S.S.E.S.A's

Science College

Congress Nagar, Nagpur

Certificate course in Groundwater Exploration

Session 2019-2020

Notice

It is hereby notified to all the students of Certificate course in Groundwater Exploration that their classes will be commenced from 31 March 2019 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 1" of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No. VI or 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

Shivaji Science College,

Dated: 16.10. 2019

Nagpur,

9423 103043 Subject: Sa

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, I am to inform you that your proposal has been accepted by the Department 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	Duration	No. of Candidates to be admitted	Fees to be Charged per Student	Fees to be Deposited With the
<u> </u>	Diploma Course in Groundwater Exploration	8 Weeks	20	1200/-	Deptt.
2	Diploma Course in Statistical Quality Control	10 Weeks	16	850/-	10%
3	Diploma Course in Immune-Diagnostics	8 Weeks	20	2200/	10%
4	Diploma Course in Environmental and Water Management	6 Weeks	10	1000/	10%
5	Diploma Course in Mushroom Cultivation	8 Weeks		1000/	10%
6	Diploma Course in Biofertilisers and Biopesticides	14 Weeks	20	1500/	10%
7	Diploma Course in Forestry and Wild Life Management	6 Weeks	20	1500/	10%

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

- This sanction is valid for this particular Batch only. 1.
- Fees for the course should be charged as per the norms prescribed. 2.
- Expenditure on the course should be incurred as per norms. 3.
- Course should be started within a Month from the date of sanction. 4. Please communicate your acceptance within a month and submit Initial Report Along with list of students admitted.

Your's faithfully, prwaterch

Director

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Shri Shivaji Education Society Amravati's

Science College

Congress Nagar, Nagpur Department of Geology

Certificate and Diploma course in Groundwater Exploration (Hydrogeology)

Session 2019-2020

During the session classes and practical's were carried out. In this session field visit to college campus were done. Nearby wells were taken for the well inventory. The well inventory was carried out in the presence of Dr. Shah, Head Department of Geology, Shivaji Science College, Nagpur. The field tour was taken under the guidance of Ms. P. B. Zamarkar and Ms. A D. Fuladi.

An inventory of all the wells in a given area is called a well inventory, and it is usually kept for resource evaluation, environmental monitoring, and water management. Each well in this inventory has comprehensive details about it, including its location, depth, construction characteristics, and usage. Important elements that are frequently noted include:

- 1. Location Data: Precise mapping and accessibility are guaranteed by the use of geographic coordinates and physical addresses.
- 2. Construction Details: Details about the well's diameter, depth, casing, and materials utilized are essential to comprehending the well's endurance and capacity.
- 3. Water Quality: Information on the physical, chemical, and pollution levels of the water is essential for determining its suitability for human use and safety.
- 4. Use Information: Documentation of the well's use, including industrial, agricultural, or

Action Taken:

In this session 23 students were enrolled for the certificate course in Groundwater Exploration, All the students were qualified with good grades.

Eleven students were present in the certificate course in the session 2016-2017. For the diploma course same students were carried out and in the session 2017 - 2018, 8 Eleven students successfully qualified Diploma course.



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Application for Admission to Skill based course.	
O, 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.	
Signature of the applicant	
PARTICULARS TO BE FILLED IN BY THE CANDIDATE: 1) Full Name (Block Letters) ROCHITA RAMESH BANSOD 2) Details of last exam. passed/failed/group/ percent marks obt. PASSED 65%	\$ >
3) Name of Skill base programme to apply: <u>UROUND WATER EXPLORATION</u> C 4) Details of other courses Applied/admitted 5) Date of birth: <u>Og /O± /2002</u> Contact No. <u>Q\$11275935</u> E-mail. <u>Yucholabansod ogo12002 @ gmail</u> . com 6) Information of Father / Guardian: a) Full Name: <u>RAMESH SHIVDAS BANSOD</u> b) Occupation: <u>TEACHER</u> c) Annual Income: <u>U\$1000</u> d) Contact No. <u>9765928721</u> e) E. mail <u>Yamesh bansod 2011 @ gmail</u> . com	
Postal address of student for correspondence: Sant Tukcloff word, pimpalgaon roach, sant tukcloff ward, Hinganghat 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.

Signature of the father / Guardian.
Full Name. Ramesh Banson
Address Psmpal gapn xodo

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR IN COLLABORATION WITH

SHRI SHIVAJI SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR-12

SYLLABUS FOR DIPLOMA COURCE IN GROUNDWATER EXPLORATION

(With effect from academic year 2019-2020)

The skill based Diploma course syllabus for B.Sc. I, II and III appearing student is 06 weeks Diploma Course in Groundwater exploration. The examination of Course shall comprise of theory paper of 3 hours caring 75 marks and a practical of 3 hours duration caring 50 marks. Project based on the carries 25 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 Papers and practical's		Total Marks		
		Theory	Internal Assessme nt (Project)	Practical	
Diploma Course in Groundwater Exploration	Theory paper – GROUNDWATER EXPLORATION (HYDROGEOLOGY) Practical based on Toposheet reading and well Inventory	75	255	50	150
		Grand Total			150

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 Precipation, Precolation, runoff, evaporation and transpiration, hydrogeology cycle. Occurence and distribution of groundwater. Zone of aeration 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 anylisis and interpretation.

Practicals

- 1. Problems on aquifer properties of groundwater.
- 2. Well inventory
- 3. 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	11	Brief idea about Precipitation, Percolation (Continued)				
	Theory III	111	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,				
	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				
Week viii	Theory II	XX	Hydro geologic characteristics of different types o rock.(Continued)				
	Theory III	XXI	Aquifer and their classification.				
Week VIII	Theory I	XXII	Aquifer and their classification.(Continued)				
Week VIII	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.				

Neek X	Theory I	eory I XXVIII Groundwater province of the Europe							
	Theory II	XXIX	Groundwater province of India.(Continued) Groundwater conditions in different parts of						
	Theory III	XXX	Groundwater conditions in different parts of						
Week XI	Theory I	XXXI	Maharashtra.(Continued) Concept of watershed management.						
	Theory II	XXXII	Concept of watershed management.						
	Theory III	XXXIII	Concept of watershed management.(continued) 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.A's Science College, Congress Nagar, Nagpur Certificate Course Time Table

Groundwater Exploration (Hydrogeology)

2019-2020

Days	Class	Certificate Class (9-10)	10:00	10:48- 11:36	11:38 – 12:26	12:44	1:32	2:20	3:08	3:56	4:44 5:3
Monday	B.Sc. II	,			(PBZ)			(ADF)			
,	B.Sc. IV					Prac	t G1 G2- (PNK+PI				
t	B.Sc.VI		(ADF)			Flac	(0102 (,			-
Tuesday	B.Sc. II				(PBZ)			(PBZ)			
	B.Sc. IV						G1 G2- (PNK+A	OF)			
	B.Sc.VI		(ADF)	-1 (227		1740	,	(PBZ)			
Wednesday	B.Sc. II	Certificate Class (ADF)		Pract G1- (PBZ)	Pr	act G1 G3- (ADF)			(ADF)	
	B.Sc. IV	·					(KCS)				
	B.Sc.VI			- 1 (DAII(`			(PBZ)			
	B.Sc. II	Certificate Class		Pract G1- (PNK	,						
Thursday	B.3c	(PBZ)				Pr	act G1 G3- (ADF)			(ADF)	
	B.Sc. IV						(PNK)			(0)	
	B.Sc.VI					(PBZ)			Prac	G2 G3- (PN	NK)
	B.Sc. II	Certificate Class				,					
Friday	D.Se. II	(PBZ)			(ADF)	Р	ract G2-(ADF)				
	B.Sc. IV			Pract G3- (PBZ				(PBZ)		62 / 557	· DNIK \
	B.Sc.VI			11400 30 (1		(PBZ)			Pract G	2 G3- (PBZ ·	+PINK)
a tunday	B.Sc. II				(ADF)	P	ract G2-(ADF)				
Saturday	B.Sc. IV			Pract G3- (PBZ)			(KCS)			
	B.Sc.VI			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							

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NOTICE

Shri. Shivaji Science College Nagpur, Congress Nagar Nagpur, Geology Department

Short listed candidates for skill based certificate course

Groundwater Exploration

<u>2019-20</u>

Sr. no	Student name
1	Aditi Chavre
2	Aditi Joardar
3	Vedant Patwa
4	Bhuvan Pashine
5	Naina Bhalerao
6	Ketki Mohatkar
7	Sejal Motghare
8	Rutuja Shende
9	Simran Ninawe
10	Anchal Khatke
11	Pallavi Nitnaware
12	Ruchita Bansod
13	Gauri Zodape
14	Atul Nikose
15	Rohan Mankar
16	Parul Dhakate
17	K.R. Shete
18	Chankshi Masram
19	Rahul Bhusele
20	Shreya Thakre

Date: 30/08/2019

Place:Nagpur

Mr. S.K. Paunikar
Asst. Professor (CHB)
Department of Geology

Shri Shivaji Education Society Amravati's Science College

Congress Nagar Nagpur

Certificate Course in Groundwater Exploration (Hydrogeology)

Attendance

ory / Practical (2019-20)		Name of the Teacher:	Mr.	Pouniko
r. Name of the				
10. Student 78 42 2 3 7 - 8				
Sherya Thakee P P P P				
k.g. Mohotkas r PPPP				
S.S. Motgharo PPPPP				
A.S. Trandar r P P				
D.M. Pande PPPPPP				
B.K. Manhar PPPPPP				
A.S. Chaware P 1 P P				
B p.p. Shakate P. PP				
N. C. Phallrap P				
10 R.A. Shander P P P P				
11 A.D. Khatke PPPPPPPP				
12 U.D Shote P P P				
13 H.R. Waseher PPPPPPP				
14 P.K. Ninave P PPPP				
15 R.D. Ambone P PPPP				
16 D-V. Nilvage e P P P				
17 Chankshi k. # PPPPP				
18 Mascem				
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Course Coordinator

Shri Shivaji Education Society Amravati's Science College Congress Nagar Nagpur

15 4 Sejal Sejal / Practical (2019 - 20) 5 丞 T P Pohan Adit Andrea Hardkumar R. Shelc Parrul Nous Handik R. Boseksii aimran E. Minak. Ruchita R. Bungod. Bhargar D. Ambare Charakshy K. Magron . Athava A Hinglaspular Bhuron s. Ambade C. Habere Ruseya m. lande J. Washin 5. chaware. F. Mounkan Toosdar. TOSTACKET P. Draker. S. Bhalerao. A. Shende 5. Banga Samont. 3 7 Certificate Course in Groundwater Exploration (Hydrogeology) V V V V J Q Name of the Teacher: A D Fulati

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S.S.E.S.A's

Science College

Congress Nagar, Nagpur

Exam: Certificate course in Groundwater Exploration

Session 2019-2020

Time: 2 hours]			[Ma	ax. Marks-70
2. Describe t	he hydrologic propertie he Maharashtra ground	water provenance.		(5 M) (5 M)
3. Describe	various well logging pri S technique in Ground v	nciples.		(5 M) (5 M)
Explain ty	pes and concepts of groelectrical resistivity met	undwater basin.		(5 M)
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or priotog.	. щр. то.			(30 M)
8. Project				(10 M)

Course Coordinator

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WELL INVENTORY

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Rashtrasant Tukodoji Maharaj Nagpur University, Nagpur Examination Summer 2020

Skill Based Programme

Certificate Course: <u>Groundwater Exploration (Hydrogeology) 2019-20</u>

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

Date: 03/11/2020

Total Marks: 80

Sr. No.	Name of Student	Theory Marks (30)	Practical Marks (30)	Assignment Marks (10)	Internal Assessment (10)	Total Marks (80)	Grade	That
1	Sherya C. Thakre	29	29	10	10	78	A+	0 -1
2	Ketki S. Mohatkar	23	27	10	10	70	A	1/100
3	Sejal S. Motghare	30	30	10	10	80	A+	nelie
	Aditi S. Joardar	27	30	10	10	77	A+	Box
4		27	28	10	10	75	A+	15 X
5	Rupal M. Lande	27	30	10	10	77	A+	1
6	Rohan K.Mankar	28	29	10	10	77	A+	12 ell
7	Aditi S. Chaware		28	10	10	69	В	Nai
8	Parul P. Dhakate	21	27	10	10	68	В	RN
9	Naina S. Bhalerao	21	28	10	10	77	A+	21
10	Rutuja A. Shende	29	30	10	10	77	A+	Breeze
11	Anchal D. Khatke	27	29	10	10	77	A+	Ho
12	Harshkumar R.	28	29	10				
	Shete	20	28	10	10	76	A+	Hu
13	Hardik R. Waseker	28	28	10	10	73	A	Sy
14	Simran K. Ninave	25		10	10	66	Α	
15	Bhargav D. Ambone	19	27	10	10	72	A	Atu
16	Atul V. Nikose	25	27	10	10	67	В	chou
17	Chankshi K.	19	28	10				6
	Masram		20	10	10	75	A+	
18	Ruchita R. Bansod	27	28	10	10	80	A+	A
19	Atharva A.	30	30	10				3h
'	Hinglaspurkar		20	10	10	75	A+	13/
20	Bhuvan S. Ambade	27	28	10	10	75	A+	
21	Ashish S. Bansod	29	26	10	10	63	В	124
22		17	26		10	72	Α	Reut
23		23	29	10	10			

College- Course Coordinator

Dr. A. D. Bobdey

(L)

Course Coordinator

Ms. P.B. Zamarkar



Rashtrasant Tukadoji Maharaj Nagpur University Board of Lifelong Learning and Extension

Certificate

OF APPRECIATION

Awards this certificate to Shri/Smt./Ku. Sandip B. Malghati on satisfactory completion of the skill based course in Ground Water Exploration under Jeevan Shikshan Abhiyan run by Department of Lifelong Learning and Extension, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in collaboration with Shri Shivaji Education Society Amravati's Science College, Nagpur from 31 / 03 / 2019 to 06 / 04 / 2019

He/She passed at the Examination in Grade - 'A'

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Course Co-coordinator S.S.E.S. Amt's Science College Congress Nagar, Nagpur Media

Principal
S.S.E.S. Amt's Science College
Congress Nagar, Nagpur

Director

Deptt. of Lifelong And Extension, R.T.M. Nagpur University

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Shri Shivaji Education Society, Amravati's

SCIENCE COLLEGE

Congress Nagar, Nagpur-12 (M.S.)

India Accredited with CGPA of 3.51 at 'A+' grade by NAAC, Bangalore A "College with Potential for Excellence" identified by UGC New Delhi. Institutional Member of APQN Recognized Centre for Higher Learning and Research Mentor College under 'PARAMARSH Scheme', UGC, New Delhi

SSES Amravati's Science College, Congress Nagar, Nagpur-12 DEPARTMENT OF GEOLOGY

Short Term Course under Jeevan Shikshan Abhiyan on No Grant Basis (2022-23)

Course Title: Certificate Course in Groundwater Exploration (Hydrogeology)

<u>Feedback Form</u>				
Name of Volunteer				
Please rate the following aspects of the program on a scale from 1 to 4, with 1 being "Poor" and 4 being "Excellent"				
Q.1 Relevance of the event				
	1	2	3	4
Q.2 Clarity of Instructions				
	1	2	3	4
Q.3 Engagement of Instructor				
	1	2	3	4
Q.4 Interaction and Participation				
	1	2	3	4
Q.5 Benefits of Program				
	1	2	3	4









