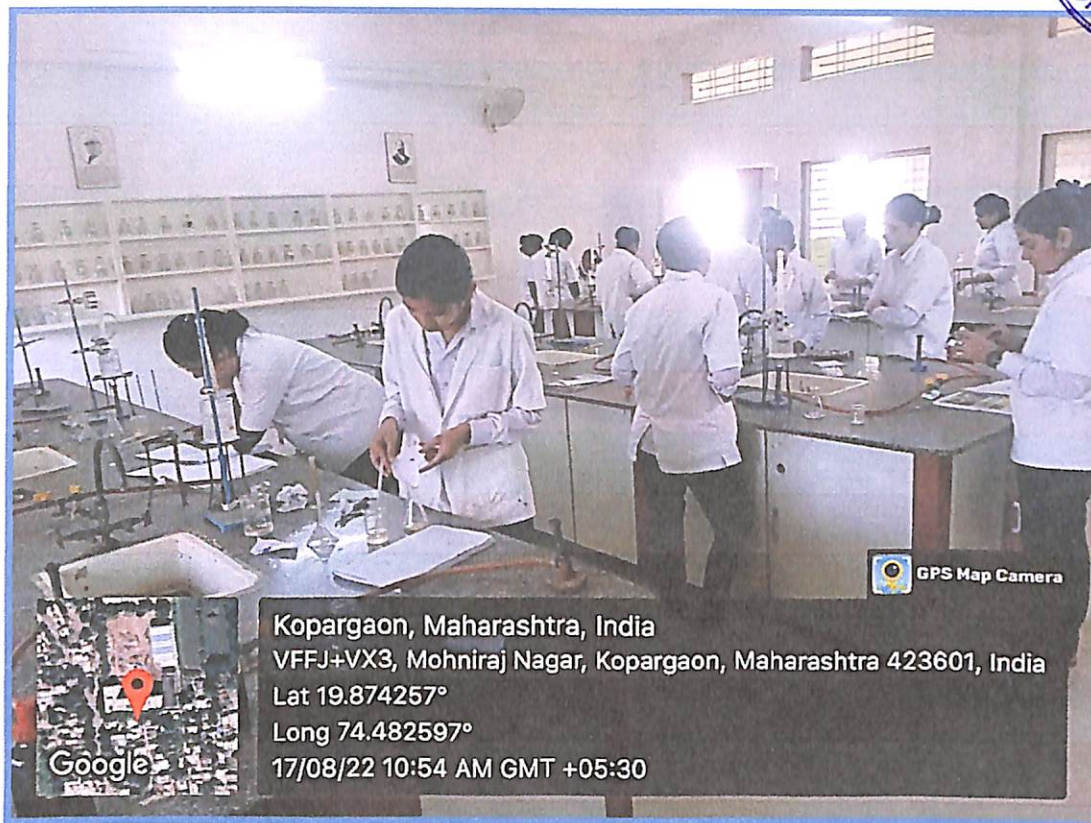
Chemicals are the key ingredients of chemistry laboratory. Chemicals are stored separately in stores with special care. Solutions, Highly Inflammable and Volatile Chemicals are preserved separately with special care by maintaining normal room temperature. Fire Extinguishers are kept in stores, it is been looked after by lab attendants and assistants. Every possible safety norms are followed and are displayed in laboratory. The solutions used for performing experiments are almost dilute solutions.

Though its harmful and hazardous students are made well aware of all safety aspects. Students are made more aware by incorporating the “Lab Safety in Chemistry and Awareness about Hazardous Chemicals” in their syllabus, which is conducted thoroughly in class and laboratory.


Coordinator
IQAC, K. J. Somaiya College
Kopargaon, Dist. A.Nagar




Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopargaon





Kopergaon, Maharashtra, India
VFFJ+VX3, Mohniraj Nagar, Kopergaon, Maharashtra 423601, India
Lat 19.874354°
Long 74.48286°
17/08/22 11:04 AM GMT +05:30



Kopergaon, Maharashtra, India
VFFJ+VX3, Mohniraj Nagar, Kopergaon, Maharashtra 423601, India
Lat 19.874258°
Long 74.482595°
17/08/22 10:52 AM GMT +05:30



Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Handling of Hazardous Chemicals and do's and do not's during an emergency in a chemical laboratory

Chemical laboratories in universities, also handle many hazardous chemicals though in smaller quantities. From academic point of view, chemicals are broadly classified into organic chemicals and inorganic chemicals. As far as chemical safety is concerned chemicals are classified based on their dominant hazardous properties. The widely accepted classification is given below:

- Flammable chemicals
- Explosive chemicals
- Gases under pressure
- Oxidizing agents
- Water-sensitive chemicals
- Health hazard causing chemicals (Toxic chemicals)

Many of these chemicals can be hazardous to health and can also cause fires and explosions. The ill effects on health and hazards of fire and explosion can be controlled by a careful study of the hazardous properties of the chemicals. Identifying chemical hazards is the first step towards chemical safety. The useful source that gives details on hazardous properties and safety measures to be adopted is the Material Safety Data Sheet (MSDS). By instituting proper control measures and explaining in detail to students the consequences of violating safety rules and procedures the occurrence of incidents in the chemical labs of the Universities can be avoided or minimized.

The following measures in storing, usage and disposal of chemicals and responding to emergency are implemented.

1. Regular inventory inspections of chemicals is carried out.
2. All chemicals and reagents are labeled properly



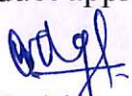
3. The storage, handling, and disposal requirements for each chemical used. The Material Safety Data Sheet (MSDS) for disposal information and always follow appropriate chemical disposal regulations.
4. Students are wearing the appropriate personal protective equipment (i.e., chemical splash goggles, laboratory aprons or coats, and gloves)
5. All safety rules and procedures at all times enforced.
6. Students are continuously supervised in the laboratory. Unauthorized visitors are not allowed to enter the laboratory
7. Students are not allowed to take chemicals out of the laboratory without authorization
8. Smoking, food, beverages, or gum are not permitted in the laboratory.
9. Hot water bath is used to heat flammable liquids. Direct heating is avoided.
10. Concentrated acid are added to water slowly. water to a concentrated acid is not added.
11. Use the laboratory fume hood, when there is a possibility of release of toxic chemical vapours, dust, or gases.
12. The sign boards of Do's and Don'ts are displayed in laboratory.
13. The standard operating procedures is displayed behind every instrument.

General Guidelines for Storage of Chemicals


1. Concentrated acid are stored alone.
2. Volatile and odoriferous chemicals are stored in a ventilated cabinet.
3. Water sensitive chemicals are stored in a cool and dry location segregated from all other chemicals in the laboratory.
4. Chemicals are not exposed to direct heat or sunlight, or highly variable temperatures

Measures to respond to a chemical emergency:

1. Educate students on the location and use of all safety and emergency equipment prior to laboratory activity
2. Identify safety procedures to follow in the event of an emergency/accident
3. Provide students with verbal and written safety procedures to follow in the event of an emergency/accident
4. Know the location of and how to use the cut-off switches and valves for the water, gas, and electricity in the laboratory
5. Know the location of and how to use all safety and emergency equipment (i.e., safety shower, eyewash, first-aid kit, fire extinguishers)
6. Keep a list of emergency phone numbers near the phone
7. Conduct appropriate safety and evacuation drills on a regular basis


Coordinator
IQAC, K. J. Somaiya College
Kopergaon, Dist. A.Nagar




Principal
K. J. Somaiya College of Arts
Commerce & Science, Kopergaon



Kopergaon Taluka Education Society's
K.J. Somaiya Arts, Commerce and Science College,
Kopergaon

Criterion 7- Institutional Values and Best Practices

7.1: Institutional Values and Social Responsibilities

7.1.2 The Institution has facilities and initiatives for

1. Alternate sources of energy and energy conservation measures
2. Management of the various types of degradable and non- degradable waste
3. Water conservation
4. Green campus initiatives
5. Disabled-friendly, barrier free environment

Agreement for
Electronic Waste (e-waste) Management



Kopargaon Taluka Education Society's

K.J. Somaiya College of Arts, Commerce & Science

Mohanirajnagar, Kopargaon - 423601, Dist. Ahmednagar (MH.)

Affiliated to Savitribai Phule Pune University, Pune ID No. PU/AN/ASC/07(1964)

☎ : 9146142000, 9146152000 Email ID : kjscollege@rediffmail.com, Website : kjscollege.com

NAAC ACCREDITED 'A' GRADE AN ISO 9001-2015 CERTIFIED INSTITUTE

SAVITRIBAI PHULE PUNE UNIVERSITY "BEST COLLEGE AWARD"

Principal : Dr. B. S. Yadav (M.Sc., Ph.D.)

Founder President : Late K. B. Rohamare (Ex. M.L.A.)

Ref. No. :

Date : 01 / 06 / 2021

AGREEMENT

Executed by -

Mr. Bhabad Akash Sunil,
Jeur Patoda, Dharangaon Road, Kopargaon,
Dist- Ahmednagar
(herein after referred to as contractor)

Executed in favour of -

Kopargaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science,
Mohanirajnagar, Kopargaon, Dist.-A, Nagar
through Principal. (herein after referred to as College)



It is hereby agreed by the contractor that the college has allotted the **Computer Maintenance** to the contractor on following terms and conditions which are accepted by both the parties.

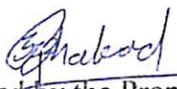
Terms & Conditions:


1. This Agreement is valid for the period of 01/06/218 to 31/05/2021.
2. Troubleshooting, Diagnosing and Resolving Hardware, Software and Other Network and System Problems.
3. Maintaining configuring and monitoring virus protection software and e-mail application.
4. Maintaining and administering computer network and related computing environments including System Software, Hardware and Configurations.
5. Monitoring network performance to determine if adjustment needs to be made.
6. Designing, configuring and testing network software, Computer Hardware and Operating System software.
7. Replacing faulty network hardware component when required.
8. Performing disaster recovery operation and data backups when required.
9. Protecting data, software, and hardware by coordinating, planning and implementing network security measures.
10. According to the nature of work, remuneration will be given by the college to the Contractor.
11. Standard quality material shall be used for all maintenance work.

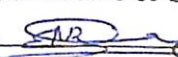
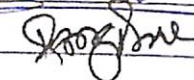


12. No advance Payment shall be made. Final payment will be made after 7 days by crossed Cheque only and after satisfactory work is reported.
13. The principal of the institutes have the sole right to terminate the agreement without giving any reason.
14. All the terms and conditions are important and binding on the Contractor. In violation of any of the conditions the agreement will be terminated automatically. In that case the Contractor will not complaint against the decision of the college.

The terms and conditions agreed upon by and between the parties hereto are accepted by both the parties and in witness thereof this agreement is produced in writing and signed by both the parties.


Signed by the Proprietor :
Mr. Bhabad Akash Sunil

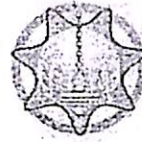

Signed by the Principal :
K.J. Somaiya College of Arts
Commerce & Science, Kopargaoon

In the presence of (1) Dr. N. R. Dalvi - 
(2) Pangavhane S.S. - 

राष्ट्रीय व्यावसायिक प्रशिक्षण परिषद् National Council for Vocational Training



Maharashtra State Board of Technical Education,
Mumbai



Maharashtra Knowledge Corporation Limited
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CERTIFICATE



This is to certify that
Akash Sunil Bhabad
having successfully completed
the prescribed course of studies
and having passed the examination
with 78 percent marks
has been awarded the



Maharashtra State Certificate in Information Technology (MS-CIT)
(Regular Mode)

on behalf of the Government of Maharashtra
in the month of December 2008

in testimony whereof are set the seals and signatures of the
Director, Maharashtra State Board of Technical Education, Mumbai
and
the Managing Director, Maharashtra Knowledge Corporation Limited.

Director

MSBTE



TRUE COPY

Managing Director
MKCL

Ref: 17210034/DA1208125309/DEC-08/40028/0022
Date Of Issue: 27-February-2009

सादिक कादरभाई अत्तार
विशेष कार्यकारी अधिकारी
कोपरगांव, जि. अ. नगर



The photograph of the candidate is printed on the certificate. If the photograph is pasted externally this certificate will not be valid.

www.msbte.com

www.mkcl.org

441295-A-17210034-025

All India Council For Professional Training & Research Pvt. Ltd.
Government Recognised

Certificate of Merit

Awarded to

Akash Sumit Bhabad

PCP1111/0411-163302

(Student ID on successful completion of

Proficiency in C Programming (PCP)

by Securing 'A' Grade in prescribed final examination

conducted by Council during

July 2011

at Sant Maungiri Computer Education, Kopargaon, Ahmednagar

TRUE COPY

Dated: 11.10.2011.

G-6, Mirani Nagar, Kopri, Thane (East) 400603. Email: support@aicptrn.in
सादिक कादरभाई अतार
विशेष कार्यकारी अधिकारी aicptrn.in
कोपरगाव, जि. अ. नाग



ISO 9001:2008
Certified Company



Member - CSI

Photograph
of the
candidate



Rajendra
Vice-President



भारत सरकार
GOVERNMENT OF INDIA



आकाश सुनिल भावड

Akash Sunil Bhabad

जन्म तारीख/ DOB: 11/09/1995

पुरुष / MALE



8585 8358 6737

माझे आधार, माझी ओळख



TRUE COPY

सादिक कादरभाई अत्तार
विशेष कार्यकारी अधिकारी
कोपरगांव, जि. अ. नगर



महाराष्ट्र MAHARASHTRA

र.अ.नं ६२० मुद्रांक रुपये-१०० दिनांक- 31/08/2021

नांव श्री प्राध्यापक के.जे. सोमैया महाविद्यालय
रा कोपरगाव, ह. जमूत वंजय रोड, कोपरगाव.

R-Amol

Amol Shelar
हनुमतराव तुकाराम मेहरे
अधिकृत मुद्रांक विक्रेता प. नं. ९/९५
तहसिल कार्यालय आवाय, कोपरगाव



AGREEMENT

Executed by -

Mr. Amol Shelar,
Sai Aradhya Services,
Green park building, Pimpalwadi Road,
Near Bharat Petrol Pump, Shirdi.
Tal.-Rahata, Dist- Ahmednagar
(here in after referred to as contractor)

Executed in favour of -

Kopergaon Taluka Education Society's
K.J. Somaiya College of Arts, Commerce & Science,
Mohanirajnagar, Kopergaon, Dist.-A, Nagar
through Principal. (herein after referred to as College)

It is hereby agreed by the contractor that the college has allotted the Computer Maintenance to the contractor on following terms and conditions which are accepted by both the parties.

दस्तावेज नोंदणी करणार अर्थात वस ? होय/नाही

नोंदणी होणार असल्यास कोणत्या कोणत्या कार्यालयाचे नाव



मिळवणीचे कार्य

मोबिलिटी व नेटवर्क

मुद्रांक विभाग

दुराव्या प्रणाली

हार्डवेअर

मुद्रांक शुल्क

मुद्रांक किंमत

मुद्रांक विक्री

मुद्रांक विक्री

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प्राचार्य. के. जे. सोमैया महाविद्यालय कोपरगाव

अमृत मंज्यारोले

५००१

६२०१

३१/०८/२०२२

मेहेरवार

श्री. हनुमंतराव तुकाराम मेहेरवार, कोपरगाव

परवाना क्र. STP/9/95 सहस्रालय, कोपरगाव

(2)

Terms & Conditions:

1. This Agreement is valid for the period of 01/09/2022 to 31/08/2023.
2. Troubleshooting, Diagnosing and Resolving Hardware, Software and Other Network and System Problems.
3. Maintaining configuring and monitoring virus protection software and e-mail application.
4. Maintaining and administering computer network and related computing environments including System Software, Hardware and Configurations.
5. Monitoring network performance to determine if adjustment needs to be made.
6. Designing, configuring and testing network software, Computer Hardware and Operating System software.
7. Replacing faulty network hardware component when required.
8. Performing disaster recovery operation and data backups when required.
9. Protecting data, software, and hardware by coordinating, planning and implementing network security measures.
10. According to the nature of work, remuneration will be given by the college to the Contractor.
 - A) Visiting Charges (Only for Visit) – 300
 - B) Formatting & Installation Charges – 250
 - C) Hardware repairing – 250
11. Whenever submit completion report, the signature of Lab Technical Assistant of concern Department is compulsory.
12. If any material required to the contractor they will notify in his visit report. If the contractor will provide any materials to the college, the materials shall be Standard quality.
13. Material will be purchased as per process followed by College.
14. No advance Payment shall be made. Final payment will be made after 7 days by crossed Cheque only and after satisfactory work is reported.
15. The principal of the institutes have the sole right to terminate the agreement without giving any reason.
16. All the terms and conditions are important and binding on the Contractor. In violation of any of the conditions the agreement will be terminated automatically. In that case the Contractor will not complaint against the decision of the college.

The terms and conditions agreed upon by and between the parties hereto are accepted by both the parties and in witness thereof this agreement is produced in writing and signed by both the parties.

Signed by the Proprietor :
Mr. Amol Shelar, Shirdi.

Signed by the Principal :
K.J. Somaiya College of Arts, Commerce & Science, Kopargaon

In the presence of (1) Deepak. Bhadaikwad

(2) Akcsh S. Bhalbhai