## S.S.E.S.A's **Science** College

Congress Nagar, Nagpur

Certificate course in Groundwater Exploration

Session 2017-2018

## Notice

It is hereby notified to all the students of Certificate course in Groundwater Exploration that their classes will be commenced from 3<sup>rd</sup> April 2018 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

## CERTIFICATE COURSE IN

## GROUNDWATER EXPLORATION (HYDROGEOLOGY)

- Definition of Precipitation, percolation, runoff, evaporation and transpiration •
- Occurrence and distribution of groundwater. zones of aeration and saturation, water table, cone of depression and recharge.
- Influent and effluent seepages and springs.
- Elementary ideas about groundwater flow.
- Hydrologic characteristics of different types of rocks. •
- Aquifers and their classification.
- Groundwater management : Artificial and natural groundwater recharge
- Groundwater provinces of India. Groundwater conditions in different parts
- of Maharashtra.
- Concept of watershed management.
- Preparation of hydrogeological maps, statistical analysis of hydrogeological data and use of computer based technique for data analysis and interpretation.

Practical: 1.Problems on aquifer properties of groundwater.

2. Well inventory 3. Water table counter map.

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

Weeks	Theory/ Practical	Hours	Content		
Weekl	Theory I	1	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.		
Week V	Theory I	XIII	Zone of aeration and saturation,(Continued)		
W CCR V	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)		
Week Fin	Theory II	XXIII	Groundwater management: Artificial recharge. Artificial		
	Theory III	XXIV	recharge.(Continued)		
Veek IX	Theory I	XXV	Groundwater management: natural groundwater recharge.		
-	Theory II	XXVI	Groundwater management: natural groundwate recharge (Continued)		
ŀ	Theory III	XXVII	Groundwater province of India.		

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Week X	Theory I	XXVIII	Groundwater province of India.(Continued)		
WEEKA	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		





### SSESAmt's Science College Nagpur

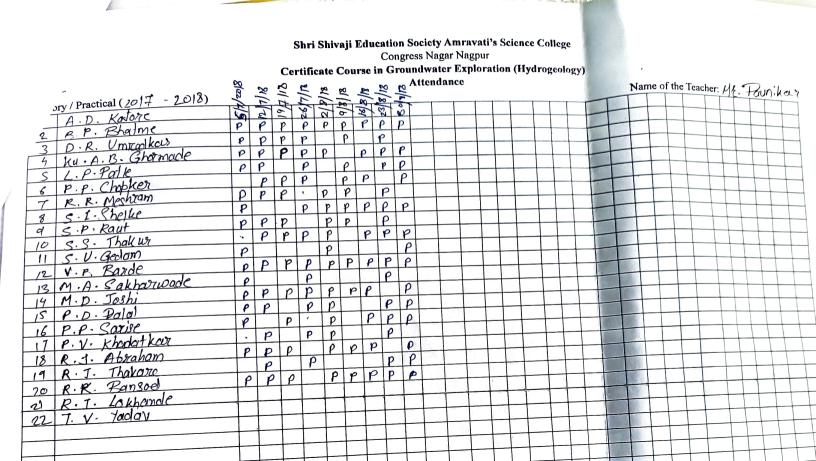
### Skill Base Course (2017-2018)

### **Department of Geology**

## Certificate Course in Groundwater Exploration (Hydrology)

## Time table

	Thursday	Theory	
10 am – 11 am	Friday	Theory Practical	
	Saturday		

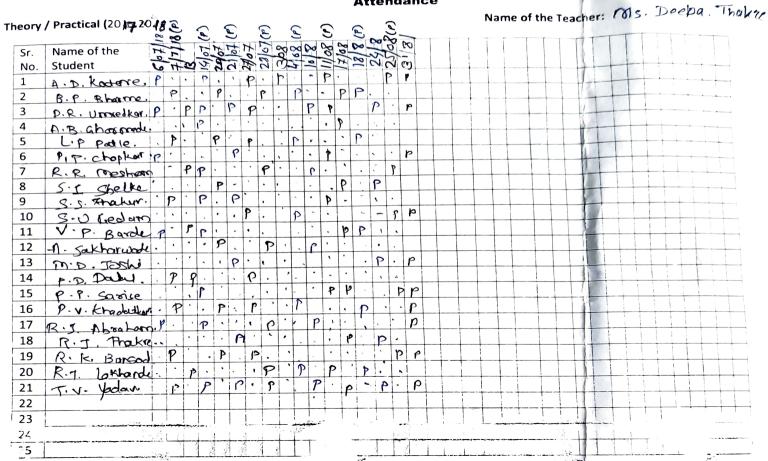


#### Shri Shivaji Education Society Amravati's Science College

Congress Nagar Nagpur

Certificate Course in Groundwater Exploration (Hydrogeology)

#### Attendance



## Shri Shivaji Education Society Amravati's Science College, Congress Nagar, Nagpur-12 CERTIFICATE COURSE (THEORY)

Time: 1Hours

- 1. What is Hydrologic Cycle and describe its components.
- 2. Describe the Aulifer Types and name them.
- 3. Describe the Deccan trap Ground Water Provinance.
- 4. Describe the Morphometric analysis and give its importance.
- 5. Describe the Hydrologic Properties of rocks.

Max. Marks-100

20 Marks. 20 Marks. 20 Marks. 20 Marks. 20 Marks.

## S.S.E.S AMTI'S SCIENCE COLLEGE, CONGRESS NAGAR,

## NAGPUR-440 012

## ADD-ON COURSE IN HYDROGEOLOGY Certificate and Diploma course in Groundwater Exploration

## Results 2017-18

Sr.	Name	Groundwater Exploration
No		Grade
	A.D.Katore	A+ Matures
2 1	B.P.Bhaime	A+ Bohalms
	D.R.Umredkar	A+ Delan
	Ku.A.B.Ghormade	A Aniena,
	Ku.L.P.Patle	A+ Atuta
	Ku.P.P.Chopker	A Pro
	Ku.R.R.Meshram	A (ekmesnaum)
-	Ku.S.I.Shelke	A Jonny
	Ku.S.P.Raut	A+ thaut
	Ku.S.S.Thakur	B Shakiy.
	Ku.S.U. Gedam	A+ GFI.
	Ku.V.P.Barde	A speek
	M.A.Sakharwade	A+ (Salute
14	M.D.Joshi	A+ stailer
	P.D.Dalal	A+ O Datal
16	P.P.Sarise	A forus
17	P.V.Khadatkar	B
18	R.J.Abraham	A+
19	R.J.Thakare	A+ Zahil
20	R.K.Bansod	A+ Bansol
21	R.T.Lokhande	A+ fruchi
22 '	T.V.Yadav	A+ yodg
	Diploma course in Groundwa	A Ponce wo
1	Ku. P.R.Somkuwar	
2 1	Ku.A.R.Kamble	
	Ku.A.S.Patil	A+
	Ku.M.Dongre	A (Mague A+ (Endam)
5 1	Ku.P.C.Gedam	
$\frac{5}{6}$ 1	Ku.S.N.Dandaker	
7 I	Ku.S.S.Jattalwar	
/ 1 8 1	M.C.Chakate	B Whatata.

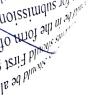
Note: - 1) Above successful students are requested take their certificate on 2/7/2018 and successful students in certificate course can take admission in diploma course for the next session of 2018-19.

Dr. S.P. Khadse

Head of Department, Geology

Date: 30/06/2018

Place: Nagpur



Shri Shivaji Education Society Amravat's

## Science College

Congress Nagar, Nagpur Department of Geology

# Certificate and Diploma course in Groundwater Exploration

(Hydrogeology)

Session 2017-2018

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 field tour was taken under the guidance of Dr. Khadse and Mr. Paunikar.

In this session 22 students were enrolled for the certificate course in Groundwater Exploration, All the students were qualified with good grades.

Eight 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 Eight students successfully qualified Diploma course in Groundwater Exploration.



Photograph taken during the class.

Course Coordinator







## Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[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 of 2017)]

## **University Skill Development Centre**

(under Board of Lifelong Learning and Extension)



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

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

Director

Board of Lifelong Learning and Extension, RTMNU, Nagpur