Late Reverend Father Shri.MaskujiBirujiBurungaleShikshanSanstha, ShegaonR.No. F-422.

SHRI. DNYANESHWAR MASKUJI BURUNGALE SCIENCE & ARTS COLLEGE SHEGAON - 444203 Dist: BULDANA.

Ph. No.: + 91-07265-253959 Fax. No.: + 91- 07265-253959

(Affiliated to SantGadge Baba Amravati University, Amravati) [College Code No. 333]

Website: www.sdmbsc.org **Email:** - sdmbshegaon@gmail.com

ShriRamvijayDnyaneshwarBurungale
President

Dr.R.E.Khadsan
Principal

Email: - drkhadsan@gmail.com Mob. 09767317055

(NAAC Accredited with B^{+}Grade, C.G.P.A. – 2.65)

Out. No. SDMBSC/NAAC/IQAC/AQAR/2021-22/3343. **Date:-30/12/2022**

DECLARATION

The Mechanism to deal with internal examination related grievances is transparent, time- bound and efficient during year 2021-2022.

Shri. D.M. Burungale Science & Arts College
College Code 333
SHEGAON

Principal
Shri Dnyaneshwar Maskuji Burungale
Science & Arts College, Shegaon
Dist. Buldana, Pin - 444203

SHRI. DNYANESHWAR MASKUJI BURUNGALE
SCIENCE & ARTS COLLEGE SHEGAON - 444203 Dist: BULDANA.

Internal evaluation is crucial part for student evaluation as per SGBA University Amravati guidelines. Various internal evaluation modes are used like Written-Test, Practical Examination, Multiple Choice Question (MCQ), Online Exam, Quiz Competition, Assignments Submission, Projects Reports, Seminars Presentation, Group Discussion, Survey Methods, Study Tour, Industrial Visits and Field Visits are the modes of conducting internal assessments. Transparency in internal evaluation is ensured by displaying marks and performance of the students on the departmental notice board. If any grievance, arise with same issue then students concern to the subject teachers for the corrections. If the student is not satisfied, the matter is placed before the Head of Department. Grievances associated with the internal examination are taken up immediately and resolved it given deadline which is less than one week. However, such an occasion rarely arises and most of the students are satisfied with the transparency and efficiency of the internal assessment as is evident from their feedback.

Shri. D.M. Burungale Science & Arts College
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SHEGAON

Principal
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Dist. Buldana, Pin - 444203

NOTICE

All the students of B.Sc. Part I, II, III are hereby inform that their University Test Winter 2017 - I,III,V for the subject ENVIRONMENTAL SCIENCE will be held On Following Dates. Note all the concerns.

B.Sc.-I SEM-II 13/~~10~~11/2017

B.Sc.-II SEM-IV 13/10/2017

B.Sc.-III SEM-VI 13/10/2017

HOD
D.L.Bhade
Asst.Professor & Head
Dept. of Environmental Science
Shri. D.M.Burungale Science & Arts
College, Bhegaon

Date :- 05/10/2017

Shri.DnyaneshwarMaskujiBurungale Science & Arts College, Shegaon

B. Sc. -I (Semester - I)

UNIT TEST

SUBJECT:ENVIRONMENTAL SCIENCE

(2017-18)

Time : 2 Hours] [Max. Marks : 30

Note :- Que. 1 is compulsory.

1. A) Fill in the blanks : 2

i. The elevated portion of wave called Crest

ii. The periodic change in the level of water in oceans & seas called Tides

iii. Tundra soils support only Lichens and mosses

iv. Etna and Stromboli of the mediterranean sea are examples of active volcano

B) Choose correct alternative : 2

i) The height of spring tide is generally

a) 20 % b) 25%

c) 10% d) 15%

ii) Continental shelf having depth of

a) 100Fathom b) 50Fathom

c) 75Fathom d) 25Fathom

iii) Dense forest canopy of evergreen forest comprises of:

a) Mahogany,Avony,Palm b) Mahogany, Acacia, Coconut

c)Cincona, Musa sp, Teakd) none of this

iv) Which of the following is not natural calamity ?

a) Plane crash b) Volcano

c) Cloud burstd) Tsunami

c) Answer in one sentence : 2

i) How many types of tides

ii) Define earthquake

2. a) i)Describe zonation of marine environment 3

ii)Explain tides & its types 3

iii) Describe tropical rainforest with respect to their distribution, climate&vegetation 3

iv)Describe taiga biome with respect to their climate &vegetation 3

OR

i) Describe marine food resources 3

ii) Explain physicochemical factors of marine environment 3

iii) Describe savanna biome in detail 3

iv) Describe tundra biome in detail 3

3. a) i)Define earthquake which are the causes & effects of earthquake 4

ii)Define cyclones with respect to their causes distribution types &effect 4

iii)Define environmental science explain structure of atmosphere 4

OR

i)Describe volcanos in detail 4

ii)Describe flood as geological hazards 4

iii) What is hydrosphere explain hydrological cycle 4

Shri.DnyaneshwarMaskujiBurungale Science & Arts College, Shegaon

Sant Gadge Baba Amravati University, Amravati
Record Of Internal Assessment Marks (S-2018)

Name of the College: Shri Dnyaneshwar Maskuji Burungale Science & Arts College, Shegaon

Class: B.Sc.I (Semister-II) | Subject: Electronics

Name of the Teacher: ..... | Paper(with title): Basic Electronics

Sr. No.	Roll no.	Name of the Student	Assignment/Project Assignment Max.Marks:-	Seminar/Group discussion/Industrial Visit/Visit to educational institutes/research organization/field work etc. Max.Marks:-	Class test Max. Marks:-	Total Max. Marks:-
1	23761	Aashwini Shankar Donge	8	10		18
2	23743	Aman Rupchand Tayde	8	0		8
3	23762	Anita Niwrutti Mali	8	10		18
4	23746	Ankush Rajesh Shejole	8	7		15
5	23765	Ashwini Bhagwant Bhute	8	7		15
6	23766	Ashwini Gajanan Hage	8	7		15
7	23757	Ashwini Shaligram Rohankar	8	7		15
8	23769	Chaitali Chandrashekhar Mali	8	10		18
9	23770	Chaitali Sanjay Gavhale	8	0		8
10	23772	Dipali Ramsingh Thakur	8	10		18
11	23753	Dipali Vitthal Katkar	8	0		8
12	23754	Divya Anilrao Deshmukh	8	0		8
13	23775	Gauri Vijay Kalore	8	10		18
14	23777	Harsha Prakash Arbat	8	7		15
15	23758	Hitesh Nanakram Panjwani	8	10		18
16	23779	Kajal Narayanappa Kenekar	8	7		15
17	23759	Karan Arjun Wankhade	8	7		15
18	23782	Komal Dipak Mane	8	10		18
19	23784	Laxmi Gopal More	8	7		15
20		Manoj Balkrishna Ghenge	0	0		0

Name and Signatures of Teacher : 1._____

2._____

3._____

PRINCIPAL

Shri.Dnyaneshwar Maskuji Burungale Science and Arts College SHEGAON Dist - Buldana

Principal

Signature of H.O.D.

Sant Gadge Baba Amravati University, Amravati
Record Of Internal Assessment Marks (S-2018)

Name of the College: Shri Dnyaneshwar Maskuji Burungale Science & Arts College, Shegaon

Subject: Electronics

Class: B.Sc.I (Semister-II)

Paper(with title): Basic Electronics

Name of the Teacher: .....

Sr. No.	Roll no.	Name of the Student	Assignment/Project Assignment Max.Marks:-	Seminar/Group discussion/Industrial Visit/Visit to educational	Class test Max. Marks:-	Total Max. Marks:-
21	23786	Mohini Gajanan Chaudhari	8	10		18
22	23787	Neha Sandip Darade	8	7		15
23	23830	Neha Sunil Murarka	8	12		20
24	23788	Nikita Ganesh Sawale	8	10		18
25	23831	Nikita Haridas Bawaskar	8	10		18
26	23789	Pallavi Bhagwan Girhe	8	7		15
27	23835	Pawan Mahadeo Kalaskar	8	7		15
28	23790	Pooja Shivhari Ravankar	8	10		18
29	23791	Pragati Vishnu Digole	8	10		18
30	23792	Prajakta Mohan Rahate	8	10		18
31	23793	Pranjli Martand Bharsakle	8	7		15
32		Prashant Shrikrushna Gavhale	0	0		0
33	23794	Priya Ramkrushna Rohankar	8	10		18
34	23845	Radha Shyamrao Deshmukh	8	10		18
35	23795	Rajashri Kailas Sonavane	8	12		20
36	23797	Rajshri Ravindra Pandit	8	10		18
37	23796	Rajnandini Ganesh Bodade	8	7		15
38	23800	Ruchika Gopaldas Rathi	8	10		18
39	23801	Rupali Mahadev Masne	8	12		20
40	23852	Saurabh Sadanand Jadhav	8	0		8

Name and Signatures of Teacher : 1. _____

PRINCIPAL
Principal
Shri.Dnyaneshwar Maskuji Burungale
Science and Arts College, SHEGAON
Dist - Buldana

Signature of H.O.D.

Sant Gadge Baba Amravati University, Amravati

Record Of Internal Assessment Marks (S-2018)

Name of the College: Shri Dnyaneshwar Maskuji Burungale Science & Arts College, Shegaon

Class: B.Sc.I (Semister-II) Subject: Electronics

Name of the Teacher: ..... Paper(with title): Basic Electronics .....

Sr. No.	Roll no.	Name of the Student	Assignment/Project Assignment Max.Marks:-	Seminar/Group discussion/Industrial Visit/Visit to educational institutes/research organization/field work etc. Max.Marks:-	Class test Max. Marks:-	Total Max. Marks:-
41	23803	Sharayu Pramod Pohare	8	10		18
42	23808	Shubhangi Ramkrushna Nandne	8	10		18
43	23860	Snehal Arun Metange	8	7		15
44	23810	Suchitra Pramod Hande	8	7		15
45	23811	Swati Ramnath Ingle	8	12		20
46	23812	Trupti Vitthal Dhage	8	7		15
47	23863s	Vaibhav Vasudeo Dhage	8	12		20
48	23816	Vaishali Tejrao Tayde	8	7		15
49	23813	Vaishali Vijay Gadkar	8	7		15
50	23817	Vaishnavi Ananta Metkar	8	10		18
51	23864	Vaishnavi Ananta Virokar	8	12		20
52	23818	Vaishnavi Ankush Deshmukh	8	10		18
53	23819	Vaishnavi Digambar Kathole	8	7		15
54	23823	Vaishnavi Mukunda Bathe	8	10		18
55	23824	Vaishnavi Narayan Huse	8	12		20
56	23825	Vaishnavi Vishvanath Bhilkar	8	10		18
57	23870	Vivek Shatrughan Virokar	8	10		18
58	23827	Yeshoda Bhagwan Mesare	8	10		18

Name and Signatures of Teacher : 1._____

Principal

PRINCIPAL

Shri.Dnyaneshwar Maskuji Burungale Science and Arts College SHEGAON Dist - Buldana

Signature of H.O.D.

Shri. Dnyaneshwar Maskuji Burungale Science & Arts College, Shegaon

Department of Environmental Science

University Test Attendance Session 2017-18

Sr.No	Name Of Student		Signature
1	Ku. Diksha Bharat Mohod		
2	Ku. Harshada Rajesh Paul		
3	Ku. Manali Rambhau Puyad		
4	Ku. Pallavi Ganesh Chavhan		
5	Ku. Pooja Vinod Raut		
6	Ku. Pradnya Bhaskar Ganesh		
7	Ku. Tejaswini Yadav Kharat		ABST
8	Ku. Vaishali Gajanan Indure		
9	Ku. Vaishnavi Gajanan Nikam		
10	Ku. Vaishnavi Govindrao Lahane		
11	Ku. Vaishnavi Rameshwar Dhanokar		
12	Mr. Furquan Imam Khan		
13	Mr. Kartik Gajanan Satote		
14	Mr. Pawan Gajanan Waghmare	P.S.	
15	Mr. Pratik Kishor Pardhi		
16	Ku. Afreen Anjum Mu Jawaid		
17	Ku. Ankita Mukundrao Deshmukh		
18	Ku. Ashwini Ajay Kathole		
19	Ku. Ashwini Sharad Kathole		
20	Ku. Avanti Krushnarao Deshmukh		
21	Ku. Dipali Eknath Sadabal		
22	Ku. Dipali Gajanan Dahi		
23	Ku. Dipali Pramod Bhalerao		
24	Ku. Dnyaneshwari Arjun Tayde		
25	Ku. Gayatri Sandeep Burungale		
26	Ku. Harsha Sadhuram Gwalani		
27	Ku. Kanchan Baliram Thukekar		
28	Ku. Komal Gajanan Raut		
29	Ku. Manali Rajesh Amte		
30	Ku. Monika Sanjay Dhamole		
31	Ku. Monika Vijay Ingle		ABST
32	Ku. Pooja Vitthal Mhasal		
33	Ku. Pragati Shrikrushna Atrale		
34	Ku. Pratiksha Vijay Bhonde		ABST
35	Ku. Radhika Purshottam Shegokar		
36	Ku. Radhika Rameshwar Palhade		
37	Ku. Rashmi Rajeshsing Dixit		
38	Ku. Renuka Bhimrao Sathe		
39	Ku. Roshani Ramesh Wagh		
40	Ku. Saima Parveen Sk Jameel Sk		ABST
41	Ku. Samrudhi Dipak Dhamal		
42	Ku. Sangita Santosh Tayade		
43	Ku. Sayali Sanjay Shelke		ABST
44	Ku. Shital Dnyaneshwar Wakle		ABST
45	Ku. Shital Ravindra Shegokar		

46	Ku. Shivani Dinesh Gupta		Signature
47	Ku. Shivani Sudhakar Shinde		
48	Ku. Shivani Sunil Awachar		
49	Ku. Shraddha Arunrao Ambulkar		
50	Ku. Shubhangi Vitthal Bakal		
51	Ku. Sneha Santosh Navkar		
52	Ku. Vaishnavi Atmaram Gawande		
53	Ku. Vaishnavi Bhaskar Bhamodre		
54	Ku. Vaishnavi Rambhau Ambuskar		
55	Ku. Vrushali Bhagwan Raundale		
56	Mr. Datta Devidas Lokhande		
57	Mr. Hariom Vishnu Dhumale		
58	~~Mr. Kiran Gajanan Bodade~~	—	ABST
59	Mr. Pankaj Naresh Shejole		
60	Mr. Rushikesh Vishnu Shejole		
61	Mr. Saurav Gajanan Shegokar		
62	Mr. ~~Shubham Babulal Karale~~	—	ABST
63	Mr. Vitthal Shankar Kokate	—	ABST
64	Mr. Yashwant Vinod Dhanokar		
65	Ku. Swati Vishwanath Hage		
66	Ku. Shivani Mohan Sanap		
67	Ku. Arti Bhagwan Wawge		
68	Ku. Kiran Suryaprakash Raut		
69	Ku. Sneha Digamber Jadhav		
70	Ku. Ashvini Govindrao Gavhale		
71	Ku. Pushpapuja Vilas Wankhade		
72	Ku. Vaibhavi Anil Solankar		
73	Ku. Anjali Dnyaneshwar Nayse		
74	Ku. Anamika Ratan Telgote		
75	Ku. Shubhangi Pramod Kathole		
76	Ku. Priyanka Vishnu Akhare		
77	Ku. Durga Shiwaji Bawskar		
78	Ku. Vaishnavi Dipak Jamdar		
79	Ku. Vaishnavi Gajanan Tayde		

14/15 = 28/30

SHRI DNYANESHWAR MASKUJI BURUNGALE SCIENCE & ARTS COLLEGE, SHEGAON

ANSWER BOOK

Name of the Examination Ku. Anjali Dnyaneshwar Nayse

Class : B.Sc I Medium Sem-I Subject : Environmental Science University Enrollment No.

Centre No. 333 Roll No. No. of Supplements used Date 13-11-2017

Max.Marks Marks Obtained

Sign. of Invigilator Sign. of Valuer

Start Writing from here

Q1A) i) The elevated portion of wave called crest.

ii) The periodic change in the level of water in oceans & seas called

iii) Tundra soil support only lichens and mosses

iv) and stromboli of the mediterranean sea are examples of active volcano.

B) iii) Dense forest canopy of evergreen forest comprises of a) Mahogany, ebony, palm.

iv) a) Plane crash is not natural calamity.

Q) ii) Earthquake : An abrupt vibration or shuddering of grounds surface due to seismic waves produced by spasmodic displacement of rock masses floating on molten magma.

Q2)B) iii) Describe tropical rainforest climate with respect to their distribution, climate and vegetation.

→ location : i) The tropical rainforest climate or equatorial climate is located upto 5° to 10° latitudes on either side of equator.

ii) At some places it extends upto 15° to 25° latitude on easterned margines.

iii) This climate is characterized by northward and southward migration of the sun.

iv) There are two main facts a) Uniformly high temperature throughout the year and b) Abundant rainfall throughout the year recieved by convectional mechanism of precipitation.

Distribution : This climate is distributed on either side of equator on the following localities -

a) The Amazon basin in America.

b) The congo basin in Africa.
c) The Guinea coast in Africa.
d) Much of the Indomalysian regions mainly Java, Sumatra Borneo, new Guinea, Malysia and some places in India
e) Phillipine Island, Eastern Colombia, Eastern central America and Western Madagaskar
f) Some islands of caribbean sea

Temperature :- i) This climate recieves abundant insolation
ii) This climate does not give low temperature below 18°c
iii) The mean montly reange of temperature is 24° to 27°c
iv) The annual temperature increases upto 30°c
v) The nights are cold as 20°c, hence nights of this climate reffered as winter of the tropics.

Vegetation :- i) The tropical rainforest climate is dominated by evergreen forest.
ii) The vegetation of these biome are arranged in four layers as a) Top layer in which the height of trees ranges from 30-60m. b) Mediterian layer in which height of plants ranges between 8-10m c) The thied layer is stratified herbaceous layer and d) the fourth is ground grasses surface or layer.
iii) The creeper are secondary dominant species of this climate.

iii) Dense forest canopy of evergreen forest comprises of Mohegany, Ivory, palm.

iv) Describe taiga biome with respect to their climate & Vegetation.

Location :- i) The taiga type of climate is totally absent in southern hemisphere because of narrow rng range of continents
ii) The taiga type of climate is located upto 50°-55°N and 60-65°NH on northward side.

Distribution :- i) This climate is distributed over northern hemisphere in the following localities.
a) North America, extreme northern parts of Canada, Singapur, Greenland, coastal areas, North Australia

Temperature :- i) This climate recieves low insolation throughout the year.
ii) The temperature ranges below freezing point
iii) The winter are so long and summers are short but cool.
iv) At some places temperature increases in the month of July at 16°c but other places have temperature below freezing point in the month

of July.
Vegetation : i) The taiga types of ~~ty~~ climate is dominated by coniferous trees.
ii) There are trees which appears conical shape at upper part due to frequent snowfall on them.
iii) There are shrubs, herbaceous plants, grasses etc.
iv) At some places there are cryophytes.
v) due to very short growing period the vegetation is not so dense.

25 b) i) Define earthquake which are the causes & effect of earthquake?
→ Earthquake : i) An earthquake is an abrupt vibration or shuddering of ground surface by seismic waves produced by spasmodic displacement of rock masses.
ii) An earthquake releases tremendous amount of energy and the magnitude or intensity of energy released in earthquake is measured by Richter scale devised by Charls F Richter in 1935.
iii) The Plate tectonic theory is the most plausible explanation for earthquake.

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iv) According to this theory, the earth consist of several rigid plates which floats on molten magma. The plates are a) American plate b) Indian plate c) Australian plate d) Pacific plate e) Antartica plate f) Africa Eurasian plate and twenty minor plates.
Causes of Earthquake : The earthquake can cause mainly by two factors that are a) Man-induced earthquake and b) Natural earthquake
a) i) The construction of dams near mountains can cause earthquake
ii) Volcanic eruption can cause earthquake
iii) The earthquake can cause due to moment of plate tectonics in earths crust.
iv) Isostatic imbalance can cause the earthquake.
Effects of Earthquake :
i) Earthquake in sea can give rise to tsunami.
ii) Due to earthquake the major effects which damage the human settlements, kill animals, humans.
iii) earthquake results in loss of lives in major quantity.
iv) The permanent deformation of human constructions like dams, power plants, brides, etc.
v) Earthquake takes lacks of lives destroy roads, railway

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vi) The tsunami created due to earthquake can damage the coastal areas near sea.

(ii) Define Cyclones with respect to their causes, distribution types and effects.

=) Cyclones : i) The cyclones are the ragging spirals of wind and rain born near the equator sea surface it seams with closely related isobars.

ii) The cyclones are also called as hurricane, typhoons

iii) The cyclones are classified as strong cyclones and weak cyclones

Types: 1) Weak Cyclones : The weak cyclones includes
a) Tropical Disturbances
b) Tropical Depressions.
2) Strong Cyclones : The strong cyclones includes
a) Tropical storm
b) Hurricanes / Typhoons

1) Weak Cyclones :
a) Tropical Disturbances : This cyclones are formed near the equator due to tropical disturbances
b) Tropical Depressions : This cyclons are formed due to tropical depressions with the velocity of 40 to 50 km per hour.

2) Strong Cyclones :
a) Tropical Storm : This cyclones are creates low pressure areas around itself. This storm runs at the velocity of 40 to 120 km/hr.
b) Hurricanes or Typoons : This types of cyclones if created near the Japan are reffered as typoons and if this cyclones are created near the Caribbian sea are termed are hurricanes. At some places it is also known as willey-willey.

Causes of Cyclones :
i) The cyclones can caused due to low atmospheric pressure.
ii) The cyclones can formed due much more rainfall.
iii) The cyclones can formed due to high velocity winds are moved in fast motion
iv) The cyclones are formed when the heavy rainfall received.

Distribution of Cyclones : The cyclones are distributed all over the world.

SHRI DNYANESHWAR MASKUJI BURUNGALE SCIENCE & ARTS COLLEGE, SHEGAON

ANSWER BOOK

Name of the Examination Ku. Anjali Dnyaneshwar Nayse

Class : B.Sc I Medium Sem I Subject : Environmental Science University Enrollment No. _____

Centre No. 333 Roll No. [ ][ ][ ][ ] No. of Supplements used _____ Date 13-11-2017

Max.Marks _____ Marks Obtained _____

Sign. of Invigilator _____ Sign. of Valuer _____

Start Writing from here

Effect Of Cyclones :

i) The cyclones can damage the coastal areas

ii) The cyclones are the major disaster which take lots of lives.

iii) The cyclones can create very high pressure near the sea surfaces.

iv) The cyclones can destroy human settlements eg: Hurricane katrina take lacks of lives

v) The cyclones can give rise to heavy rainfall.

A

Seminar

On

"Sludge- Origin, nature, type, characteristic, treatment & disposal "

In partial fulfillment of requirements for the degree of

Bachelor of Science

submitted by

Ku. Pallavi R. Tathod

Under the Guidance of

Prof. S. B. Sonone

Department of Environmental Science

Shri Dnyaneshwar Maskuji Burungale Science & Arts College,

Shegaon-444203 Dist-Buldana (M.S.)

Academic Session: 2017 - 2018

Shri. Dnyaneshwar Maskuji Burungale Science and Art's College
Shegaon Pin- 444203

DEPARTMENT OF ENVIRONMENTAL SCIENCE

CERTIFICATE

This is to certify that **Ku. Pallavi R. Tathod** is a student of B.Sc-III[rd] year / Semester V[th] has satisfactorily completed the given Seminar on **"Sludge origin, nature, type, characteristic, treatment & disposal"** Science during session 2017-2018 as prescribed by Sant Gadage Baba Amravati University, Amravati.

Date of Submission :- 12/10/2017

12-10-17
Subject Teacher

Head of Department
Prof. Dr. D. L. Bhade

Acknowledgement

Department of Environmental Science give me opportunity to performing such activity. This activity helps me to improve my subject views . I have deepest sense of gratitude towards my honorable guest **Prof.S. B. Sonone** for valuable guidens , keen interest constructive criticism and cinstant inspresion throughout the course of Seminar work .

I feel equally indebted towards respected principal **Dr. R. E. Khadsan**, Shri Dnyneshwar .Maskuji .Burungale. Science and Arts College Shegaon for his significant support and co-operated to success of this Seminar.

I deem it a great pleasure and privilege to offer my sincere and cordial thanks to respected **Prof. D. L. Bhade** for his constructive helps during Seminar work.

I also express my gratitude to all non-teaching staff for their nice co-operation.

I slso thank to my colleagues and friends for their supportive help to completion of this Seminar.

My words fail to express my feeling in respect of my beloved parent who are providing constantencouragement and blessing.

Place:- Shegaon

Date:- 12/10/2019

Pathod
Pallavi Rajendra Pathod

Table of Content :

Introduction

Sludge is a semi-solid slurry and can be produced as sewage sludge from wastewater treatment processes or as a settled suspension obtained from conventional drinking water treatment and numerous other industrial processes. The term is also sometimes used as a generic term for solids separated from suspension in a liquid; this 'soupy' material usually contains significant quantities of 'interstitial' water (between the solid particles).

Industrial wastewater treatment plants produce solids that are also referred to as sludge, whether generated from biological or physical-chemical processes.

1. Semisolid material such as the type precipitated by sewage treatment.
2. Mud, mire, or ooze covering the ground or forming a deposit, as on a riverbed.
3. Finely broken or half-formed ice on a body of water, especially the sea.
4. A semisolid mass composed of an aggregation of cells (such as red blood cells in blood vessels) or particulatematter (such as cholesterol crystals and calcium salts in bile).

Sludge :

Difinition:

Sewage sludge is asolid ,semisolid or liquid muddy looking residue that results after plain sewage is treated at asewage plant . After being treated ,the sewage may be spread on non-organic agricultural and as afertiliser or dust suppressant .

Sludge refers toresidual ,semisolid material left from industrial wastewater or sewage treatement process .

Origin :

Along with Black Flag and Black Sabbath ,musicians cited by pioneers of the style as influential include Mississippi John Hurt ,Lyntrd Greg Ginn .Early sludge metal groups also borrowed from industrial music of SPK .

Nature :

When fresh sewage or wastewater is added to a settiling tank appro. 50% of the suspended solid matter willsettle out in ahout and a half . This collection of solid is known as raw sludge .The sludge become putrescent ina short time once anaerobic bacteria take over .

Types of Sludge :

The volume of liquid sludge produced at a sewage treatement works usually represent approx. 1-2%of the total flow of sewage , but treatment and disposal can account for approx. 30-50%of the running costs of works .Sludge from conventional sewage treatment plants are derived from primary ,secondary ,tertiary treatment processes .

1) Primary Sludge :

Consisting largely of faecal solid and will also contain paper , sanitary and medical products ,kitchen waste ,grit and mineral matter .Pre-treatment i. e. inlet screening ,grit removal trap will remove the vast majority of non-biodegradable materal and should always be used whenever possible .

2) Humus Sludge :

Humus sludge is product of settlement of effluent from biological filters ,submerged aerated filters and is mainly bacterical and fungal material sloughed from the filter . Atypical sludge contain 0.5-2.0% dry solid .

3) Surplus Activated Sludge :

In an activated sludge is the product plant polluting matter is transferred to the liquor suspended solid thus increasing its mass .To maintain an optimum level of mixed liquior suspended solid .

Characteristic of Sludge :

Sludge meta generally combines the slow tempos ,heavy rhythums and dark ,pessimistic atmosphere of doom metal with the aggression ,shouted vocals and occasional fast tempos of hardcore punk as put it .The shorthand term for the kind of rock descending from early Black Sabbath and Black Flag is sludge ,because its so slow and dense .Many sludge bands compose slow spaced songs that contain brief hardcore passage . Mike Williams a founder of the sludge style and member of eyehategod , suggest that the moniker of sludge apparently has to do with the slowness ,the dirtiness .The fifth and general decadence the tunes convey .

Treatment and Disposal of Sludge :

Sludge is produced from atreatment of wastewater on site and off site system . This is inherently so because a primary aim of wastewater treatment is removing solid from the wastewater . In addition ,soluble organic substance are converted to bacterial cells ,and latter is removed from the wastewater . Sludge is also produced from treatment of stromwater.

. Bucket latrine and vault latrine store faecae sludge ,which needs to be collected and treated . This two types of latrine are discusced .Beause no treatment of involved at latrine . In the former case human excreta is deposited in a bucket and content of bucket is emptited daily ,usually at night giving the term night soil . characteristic of sludge vary widely from relatively fresh faecal material generated in bucket latrine to sludge which has undergone bacterial decomposition for over a year in a double pit latrine . the treatment required is therefore dependent on the characteristic of the sludge .The former contain large no of pathogen the latter will contain much less due to pathogens die – off .Sludge may be contaminated with heavy metals and other pollutant .Treatment of sludge contaminated with high concentration of heavy metals or toxic chemicals will be more difficult and the potential for re-use .

A

Project

On

"To Killed insect microorganism by using plant"

In partial fulfillment of requirements for the degree of

Bachelor of Science

submitted by

Ku. Disha P. Kadale

Under the Guidance of

Prof. D. L. Bhade

Department of Environmental Science

Shri Dnyaneshwar Maskuji Burungale Science & Arts College,

Shegaon-444203 Dist-Buldana (M.S.)

Academic Session: 2017 - 2018

Shri. Dnyaneshwar Maskuji Burungale Science and Art's College
Shegaon Pin- 444203

DEPARTMENT OF ENVIRONMENTAL SCIENCE

CERTIFICATE

This is to certify that. **Ku. Disha P. Kadale** is a student of B.Sc-II[nd] year / Semester III[rd] has satisfactory complete the given Project Report on **"To Killed insect microorganism by using plant"**Science during session 2017-2018 as prescribed by Sant Gadage Baba Amravati University, Amravati.

Date of Submission :-

Subject Teacher

Head of Department

Prof. Dr. D. L. Bhade

Dr.D.L.Bhade
Associate Professor & HOD
Department of Environmental Science
Shri.D.M.Burungale Sci.& Arts College, Shegaon

Acknowledgement

Department of Environmental Science give me opportunity to performing such activity. This activity helps me to improve my subject views . I have deepest sense of gratitude towards my honorable guest **Prof. D. L. Bhade** for valuable guidens , keen interest constructive criticism and cinstant inspresion throughout the course of Project work .

I feel equally indebted towards respected principal **Dr. R. E. Khadsan,** Shri Dnyneshwar .Maskuji .Burungale. Science and Arts College Shegaon for his significant support and co-operated to success of this Project

I deem it a great pleasure and privilege to offer my sincere and cordial thanks to respected **Prof. P. L. Gawande & Prof. R. B. Barbade** for his constructive helps during Project work.

I also express my gratitude to all non-teaching staff for their nice co-operation.

I slso thank to my colleagues and friends for their supportive help to completion of this Seminar.

My words fail to express my feeling in respect of my beloved parent who are providing constantan couragement and blessing.

Place:- Shegaon

Date:-

Aim:-

To killed insect microorganism by using plant

Requirment:-

Plant extract, beaker, leaf ofplant , conical flask, spray, etc...

Theory:-

Plant extract are natural it to do not produce pollution it produce pollution it produce by plants.

Introduction :-

Aphids can be extremely economically damaging insect pests on crops worldwide and specifically in New York State. Alternative management strategies can help control aphid numbers and decrease the need for pesticide use and development of resistance to pesticides. One unexplored potential means of control pest is aphids are plant-associated bacteria. Many bacteria commonly found on plants can infect and kill some aphid species, but it is not known how broad these bacteria infect pests or how the bacteria kill insects. This project will determine if these bacteria can impact pest aphid species on crop plants grown in New York. This project will also investigate the molecular mechanism for insect killing by bacteria in order to better understand this interaction. The results of this work will provide a significant step forward in understanding how common plant associated bacteria impact aphids. This information will provide a basis for determining if the bacteria or a bacterial product could be used as an additional means of controlling populations of pest aphids.

Project :-

Methods

Objective 1 EffortsPhase 1.1 - We will assay four P. syringae strains on six local crops suffering from aphid pests (snap bean, soybean, cabbage, potato, cucumber, and lettuce) to determine which strains persist on each crop and do not cause plant disease. We will test strains that are known to frequently grow on plant surfaces and that have been previously found to kill insects. To determine bacterial persistence, bacteria will be sprayed onto the top and bottom of the leaves to establish epiphytic populations. The plants will then be incubated at moderate humidity for 72 hours. At this time leaves will be collected and sampled for bacteria by sonication in buffer and subsequent plating to count bacterial colonies. To determine if strains can grow and cause disease in plants, bacteria will be introduced into leaves by infiltration and plants will be incubated in a growth chamber for 72 hours. At this point, leaf discs will be sampled at infiltration points and ground to release internal bacterial cells. Samples will be plated to quantify bacteria.Phase 1.2 - We will determine the susceptibility of local pest aphids to P. syringae strains. We will collect aphids (soybean aphids, cotton (melon) aphids, green peach aphids, and cabbage aphids) from the field when they are locally abundant. Each aphid species will be assayed on a crop plants tested in Phase 1.1 above. These plants will either be sprayed with a suitable P. syringae strain (identified above as epiphytically persistent but not virulent to plants) at a high dose or a control of sterile buffer and allowed to dry before aphids are introduced to the plant. We will then track infection and death rates of aphids when fed on plants with bacteria compared to plants without over the course of 4 days using previously developed methods.Phase 1.3 - We will further validate the results from Phase 1.2 using more natural conditions. For plant/bacteria/aphid combinations

that lead to aphid death and plant health, we will determine the feasibility of P. syringae as a biological control agent across a range of environmental conditions. For each plant/aphid/strain combination we will test the ability of P. syringae populations to infect and kill aphids at three different humidity levels (50%, 75%, and 95%). Plants will be sprayed with a moderately dense solution of bacteria, allowed to dry, and incubated at different humidity levels for 48 hours. We note that incubation at different humidity levels will result in different densities of bacterial cells on leaves. We will then introduce aphids onto the plant and track their survival for one week. At the end of the experiment we will sample aphids to determine their rate of infection and sample leaves to quantify bacterial densities. Differences in bacterial population sizes will be analyzed using ANOVA and aphid survival will be analyzObjective 1 EvaluationThis Objective will identify strains that may be useful in biological control; those that persist in high numbers of leaf surfaces and do not grow to high numbers in leaf tissue. Additionally, assays of virulence to aphids will identify combinations of plants/bacteria/aphids that lead to increased aphid death over controls and thus identify possible strains for use in biological control. These assays will also increase our knowledge of the breadth of insects that can be infected and killed by P. syringae.Objective 2 EffortsPhase 2.1 - To determine which P. syringae genes may be involved in killing aphids, we will sequence the transcriptomes of both high and low virulence strains as they are growing in aphids. We will choose two pairs of strains that are closely related but vary in virulence, identified in previous work. In total we will have two high and two low virulence strains, all with genome sequences published. We will infect pea aphids and allow the bacteria to grow for 48 hours. Bacterial cells will then be harvested from aphids and used to extract RNA. For each strain we will sequence three biological replicates. RNA will be sequenced using Illumina sequencing. Transcriptome data will be analyzed for differential expression using the program

EdgeR implemented within R and utilize published reference genomes for mapping reads.Phase 2.2 - Phase 2.1 will identify many genes that are differentially expressed in high or low virulence strains. We will attempt to limit the number of false positive candidate genes, genes that are differentially expressed but not responsible for virulence, but comparing pairs of strains that are closely related, but vary in virulence, to decrease the level of genomic and expression differences as much as possible. Furthermore, we will primarily focus on candidate genes that show similar patterns in both highly virulent strains compared to the low virulence strains, and that have a known function indicating a possible involvement with killing aphids. To confirm that these genes are necessary for aphid death, we will generate knockout mutants for candidate genes in P. syringae strains and test these for decreased virulence. P. syringe is genetically tractable and mutants can be easily made using established methods.Phase 2.3 - Where possible, for any genes confirmed as sufficient for aphid killing in Phase 2.2, we will isolate the product of that gene or metabolic pathway and determine if it is sufficient to kill aphids alone, using methods for aphid assays outlined above. If the product of interest is predicted to be a protein that may be toxic to the aphids, we will isolate the protein using established methods. If the candidate genes are predicted to produce some other type of compound, we will purchase the compound if available and test it in isolation from the bacteria. Objective 2 Evaluation We will analyze the data to determine which genes and metabolic activities are "turned on" by killing strains, but not low virulence strains, inside aphids and identify candidate genes that may be involved in virulence. We will confirm the function of these genes using genetic modification and experimental assays. This work will allow us to identify possible products and genes responsible for killing pest insects.

Observation:-

We observed on several time that the microorganism are totally killed.

Result:-

The insect are totally killed.

International Ozone Day:-

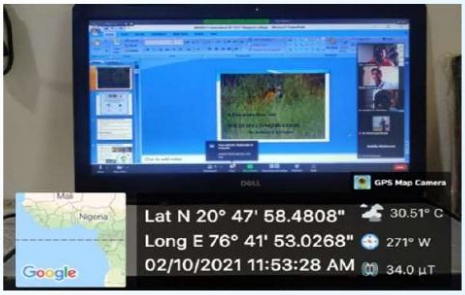
International Ozone Day celebrated by Department of Environmental Science on dated 16 September 2021 on online mode theme of the day was **"Save Ozone Layer Save Earth"** the guest for this program was Dr. S.R. Warhekar, Arts, Science and commerce College Kiran Nagar Amravati delivered the Guest lecture on Importance of Ozone Layer for Earth.

Wildlife Week Celebration (01 October to 07 October 2021)

Wildlife week 01 October to 07 October 2021 celebrated by department of environmental science of our college on online mode on first day the inaugural program and guest lecture conducted by Professor G.D. Muratkar the topic of guest lecture was "Role of Grassland in Wildlife Habitat Management."

Day-2

Day to 2 October, Dr SR Warekar, Assistant Professor Arts Science And Commerce College Kiran Nagar Amravati delivered guest lecture on "Wildlife Conservation and its management."



Day-3

03 October 2021, Educational tour jointly organized by department of environmental science and Nisargkatta Akola to Ambabarwa forest Mr.Amol Sawant guided to students regarding to different species of flora and fauna in the forest and their role in development for forest Ecosystem total 13 student present and some teaching staff also present to the educational tour.

Department of Chemistry

Career Opportunities in Chemistry

Department of Chemistry organized webinar on "Career Opportunities in Chemistry" for B.Sc. chemistry students on 21th October 2021. A.B.Wadekar gave introductory speech and introduced to guest. Dr. Dinesh N. Sawant, Scientist, Organic Chemistry Division, CSIR, National Chemical Laboratory, Pune gives Information of various carrier oriented Opportunities in Chemistry after Completion of B.Sc. in different Industries, Chemical Labs and research area etc, Also Sawant Sir shared fruitful knowledge to the students. All Students were so intentionally & enthusiastically attend this program. Dr.R.E.Khadsan, principal and Chairman of this program concluded this webinar in his presidential speech. Prof. Y.P.Wayal expressed vote of thanks

Educational Study Tour at Lonar Lake

Department of Chemistry organized educational study tour at Lonar Lake Lonar dist. Buldana on 19th December 2021. Aim of this tour to make aware students with historical and world level heritage of our area and introduced them about research field belonging to our own area. Many researchers from various countries visited to this lake due to their uniqueness. Total 75 students along four departmental faculties were participated in this education study tour.

A

Field Work Report on Biodiversity in Amba-barwa Wildlife Sanctuary

ESTD 1 Sept 2000

Department of Environmental Science

Shri. Dnyaneshwar Maskuji Burungale Science and Art's College Shegaon, Dist.-Buldana (M.S.)

HoD
Dr. D. L. Bhade
Shri. D. M. Burungale Science and Art's College shegaon

Co-Ordinator
Mr. R. B. Barabde
Shri. D. M. Burungale Science and Art's College shegaon

Late Reverend Father Shri.MaskujiBirujiBurungaleShikshanSanstha, Shegaon R.No.F-422.
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Shri.RamvijayDnyaneshwarBurungale **President**
Dr.R.E.Khadsan **Principal**
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Dr. D. L. Bhade **HoD, EVS Deptt.**
dlbhade@gmail.com
Mob. No. 9923317021

(NAAC Accredited with B+ Grade , C.G.P.A. – 2.65)

DEPARTMENT OF ENVIRONMENTAL SCIENCE

Out. No. SDMBSC/EVS/2021-22/ **Date: - 01.10.2021**

To,

The Principal
Shri. D.M. Burungale Science
and Arts College Shegaon

Subject:-To permit us for organizing Field visit at Amba-Barwa Wildlife Sanctuary (03/10/2021)

Respected sir,

With respect to above subject Department of Environmental Science of our college decided to organize **Field visit at Amba-Barwa Wildlife Sanctuary (03/10/2021) Time 9.00 AM.**

So please give permission to organize this program.

Thanking you!

Date:- 01 /10 / 2021

Mr. R.B.Barande
(Coordinator)

Dr.D.L.Bhade
(HoD)
Dr.D.L.Bhade
Assistant Professor & HOD
Department of Environmental
Shri D.M.Burungale Sci & Arts College, Shegaon

SHRI. D. M. BURUNGALE SCIENCE AND ART COLLEGE SHEGAON
DEPARTMENT OF ENVIRONMENTAL SCIENCE
Amba-barwa Wildlife Sanctuary Field Visit - 2021 - 22
Student List **DATE - 03 / 10 / 2021**

Sr. No	Students Name	Signature	Remark	
1	Abhishek Dinesh Gupta			
2	Ankit Mahadeo Dhoran			
3	Dhiraj Santosh Maskar			
4	Dnyaneshwar Murlidhar Nile			
5	Ganesh Bhanudas Dahibhat			
6	Mahesh Gajanan Katole			
7	Mahesh Maroti Sangle			
8	Mudassir shaikh			
9	Om Ravindra Deshmukh			
10	Priyanshu Gupta			
11	Shaikh Arbaz			
12	Suhas Eknath Borokar			
13	Sujwal manoj bangar			
14	Tejas Bawane			
15	Vaibhav Baban Paturde			

R.B. Barabde.

Dr. D.L. Bhade

Dr.D.L.Bhade
Assistant Professor & HOD
Department of Environmental
Shri D M Burungale Sci & Arts College, Shegaon

A

Field Report On Biodiversity In Amba-barwa Wildlife Sanctuary

Department of Environmental Science

Shri. Dnyaneshwar Maskuji Burungale Science and Art's College Shegaon, Dist.-Buldana (M.S.)

Submitted By

Mr. Sujwal Manoj Bangar

B.Sc – II

HoD
Dr. D. L. Bhade
Shri. D. M. Burungale Science and Art's College shegaon

Co-Ordinator
Mr. R. B. Barabde
Shri. D. M. Burungale Science and Art's College shegaon

Acknowledgement

Department of Environmental Science give me opportunity to performing such activity. This activity helps me to improve my subject views. I have deepest sense of gratitude towards my guide **Prof. R. B. Barabde** for his valuable guidance and keen interest constructive criticism and constant inspiration throughout the Field work.

I feel equally indebted towards respected Principal **Dr. R.E. Khadsan** Shri. Dnyaneshwar Maskuji Burungale Science and Art's College Shegaon for his significant support and co-operation to success of this Field work.

I deem it a great pleasure and privilege to offer my sincere and cordial thanks to respected Head of Department **Dr. D.L. Bhade** for his constructive help during Field work.

I also express my sincere thanks to **Prof. P. L. Gawande, Prof. Y. M. Kuchar**, for their supporting helps.

I also express my gratitude to all teaching and non-teaching staff and library staff for their cooperation.

I also thank to my colleagues and friends for their supportive help to completion of this Field work.

My words fail to express my feelings in respect of my below parent who are providing constant encouragement and blessings.

Signature of student

Place:- Shegaon

Date:- 09 / 10 / 2021

Shri Dnyaneshwar Maskuji Burungale Science and Art's College Shegaon, Dist. Buldana-444203

DEPARTMENT OF ENVIRONMENTAL SCIENCE

CERTIFICATE

This is to certify that Ms/Mr. **Sujwal Manoj Bangar** of B.Sc.- I st / II nd / III rd Semester – I / II / III / IV / V / VI has satisfactory complete the fieldwork on **"Biodiversity of Amba-Barwa Wildlife Sanctuary "** in the subject Environmental Science during session 2021 - 2022

Date of Submission :- 09 / 10 / 2021

Subject Teacher
Mr. R. B. Barabde

Head of Department
Dr. D. L. Bhade

Field Report

The **Amba Barwa Wildlife Sanctuary** is situated in Satpura hills of the Buldhana District of Maharashtra. It is a part of the Melghat Tiger Reserve. The sanctuary area includes a Reserved forest of 102.10 sqkm, Protected forest 22.62 Sq. km. and remaining land is private cultivation and *Abadi* lands from ex-forest villages of *Ambabarwa, Chunkhadi and Rohinkhed* of Sangrampur Taluka of Buldhana District.

The Sanctuary is under the Chief Conservator of forest and Field Director, Melghat Tiger Reserve with headquarters at Amravati.

The sanctuary is 65 km from the Shegaon. The tourist zone of the sanctuary is 21.26 Sq. km comprising eight forest compartments. The other tourist attraction are *Mangri Mahadev Mandir, Jalkakund, Pipladohkhora*, and *Chimankhora*.

Plants of Amba Barwa:-

1) Teak Plant :-

Scientific name: Tectona grandis

Higher classification: Tectona

Rank: Species

Family: Lamiaceae

Kingdom: Plantae

Order: Lamiales

Teak is a tropical hardwood tree species in the family Lamiaceae. It is a large, deciduous tree that occurs in mixed hardwood forests. Tectona grandis has small, fragrant white flowers arranged in dense clusters at the end of the branches. These flowers contain both types of reproductive organs.

2) Arjuna Plant :-

Scientific name: Terminalia arjuna

Family: Combretaceae

Higher classification: Tropical almond

Rank: Species

Kingdom: Plantae

Order: Myrtales

Terminalia arjuna is a tree of the genus Terminalia. It is commonly known as arjuna or arjun tree in English.

3) Dhawda Plant :-

Scientific name: Anogeissus latifolia

Higher classification: Anogeissus

Rank: Species

Family: Combretaceae

Order: Myrtales

Anogeissus latifolia is a species of small to medium-sized tree native to the India, Nepal, Myanmar, and Sri Lanka. Its common names are axlewood, bakli, baajhi, dhau, dhawa, dhawra, or dhaora, takhian-nu, and raam. It is one of the most useful trees in India.

4) Salai Plant :-

Scientific name: Boswellia serrata

Higher classification: Boswellia

Rank: Species

Family: Burseraceae

Kingdom: Plantae

Boswellia serrata is a plant that produces Indian frankincense. The plant is native to much of India and the Punjab region that extends into Pakistan.

5) Mango Plant :-

Scientific name: Mangifera indica

Family: Anacardiaceae

Higher classification: Mangifera

Rank: Species

Kingdom: Plantae

Order: Sapindales

Mangifera indica, commonly known as mango, is a species of flowering plant in the family Anacardiaceae. It is a large fruit tree, capable of growing to a height of 30

metres. There are two distinct genetic populations in modern mangoes – the "Indian type" and the "Southeast Asian type".

Animals In Amba – barwa:-

1) Deer :-

Scientific name: Cervidae

Speed: Reindeer: 60 – 80 km/h

Gestation period: Reindeer: 222 days

Height: Reindeer: 85 – 150 cm

Higher classification: Pecora

Family: Cervidae; Goldfuss, 1820

Deer or true deer are hoofed ruminant mammals forming the family Cervidae. The two main groups of deer are the Cervinae, including the muntjac, the elk, the red deer, and the fallow deer; and the Capreolinae, including the reindeer, white-tailed deer, the roe deer, and the moose.

2) Bear :-

Scientific name: Ursus

Speed: Brown bear: 56 km/h

Height: Brown bear: 70 – 150 cm

Gestation period: Brown bear: 180 – 270 days,

Higher classification: Bears

Family: Ursidae

Ursus is a genus in the family Ursidae that includes the widely distributed brown bear, the polar bear, the American black bear, and the Asian black bear. The name is derived from the Latin ursus, meaning bear.

3) Wolf :-

Eats: Deer, Hares, Moose, Arctic fox, Elk, Bison, Beaver, Rodents, Ungulate

Height: 80 – 85 cm (Adult, At Shoulder)

Scientific name: Canis lupus

Mass: 30 – 80 kg (Male, Adult), 23 – 55 kg (Female, Adult)

Length: 1 – 1.6 m (Adult)

Conservation status: Least Concern

The wolf, also known as the gray wolf or grey wolf, is a large canine native to Eurasia and North America. More than thirty subspecies of Canis lupus have been recognized, and gray wolves, as popularly understood, comprise wild subspecies. The wolf is the largest extant member of the family Canidae.

4) Leopard :-

Speed: 58 km/h (Maximum, Running)

Mass: 31 kg (Male, South Africa's coastal mountains population), 23 – 27 kg (Female, Somalia population)

Trophic level: Carnivorous

Scientific name: Panthera pardus

Length: 90 – 160 cm (Adult, Head and body)

Height: 60 – 70 cm (Male, Adult, At Shoulder), 57 – 64 cm (Female, Adult, At Shoulder)

Lifespan: 12 – 17 years

The leopard is one of the five extant species in the genus Panthera, a member of the cat family, Felidae. It occurs in a wide range in sub-Saharan Africa, in some parts of Western and Central Asia, Southern Russia, and on the Indian subcontinent to Southeast and East Asia

5) Tiger:-

Conservation status: Endangered (Population decreasing)

Length: 2.5 – 3.9 m (Male, Adult), 2 – 2.8 m (Female, Adult)

Scientific name: Panthera tigris

Height: 80 – 110 cm (At Shoulder)

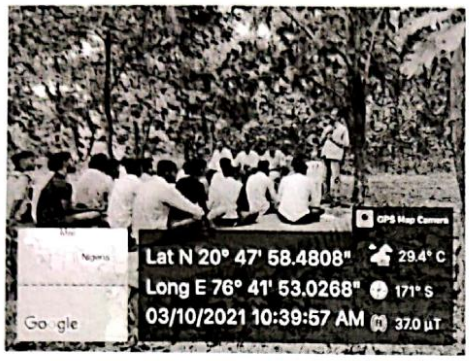
Mass: 90 – 310 kg (Male, Adult), 65 – 170 kg (Female, Adult)

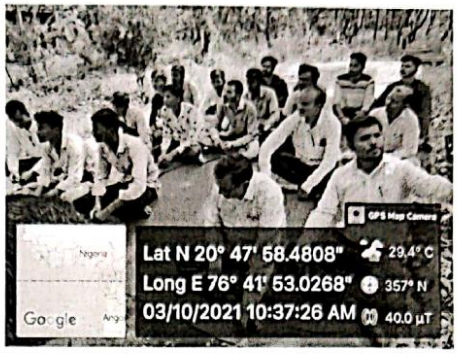
Speed: 49 – 65 km/h (In Short Bursts)

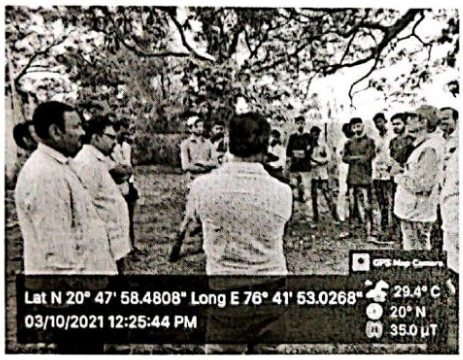
Size of territory: 60 – 100 km^2 (Male, Adult), 20 km^2 (Female, Adult)

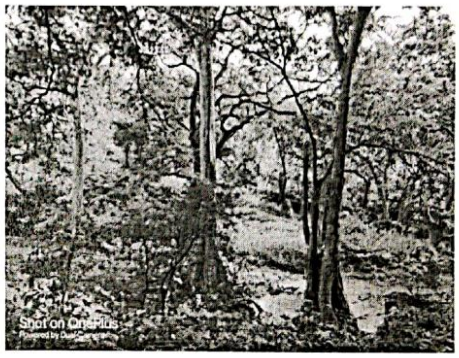
The tiger is the largest living cat species and a member of the genus Panthera. It is most recognisable for its dark vertical stripes on orange fur with a white underside. An apex predator, it primarily preys on ungulates, such as deer and wild boar.

Photo Gallery

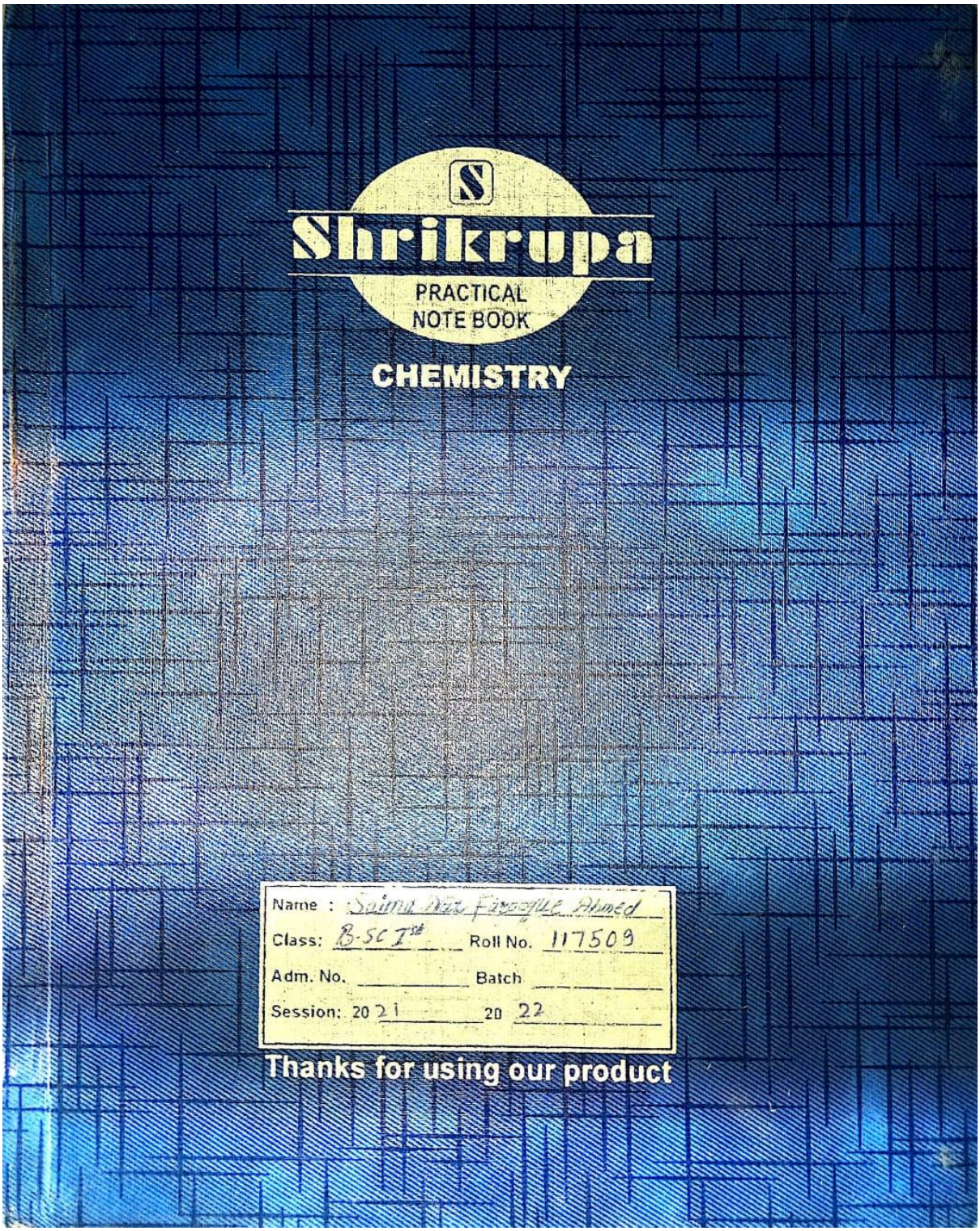








Journal Writing



Certificate

Certified that the Practicals written in this practical notebook is satisfactorily performed by

~~Master~~ / Miss Saima Naz D/o Farooque Ahmed

Class B.Sc. Ist Sec - Roll. No. 117509

During the Academic session 2021 - 2022

22/03/22
Date

Prof. Y.P. Wayal
Assistant Professor
Department of Chemistry
Shri D.M.Burungale Science & Arts College, Shegaon
Teacher Incharge

Seal of School / College

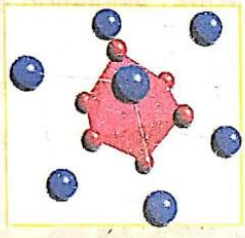
Sig.of H.O.D. / Principal

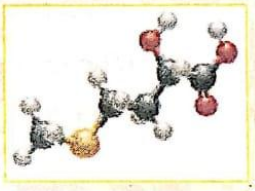
Dr. G. D. Tambatkar
HOD & Assistant Professor
Department of Chemistry
Shri D.M.Burungale Science & Arts College, Shegaon

Shrikrupa

Shrikrupa

CHEMISTRY
PRACTICAL NOTE BOOK





Antoine Laurent Lavoisier (1743-1794)
Founder of Modern Chemistry

NAME Saima Naz D/o Farooque Ahmed

CLASS B.Sc. Ist SEC. -

SUBJECT Chemistry

~~SCHOOL~~ / COLLEGE Shri D.M. Burungale, Sciences and Arts college, Shegaon

INDEX

S.N.	DATE	PAGE	NAME OF THE EXPERIMENT	TEACHERS REMARK &SIGNATURE
		1	Organic	
1		1	Preparation of Benzanilide from aniline	
2		3	Preparation of Benzoic acid from benzaldehyde	
3		6	Preparation of Benzoic acid from benzamide (hydrolysis)	
			Inorganic	
4		9	To detect two acidic radicle and two basic radicle from given mixture(1)	
5		14	To detect two acidic and Two basic radicals (mixture 2)	
6		20	Two detect two acidic and Two basic from given mixture (mixture 3)	

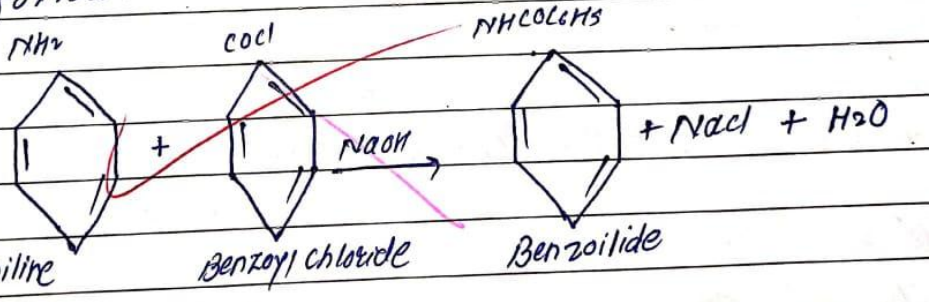
Shrikrupa
Page : 1
Date : / /

Name of Practical

Experiment No. 1

Aim → preparation of benzanilide from aniline.

Theory → The introduction of benzoyl group [C_6H_5CO] replace of active hydrogen of OH, NH_2, or NH group is known as benzaylation reaction. The reaction some what similar to acetylation aspact that here the rearrangment use is benzoic chloride in presence of NaOH and not benzoic anhydride benzoilation in prese of NaOH is known as scotton baumann reaction. The reaction of benzoyl chlorid with aniline can be represented as follow.



Apparatus → 10ml conical flask with stopper measuring cylinder, beaker etc.

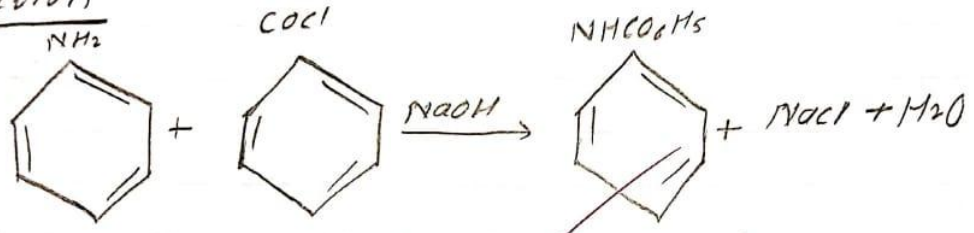
Teacher's Signature _____

Experiment No.1

Aim → Preparation of benzanilide from aniline.

Apparatus → 10ml conical flask with stopper, measuring cylander beaker.

Reaction



Aniline Benzoyl chloride Benzanilide

Calculation

i) Molecular weight of principle reactant (Aniline) = 93 g/m

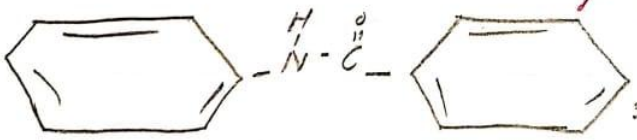
$C_6 + N_1 + H_7$

$6 \times 12 + 1 \times 14 + 1 \times 7$

$72 + 14 + 7$

$= 93$ g/m

ii) Molecular weight of product = 197 g/m



$C_{13} + N_1 + O_1 + H_N$

$13 * 12 + 14 + 16 + 11$

$= 197$ g/m

iii) density of aniline is = 1.02 g/mol

$$\text{density} = \frac{m}{V}$$