

S.S.E.S.A's
Science College
Congress Nagar, Nagpur

Certificate course in Groundwater Exploration
Session 2022-2023

Notice

It is hereby notified to all the students of Certificate course in Groundwater Exploration that their classes will be commenced from 13 May 2022 regularly. Therefore, they are asked to attend the classes on regular basis. All the classes will be running simultaneously with the UC regular classes as mentioned in the timetable.


Course Coordinator



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 &
presently a State University governed by Maharashtra Public Universities Act, 2010 (Mah. Act No. VI of 2017)

DEPARTMENT OF LIFELONG LEARNING AND EXTENSION

Gurunanak Bhavan, University Campus, Amravati Road, Nagpur - 440 033. Phone : 2530860
E-mail : doll_rtmnu@gmail.com

No.DOLLE/ 305/22
Dated : 12.08.2022

To,
The Principal
SSES Amt's Science College, Congress Nagar, Nagpur.

Subject : Sanction for Conducting Short Term Courses under Jeevan Shikshan
Abhiyan on No Grant Basis. (2022-23)

Sir/Madam,

With reference to your proposal for conducting Short Term courses indicated below under Jeevan Shikshan Abhiyan of this Department, this is to inform you that your proposal has been accepted and your College has been granted permission to conduct the course on the following conditions:

Details of the Course

Sr. No.	Name of the Course	Name of Course Coordinator	Duration	Credit	No. of Candidates to be admitted	Fees to be Charged per Student	Fees to be Deposited With the Deptt.
1	Certificate Course in Environment and Water Management.	Prof. Yogita K. Meshram	43 hrs. (15 Weeks)	2	20	1500/-	10%
2	Certificate Course in Ground Water Exploration.	Ms. P. B. Zamarkar	45 hrs. T- 36 hrs. P- 09 hrs.	2	40	1500/-	10%
3	Certificate Course in Mushroom Cultivation.	Dr. R. H. Mahakhode	40 hrs. T- 20 hrs. P- 20 hrs.	2	40	1500/-	10%
4	Certificate Course in Immunology and Immunodiagnosics.	Dr. Deepthi Hynal	44 hrs. T- 36 hrs. P- 08 hrs.	2	20	1500/-	10%
5	Certificate Course in Fruit Processing and Wine Technology.	Dr. Pranita B. Gulhane	45 hrs. T- 37 hrs. P- 08 hrs.	2	20	1500/-	10%

Rules & Regulations of this Department regarding these courses should be strictly followed.

- Owing to Covid-19 situations all the norms of Central & State Government and instructions by R.T.M. Nagpur University, Nagpur should be strictly followed.
 - This sanction is valid for this particular Batch only.
 - Fees for the course should be charged as per the norms prescribed.
 - Expenditure on the course should be incurred as per norms.
 - Course should be started within a Month from the date of sanction.
 - Please communicate your acceptance within a month and submit the Initial Report
 - Submit the List of Students admitted in the excel format attached herewith.
- Also send a soft copy in CD/Pen drive.

Your's faithfully,

Director

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RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2019 (Mah. Act No. VI of 2017)

DEPARTMENT OF LIFELONG LEARNING AND EXTENSION

Gurunanak Bhavan, University Campus, Amravati Road, Nagpur - 440 033. Phone : 2530860
E-mail : doll_rtmnu@gmail.com

To,
The Principal
S.S.E.S.Amravati's Science College,
Nagpur.

No.DOLLE/ 98/22
Dated : 13.05.2022

Subject : Sanction for Conducting Short Term Courses under Jeevan Shikshan Abhiyan on No Grant Basis.

Sir/Madam.

With reference to your proposal for conducting Short Term courses indicated below under Jeevan Shikshan Abhiyan of this Department, this is to inform you that your proposal has been accepted and your College has been granted permission to conduct the course on the following conditions:

Details of the Course

Sr. No.	Name of the Course	Name of Course Coordinator	Duration	Credit	No. of Candidates to be admitted	Fees to be Charged per Student	Fees to be Deposited With the Deptt.
1	Certificate Course in Ground Water Exploration	Ms. P.B. Zamarkar	45 hrs. T-36 hrs P-09 hrs	2	40 (Max 40)	1500/-	10%

Rules & Regulations of this Department regarding these courses should be strictly followed.

- Owing to Covid-19 situations all the norms of Central & State Government and instructions by R.T.M. Nagpur University, Nagpur should be strictly followed.
- This sanction is valid for this particular Batch only.**
- Fees for the course should be charged as per the norms prescribed.
- Expenditure on the course should be incurred as per norms.
- Course should be started within a Month from the date of sanction.
- Please communicate your acceptance within a month and submit the Initial Report
Submit the List of Students admitted in the excel format attached herewith.
Also send a soft copy in CD/Pen drive.

Your's faithfully,

(Signature)
-Director

Application for Admission to Skill based course

1) Certificate course : 2) Diploma course: 3) Advance dip

To,
The Principal,
Science College
Congress Nagar, Nagpur-12



R/Sir,

I hereby apply for admission to the above course. I shall abide by the rules and regulations of the concerned department and college.

Anushka
Signature of the applicant

PARTICULARS TO BE FILLED IN BY THE CANDIDATE:

- 1) Full Name (Block Letters) ANUSHKA AMAR PALANDURKAR
2) Details of last exam. passed/failed/group/ percent marks obt. 12th state board
percent → 98.16%
3) Name of Skill base programme to apply : _____
4) Details of other courses Applied/admitted _____
5) Date of birth : 09/05/2003 Contact No. 7666571986
E-mail. anushkapalandurkar.06@gmail.com
6) Information of Father / Guardian:
a) Full Name : Amar Palandurkar b) Occupation: Businessman
c) Annual Income: 80,000 d) Contact No. 9923131866
e) E. mail. _____

Postal address of student for correspondence:

501, Anand nagar, near
Sakkardara police station,
Nagpur.

Anushka
Signature of the applicant

Declaration of Father or Guardian

I declare that the applicant is my son / daughter / ward and the particulars given above by him / her are correct and shall see that he / she observes all the rules of the college.

Amar
Signature of the father / Guardian
Full Name. Amar Palandurkar
Address Sakkardara sq.
Ngp.

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

IN COLLABORATION WITH

SHRI SHIVAJI SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR- 12

SYLLABUS FOR CERTIFICATE COURSE IN Groundwater exploration

(With effect from academic year 2019- 2020)

The skill based Certificate course syllabus for B.Sc. I, II, II appearing student is 15 weeks Certificate Course in Groundwater Exploration. The examination of Course shall comprise of theory paper of 3 hours caring 50 marks and a practical of 3 hours duration caring 40 marks. Project based carries 10 marks. Candidates are expected to pass separately in theory, Project and practical examinations.

The student requires 40% marks in theory for passing including the project marks. Separate passing in practical examination is required.

Structure of syllabus for diploma course along with distribution of marks is also displayed in the following table.

Course	Theory Paper's and practical's	Marks			Total marks
		Theory	Internal Assessment (Project)	Practical	
Certificate course in Groundwater Exploration	Theory paper – Groundwater Exploration (Hydrogeology) Practical based on Toposheet reading	50	10	40	100
		Grant Total			100

Internal Assessment:

Based on Students attendance and the performance in field work and Project report.

Syllabus
Certificate Course in
Groundwater Exploration (Hydrogeology)

Unit I

Defination of Precipitation, Precolation, runoff, evaporation and transpiration, hydrogeology cycle. Occurence and distribution of groundwater. Zone of acration and saturation, water table, cone of depression and recharge.

Unit II

Influent and effluent seepage and springs. Elementasry idea about groundwater flow.
Hydrogeologic characteristics of different types of rock

Unit III

Aquifer and their classification. Groundwater management: Artificial and natural groundwater recharge. Groundwater province of India. Groundwater conditions in different parts of Maharashtra.

Unit IV

Concept of watershed management. Preparation of hydrogeological maps, statistical analysis of hydrogeological data and use of computer based technique for data analysis and interpretation.
Concept of Aqua meter/ Resistivity meter.

Practicals

1. Seminar (Compulsory)
2. Hands on training on Aqua meter/ Resistivity meter
3. Problems on aquifer properties of groundwater.
4. Hydrogeological Survey and Well inventory
5. Water table contour map

Teaching Plan
Certificate Course (15 weeks)
Groundwater Exploration (Hydrogeology)

Weeks	Theory/ Practical	Hours	Content
Week I	Theory I	I	Definition of Precipitation, Percolation.
	Theory II	II	Brief idea about Precipitation, Percolation (Continued)
	Theory III	III	Definition of runoff, evaporation and transpiration
Week II	Theory I	IV	Brief idea about Runoff
	Theory II	V	Brief idea about evaporation
	Theory III	VI	Brief idea about transpiration.
Week III	Theory I	VII	Introduction to hydrological cycle
	Theory II	VIII	Hydrogeology cycle.
	Theory III	IX	Hydrogeology cycle.(Continued)
Week IV	Theory I	X	Zone of aeration and saturation,
	Theory II	XI	Zone of aeration and saturation,
	Theory III	XII	Zone of aeration and saturation,
Week V	Theory I	XIII	Zone of aeration and saturation,(Continued)
	Theory II	XIV	Water table
	Theory III	XV	Cone of depression
Week VI	Theory I	XVI	Recharge of groundwater
	Theory II	XVII	Elementary idea about groundwater flow.
	Theory III	XVIII	Elementary idea about groundwater flow.(Continued)
Week VII	Theory I	XIX	Hydro geologic characteristics of different types of rock
	Theory II	XX	Hydro geologic characteristics of different types of rock.(Continued)
	Theory III	XXI	Aquifer and their classification.
Week VIII	Theory I	XXII	Aquifer and their classification.(Continued)
	Theory II	XXIII	Groundwater management: Artificial recharge.
	Theory III	XXIV	Groundwater management: Artificial recharge.(Continued)
Week IX	Theory I	XXV	Groundwater management: natural groundwater recharge.
	Theory II	XXVI	Groundwater management: natural groundwater recharge.(Continued)
	Theory III	XXVII	Groundwater province of India.

Week X	Theory I	XXVIII	Groundwater province of India.(Continued)
	Theory II	XXIX	Groundwater conditions in different parts of Maharashtra.
	Theory III	XXX	Groundwater conditions in different parts of Maharashtra.(Continued)
Week XI	Theory I	XXXI	Concept of watershed management.
	Theory II	XXXII	Concept of watershed management.(continued)
	Theory III	XXXIII	Preparation of hydrogeological maps
Week XII	Theory I	XXXIV	Preparation of hydrogeological maps (continued)
	Theory II	XXXV	statistical analysis of hydrogeological data
	Theory III	XXXVI	Detail information about Aqua meter/ Resistivity meter
Week XIII	Practical I	XXXVII	Problems on aquifer properties of groundwater
	Practical I	XXXVIII	Problems on aquifer properties of groundwater
	Practical III.	XXXIX	Well inventory
Week XIV	Practical I	XXXX	Well inventory
	Practical II	XXXXI	Water table contour map
	Practical III	XXXXII	Water table contour map
Week XV	Practical I	XXXXIII	Aqua meter
	Practical II	XXXXIV	Resistivity meter
	Practical III	XXXXV	Resistivity meter

S.S.E.S. Amravati's
Science college Congress Nagar Nagpur
Department of Geology

Skill based courses
Session 2022-2023

Certificate Course (Hydrogeology Exploration)

SR.No.	Name of Student	M/F
01	Anushka Palanodurkar	F
02	Preshit Wahale	M
03	Shravani Kusare	F
04	Purva Adhau	F
05	Yashika Rangari	F
06	Pooja Hajare	F
07	Jatin Khare	M
08	Sakshi Narnaware	F
09	Atharwa Wankhade	M
10	Dhanshree Chodhari	F
11	Sanjana Jangade	F
12	Aditya Wadibhasme	M
13	Harsh Bhoutkar	M
14	Aahan Manwatkar	F
15	Radhika Gaikwad	F
16	Dhanashree Dharmik	F
17	Mohammed Sahil Anwar Motiwala	M
18	Arya Kunsarpawar	F
19	Nishchal Ingle	F
20	Kshitij Gupta	F

News

Shri Shivaji Education Society Amravati's, Science College, Congress Nagar, Nagpur
 Subject:- **Certificate Course in Groundwater Exploration (Hydrogeology)**
 Department of Geology

2022 - 2023

Teacher Name: *P. B. Zamarkar*

Theory / Practical

Sr. No.	Students Full Name																																							
1	Anushka Palanodurkar	P	12/1/23	P	19/1/23	P	2/3/23	P	9/3/23	P	23/3/23	P	30/3/23	P	1/4/23	P	13/4/23	P	20/4/23	P	27/4/23	P	1/5/23	P	2/5/23	P	8/5/23	P	9/5/23	P	14/5/23									
2	Prashit Wahale					P																																		
3	Shravani Kusare																								P															
4	Purva Adhau	P		P	P																				P															
5	Yashika Rangari			P																							P													
6	Pooja Hajare			P																							P													
7	Jatin Khare					P																					P													
8	Sakshi Naraware	P			P														A								P													
9	Atharwa Wankhade	P			P																						P													
10	Dhanshree Chodhari	P		P	P																					P														
11	Sanjana Jangade	P		P	P																					P														
12	Aditya Wadibhasme	P		P	P																					P														
13	Harsh Bhoutkar			P																																				
14	Aahan Manwatkar			P	P																					P														
15	Radhika Gaikwad			P	P																					P														
16	Dhanashree Dharmik			P	P																					P														
17	Mihammed Sahil Anwar Mottiwala																										P													
18	Arya Kunsarpawar																																							
19	Nishchal Ingale					P																					P													
20	Kshiti Gupta	P		P	P																					P														

Signature

Assistant Professor
 Department of Geology
 S. S. E. S. Amravati's
 Science College, Nagpur.

Shri Shivaji Education Society Amravati's, Science College, Congress Nagar, Nagpur
 Subject:- Certificate Course in Groundwater Exploration (Hydrogeology)

Department of Geology

2022 - 2023

Teacher Name: A. D. Fukhari

Theory / Practical

Sr. No.	Students Full Name	25/03/2023	08/04/2023	15/04/2023	28/04/2023	29/05/2023	04/05/2023	06/05/2023
1	Anushka Palanodurkar	P	P	P	P	P	P	P
2	Preshit Wahale	P	P	P	P	P	P	P
3	Shravani Kusare	P	P	P	P	P	P	P
4	Purva Adhau	P	P	P	P	P	P	P
5	Yashika Rangari	P	P	P	P	P	P	P
6	Pooja Hajare	P	P	P	P	P	P	P
7	Jatin Khare	P	P	P	P	P	P	P
8	Sakshi Narraware	P	P	P	P	P	P	P
9	Atharwa Wankhade	P	P	P	P	P	P	P
10	Dhanshree Chodhari	P	P	P	P	P	P	P
11	Sanjana Jangade	P	P	P	P	P	P	P
12	Aditya Wadibhasme	P	P	P	P	P	P	P
13	Harsh Bhoutkar	P	P	P	P	P	P	P
14	Aahan Manwatkar	P	P	P	P	P	P	P
15	Radhika Gaikwad	P	P	P	P	P	P	P
16	Dhanashree Dharmik	P	P	P	P	P	P	P
17	Mihammed Sahil Anwar Motiwala	P	P	P	P	P	P	P
18	Arya Kunsarpwar	P	P	P	P	P	P	P
19	Nishchal Ingale	P	P	P	P	P	P	P
20	Kshiti Gupta	P	P	P	P	P	P	P

A. D. Fukhari

A. D. Fukhari

Assistant Professor
 Department of Geology
 S. S. E. S. Amravati's
 Science College, Nagpur.

Shri Shivaji Education Society Amravati's, Science College, Congress Nagar, Nagpur
Subject:- Certificate Course in Groundwater Exploration (Hydrogeology)

Teacher Name: A.D. Fuladi

Department of Geology

2022 - 2023

✓
Theory / Practical

Sr. No.	Students Full Name	06/01/2023	13/01/2023	20/01/2023	27/01/2023	03/02/2023	10/02/2023	17/02/2023	24/02/2023	03/03/2023	10/03/2023	17/03/2023	24/03/2023	31/03/2023	06/04/2023	14/04/2023	21/04/2023	03/05/2023	04/05/2023	07/05/2023	10/05/2023	11/05/2023
1	Anushka Palanodurkar	.	.	P	.	.	.	P	.	.	.	.	.	.	.	.	.	P	.	.	.	P
2	Preshit Wahale	P	.	.	.	.	.	.	P	.	.	.	.	.	.	.	.	.	.	.	.	.
3	Shravani Kusare	.	.	.	.	.	.	.	.	.	.	.	.	.	P	.	.	.	P	.	.	.
4	Purva Adhau	P	P	.	P	P	.	P	.	P	.	P	.	P	P	.	P	.	P	P	P	P
5	Yashika Rangari	.	.	.	.	.	.	P	.	.	.	.	.	.	.	.	.	P	.	.	P	.
6	Pooja Hajare	P	P	.	P	.	P	.	P	.	P	.	P	.	P	.	P	.	P	.	P	P
7	Jatin Khare	.	.	.	P	.	.	.	.	.	.	.	P	.	.	.	.	.	.	P	.	P
8	Sakshi Narnaware	.	.	P	.	.	.	P	.	.	.	.	.	.	.	.	.	P	.	.	.	.
9	Atharwa Wankhade	P	P	P	.	P	.	P	.	P	.	P	P	P	P	P	P	P	P	P	P	P
10	Dhanshree Chodhari	P	.	P	.	P	.	P	.	P	P	.	P	P	.	P	P	P	P	P	.	P
11	Sanjana Jangade	P	.	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	.
12	Aditya Wadibhasme	P	P	P	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Harsh Bhoutkar	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
14	Aahan Manwatkar	.	P	P	P	P	.	.	.	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Radhika Gaikwad	P	.	P	.	.	P	P	P	P	P	P	P	P	P	.	P	.	P	P	P	P
16	Dhanashree Dharmik	P	P	P	.	P	.	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P
17	Mihammed Sahil Anwar Motiwala	.	.	.	P	.	.	.	P	.	P	.	P	.	P	.	.	.	.	P	.	.
18	Arya Kunsarpawar	.	.	.	.	P	.	.	.	.	.	.	.	.	.	.	.	.	P	.	.	P
19	Nishchal Ingle	P	P	.	.	.	P	P	P	.	.	P	.	P	.	P	.	P	.	P	.	.
20	Kshitij Gupta	P	P	P	P	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Fuladi
A.D. Fuladi

Assistant Professor
Department of Geology
S. S. E. S. Amravati's
Science College, Nagpur.

RTMNU Practical Examination, Winter: 2022
Skill Base Course (2022-23)

Groundwater Exploration certificate course

Department of Geology

Center: S.S.E.S.A's Science College, Congress Nagar, Nagpur- 440012

Time: 3 hours

Date: 20/05/2023

Marks: 30 M

NAME:-----

Note :—(1) There are 18 objective type questions and each question carry one marks.
(2) All questions are compulsory

1. ----- refers to the fluid-holding capacity of a rock.

- a) Porosity
- b) Voids ratio
- c) Permeability
- d) Specific yield.

2.----- is the rate at which water passes through a unit width of the aquifer under a unit hydraulic gradient.

- a) Permeability
- b) Storativity
- c) Transmissivity
- d) Not known.

3. Which aquifer is called water table aquifer?

- a) Unconfined aquifer
- b) Confined aquifer
- c) Ground aquifer
- d) Connate aquifer.

4. What is the pressure of upper surface of unconfined aquifer?

- a) Very high pressure
- b) Lower than atmospheric pressure
- c) Equal to atmospheric pressure
- d) Greater than atmospheric pressure.

5. What is the isolated water table held by a small extension of impervious rock called?

- a) Underlying water
- b) Phreatic water
- c) Perched water
- d) Underwater.

6. What is the volume of voids in a rock mass expressed in percentage of total volume of rock called?

- a) Porosity
- b) Voids ratio
- c) Permeability
- d) Specific yield.

7. Which types of rocks are highly porous?

- a) Igneous
- b) Sedimentary
- c) Metamorphic
- d) Igneous and Metamorphic.

8. What is the quantity of water that a unit volume of aquifer drains by gravity called?

- a) Porous volume
- b) Water yield
- c) Specific yield
- d) Unit yield.

9.----- is the term used to express the amount of water retained by a unit volume of aquifer after allowing gravity drainage through it.

- a) Unit yield
- b) Specific retention
- c) Unit retention
- d) Specific allowance.

10. Which among the following is not an example of the good aquifer?

- a) Granite
- b) Gravels
- c) Limestones
- d) Sandstones.

11. What is an artesian well?

- a) A free-flowing well.
- b) A geyser.
- c) A spring..

✓ d) Any well where water rises above the aquifer itself.

12. ----- is defined as a geohydrological unit draining to a common point by a system of drains.

a) Basin

✓ b) Watershed

c) Drainage

d) None of the above.

13. ----- is the rate of flow under a unit hydraulic gradient through a unit cross-sectional area of aquifer

✓ a) Hydraulic conductivity

b) Storativity

c) Transmissivity

d) None of the above.

14. The ----- sedimentary rocks of the Barakar and Godavari river basins contain good aquifers of ground water.

a) Deccan trap

b) Alluvium

✓ c) Gondwana

d) None of above.

15. ----- groundwater province which occupy about 82% of the total area of the State, is a major groundwater province for consideration and evaluation of groundwater potential in the State.

✓ a) Deccan Trap volcanic groundwater province

b) Proterozoic sedimentary groundwater province

c) precambrian metamorphic groundwater province

d) Gondwana sedimentary groundwater province.

16. The Objectives of Watershed Management :

a) Production of food, fodder, fuel.

b) Pollution control

c) Over exploitation of resources should be minimized

✓ d) All of the above.

17. ----- is the entry of water into the groundwater system, as in infiltration and disappearing streams.

✓ a) Recharge

b) Discharge

- c) Both (a) and (b)
- d) Not known.

18. What is formed when water is removed from a well?

- a) Cone of depression.
- b) Cone of discharge.
- c) Zone of aeration.
- d) Zone of saturation.

Seminar

Viva-voice

(06 marks)

(06 marks)



Internal Examiner

Ms. P. B. Zamarkar

Certificate Course Practical Examination

Summer 2023

Subject: Groundwater Exploration (Geology)

Centre: Shri Shivaji Science College, Congress Nagar, Nagpur

Time: Three hours

Full marks: 30

Q.1. Give a brief idea about well inventory by performing nearby well.

20 Marks

Q.2. Seminar.

10 Marks



Coordinator
Department of Geology
Shri Shivaji Science College,
Nagpur.






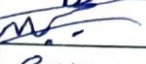
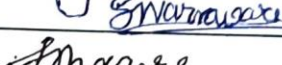
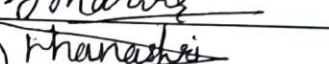


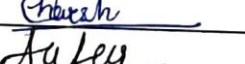
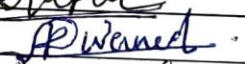

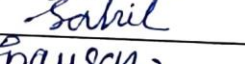
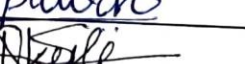
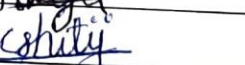




Shri Shivaji Education Society Amravati's, Science College, Congress Nagar, Nagpur
Subject:- Certificate Course In Groundwater Exploration (Hydrogeology)
Department of Geology
Session 2022 – 2023


Sr. No	Students Full Name	Theory Marks (Out of 10)	Theory Internal (Out of 10)	Practical Marks (Out of 30)	Practical Internal (Out of 10)	Total (Out of 80)	Grade
1	Anushka Palanodurkar	38	10	30	10	88	A+
2	Preshit Wahale	26	10	29	10	75	A
3	Shravani Kusare	36	10	25	10	81	A
4	Purva Adhau	34	10	24	10	78	A
5	Yashika Rangari	38	10	26	10	84	A
6	Pooja Hajare	36	10	30	10	86	A+
7	Jatin Khare	16	10	28	10	64	B+
8	Sakshi Narnaware	28	10	28	10	76	A
9	Atharwa Wankhade	38	10	27	10	85	A+
10	Dhanshree Chodhari	38	10	30	10	88	A+
11	Sanjana Jangade	38	10	30	10	88	A+
12	Aditya Wadibhasme	32	10	30	10	82	A
13	Harsh Bhoutkar	38	10	28	10	86	A+
14	Aahan Manwatkar	42	10	28	10	90	A+
15	Radhika Gaikwad	36	10	29	10	85	A+
16	Dhanashree Dharmik	34	10	30	10	84	A
17	Mihammed Sahil Anwar Motiwala	34	10	28	10	82	A
18	Arya Kunsarpawar	34	10	27	10	81	A
19	Nishchal Ingle	42	10	27	10	89	A+
20	Kshitij Gupta	32	10	30	10	82	A



Course Co-Ordinator
Department of Geology
Shri Shivaji Science College,
Nagpur.

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 Course Co-Ordinator
 Department of Geology
 Shri Shivaji Science College,
 Nagpur.

Department of Geology

Certificate course in Hydrogeology Exploration

Session 2022-2023

A certificate course in hydrogeology exploration typically provides a focused education on the principles and techniques used to investigate and manage groundwater resources. This type of course may cover topics such as:

Introduction to Hydrogeology, Understanding the basics of groundwater, its occurrence, and its importance, Groundwater Exploration Techniques, Hydrogeological Mapping, Groundwater Quality, Hydrogeological Modeling, Environmental and Regulatory Considerations

During the session field visit to nearby area is carried out in which two wells were taken under the study for well inventory. The study tour was done under the guidance of Dr. P. B. Zamarkar and Ms. A. D. Fuladi.

In the session 2022-2023 twenty students were enrolled, all the students qualified with good grades. The passing grade was based on different bases like theory marks, practical marks and field excursion.



P. B. Zamarkar
Course Coordinator



Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016(Mah. Act No. VI of 2017)]

University Skill Development Centre (under Board of Lifelong Learning and Extension)

Certificate

No.

Shri/Smt./Ku. *Anushka Palanodurkar* is

awarded with Certificate on successful completion of the course titled
Groundwater Exploration (Hydrogeology) in
session *2022 - 23* under **Jeevan Shikshan Abhiyan** conducted for
45 hours from *12/01/2023* to *14/05/2023* by the **Board of Lifelong
Learning & Extension** in collaboration with Department of Botany,
S.S.E.S. Amt's Science College Congress Nagar, Nagpur, 440012.

He/She has passed the Examination with *A* Grade

Total Credits Earned : 01

M. N. Gore

Principal
SSES Amt's Science College
Congress Nagar, Nagpur-12

A. M. Kar

Course Co-ordinator
SSES Amt's Science College
Congress Nagar, Nagpur-12

P. M. Patil

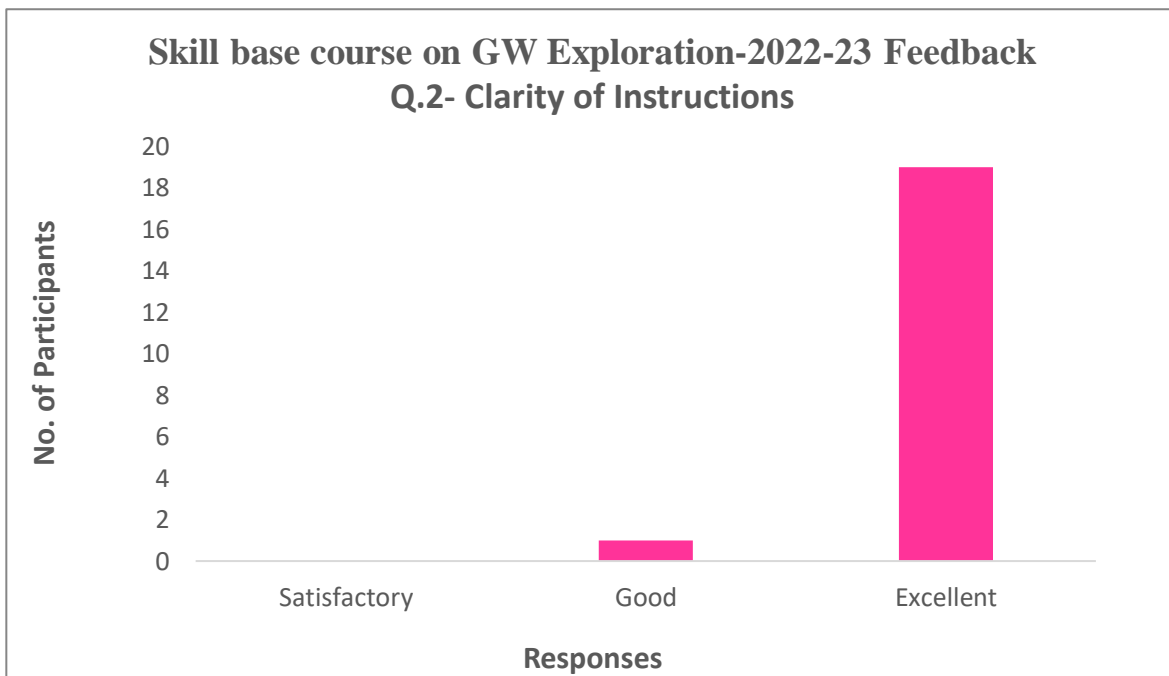
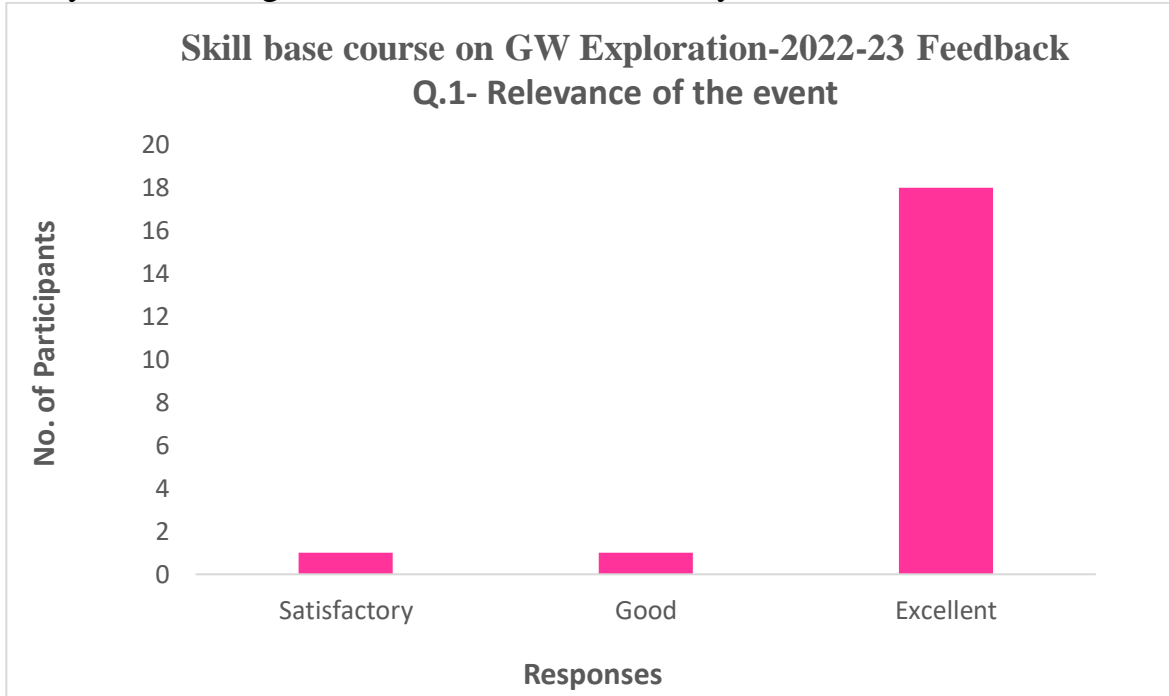
Director
Board of Lifelong Learning
and Extension, RTMNU, Nagpur

Action Taken Report

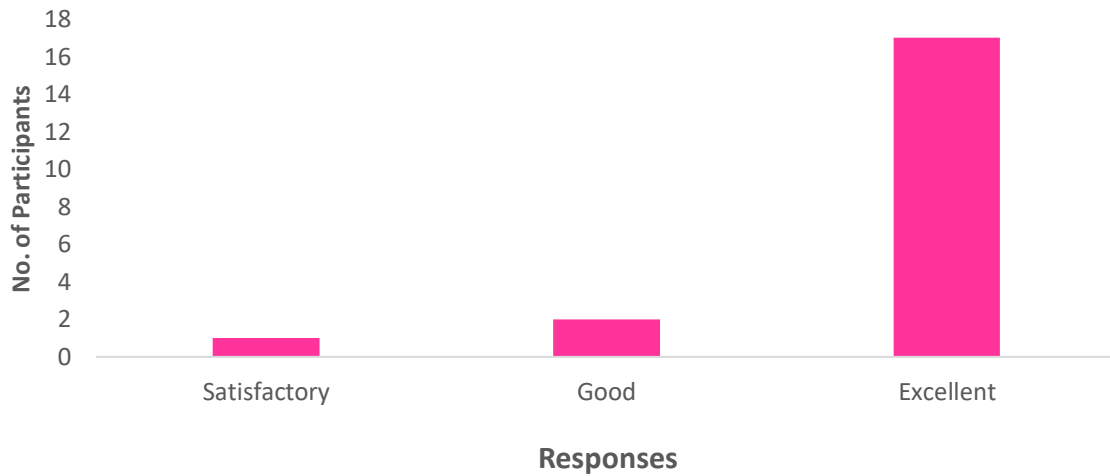
The department and college authority has assured that matter will be placed in Governing Body Meeting for necessary discussion. 2. In response to their claim for more skill based introduced Skill based course on geology from academic year 2023-24. Due care will be taken for more skill-based courses in future. Will be planning to bring a diploma in groundwater exploration.

Feedback Analysis:

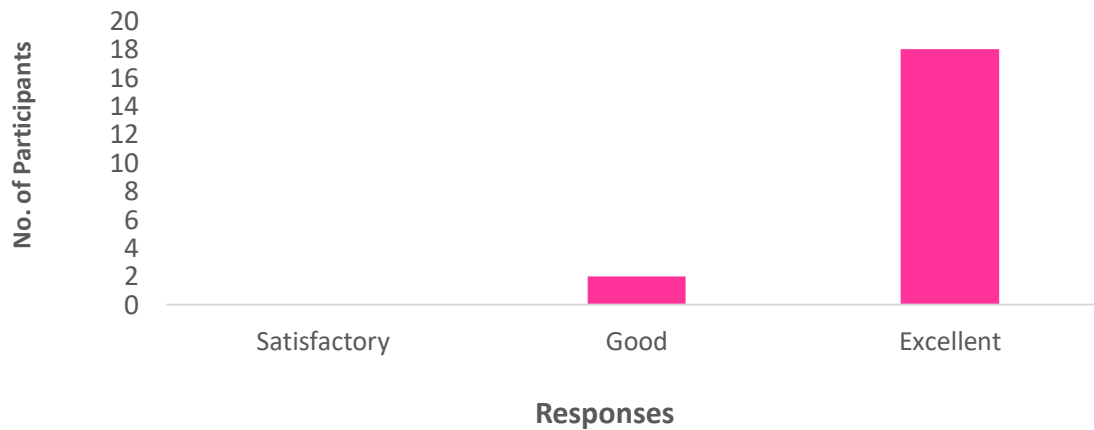
After successful completion of the course feedback from all the present students was collected. Analysis of feedback were done and after feedback analysis following observation noted remarkably.



Skill base course on GW Exploration-2022-23 Feedback Q.3- Engagement of Instructor



Skill base course on GW Exploration-2022-23 Feedback Q4- Interaction and Participation



Skill base course on GW Exploration-2022-23 Feedback Q.5-Benefits of Program

