S.S.E.S.A's

Science College

Congress Nagar, Nagpur

Certificate course in Groundwater Exploration

Session 2018-2019

Notice

It is hereby notified to all the students of Certificate course in Groundwater Exploration that their classes will be commenced from 29 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 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (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/287/19
Dated : 29.03. 2019

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, 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 Deptt.
1	Certificate Course in Statistical Quality Control	6 Weeks	16	650/-	10%
2	Certificate Course in Ground Water Exploration	1 Year	16	1400/-	10%

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

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

Your's faithfully,

Director

Shri Shivaji Education Society Amravati's

Science College

Congress Nagar, Nagpur

Department of Geology

Certificate course in Groundwater Exploration (Hydrogeology)

Session 2018-2019

During the session classes and practical's were carried out. In the session field visit to Ghogra mahadev is carried out. In the field water analysis was carried out. Nearby wells were taken for the well inventory. The field tour was taken under the guidance of Dr. Khadse and Mr. Paunikar.

Ghogra Mahadev, located near Nagpur in Maharashtra, India, is significant in geology due to its unique geological formations and the insights it provides into the region's geological history. Here are some of the key aspects of its importance:

1. Geological Formations: Ghogra Mahadev is known for its diverse rock formations, which include ancient basaltic lava flows. These formations are part of the Deccan Traps, a large igneous province resulting from volcanic activity that occurred around 66 million years ago.

2. Plate Tectonics and Volcanism: The area provides valuable information about the volcanic activity of the Deccan Traps. Studying these formations helps geologists understand the processes of flood basalt eruptions and their impact on the Earth's crust.

3. Stratigraphy: The rock layers at Ghogra Mahadev offer insights into the stratigraphy of the region. These layers help in understanding the chronological sequence of geological events and the historical climate conditions of the area.

4. Fossil Records: Although not as rich in fossils as some other sites, the region's strata can sometimes yield information about the ancient environment and biological history of the area, providing a more comprehensive picture of the geological past.

5. Erosion and Weathering: The landscape around Ghogra Mahadev showcases various erosion and weathering patterns, which are important for studying

geomorphological processes and the long-term evolution of the region's topography.

Action Taken: Ghogra Mahadev contributes significantly to the understanding of the Deccan Traps' volcanic history, the region's geological stratigraphy, and various geomorphological processes. It serves as a natural laboratory for geologists to study and interpret the Earth's geological history. In this session 21 students were enrolled, All the students were qualified with good grades.

Tour to Ghogra Mahadev.

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 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

SSESAmt's Science College Nagpur

Skill Base Course (2018-2019)

Department of Geology

Certificate Course in Groundwater Exploration (Hydrology)

Time table

10 am – 11 am	**Thursday**	**Theory**
	Friday	**Theory**
	Saturday	**Practical**

Shri Shivaji Education Society Amravati's Science College

Congress Nagar Nagpur

Certificate Course in Groundwater Exploration (Hydrogeology)

Attendance

ory / Practical (18 - 19)

Name of the Teacher: Deepali Thakre

		1/3/19	8/3/19	15/3/19	22/3/19	29/3/19	4/4/19	11/4/19	18/4/19	23/4/19
1	Rahil V. Tarale									
2	Parag V. Janbandhu	P		P	·	P	P	P	·	P
3	Vaishnavi M. Raut	P	P	·	P			P	P	P
4	Vaznit S. Shende	P	P	P	P		P	P		P
5	Pratik S. Fulzele	P	P	·	P	P	P		P	P
6	Apeksha P. Ambare		P	P	·		P		·	·
7	Sanchit B. Mohabati	P		P	P			P	P	P
8	Chirag K. Khadgi		P	P	P	P	P	P	P	·
9	Chetana Sanjewar		P	·	P		P	P	·	P
10	Rutuja J. Rathod	P	P	P	·		P		P	·
11	Dhanashri K. Sarak			·	P	P	P	·	·	·
12	Piyush N. Raut		P	P	P	P		P	P	P
13	Tanushree M. Shende	P		P	P		P		P	·
14	Ruvela Sahare		P	P	P	P		P	·	P
15	Saloni S Thorat			P	·	P	P	P	P	·
16	Raksha R. Salve	P	P	P	·		P		P	·
17	Mohit B. Shivani		P	P	P	P		P	P	P
18	Chanakya V. Tarone		P	P	·		P		P	·
19	Namishka V. Baduwaik			P	P		P	P	·	P
20	Ayush Nikhare		P	P	P	P		P	P	·
21	Prachi Satke	P	P	P	·	P	P		P	·

Shri Shivaji Education Society Amravati's Science College

Congress Nagar Nagpur

Certificate Course in Groundwater Exploration (Hydrogeology)

Attendance

Theory / Practical (2018 - 2019)

Name of the Teacher: Mr. S. Jaunjal

	1/3/19	2/3/19 (P)	8/3	9/3 (P)	15/3	16/3 (P)	22/3	23/3 (P)	29/3	30/3 (P)	5/4	6/4 (P)	12/4	13/4 (P)	19/4	20/4 (P)	26/4	27/4 (P)
1. Sahil V. Tarale.	P	.	.	P	.	.	P	.	.	.	.	P	.	P	.	P	.	P
Parag V. Jambhulkar	.	P	.	.	.	.	.	P	.	P	P	.	P	.	P	.	P	.
Ku. Vaishnavi M. Raut.	.	.	P	.	.	P	.	.	P	.	.	.	.	.	P	.	P	P
Varun S. Shende.	.	.	.	P	.	.	P	P	P	.	P	.	P	.	.	.	.	.
Pratik S. Fulzele	.	.	P	.	P	.	.	.	.	P	.	P	.	P	.	.	P	P
Apeksha P. Ambare.	P	.	.	.	.	P	.	.	P	.	.	.	.	.	P	.	P	.
Sandip B. Malghati	.	.	.	P	.	.	P	.	.	.	P	3	P	.	.	P	.	.
Chirag K. Khadgi.	.	.	P	.	.	.	.	P	.	P	.	.	.	P	.	.	.	.
Ku. Chetna Z. Lanjewar	.	.	.	.	.	.	.	.	P	P	.	.	.	.	P	.	P	P
Ku. Ruchya J. Rathod	.	.	.	.	.	P	.	P	.	.	P	P	P	P	.	P	.	.
Ku. Dhanashri K. Sarak	.	.	.	P	.	.	P	.	P	.	P	.	P	.	P	.	.	P
Piyush N. Raut.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tanushree M. Shende	P	.	.	P	.	.	P	.	P	.	P	P	.	P	P	.	P	.
Ruvela P. Sahare	.	.	.	.	.	P	.	.	.	.	.	.	P	.	P	.	P	.
Sakshi S. Thorat	.	.	P	.	.	.	.	.	.	.	.	.	.	P	.	P	.	P
Raksha R. Salve	.	.	.	.	.	P	.	P	.	.	.	P	.	P	P	.	P	.
Rohit B. Shivane	P	P	.	P	.	.	.	P	.	P	.	P	.	.	.	.	.	.
Chanakya V. Tarone	.	.	.	P	.	.	.	.	.	P	.	P	P	P	.	P	P	.
Namisha V. Badwaik	.	.	.	.	.	P	.	.	.	.	.	.	.	.	.	.	.	.
Ayush S. Nikhare	.	.	P	.	.	P	.	P	.	P	.	P	.	P	.	P	.	P
Prachi K. Sattke	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

S.S.E.S.A's

Science College

Congress Nagar, Nagpur

Certificate course in Groundwater Exploration

Session 2018-2019

Time: 1 hour] [Max. Marks-

1. Describe the hydrologic properties of rocks. (15 M)
2. Describe the Maharashtra ground water provenance. (15 M)
3. Describe water shed management. (15 M)
4. Brief about the Aquifers and their classifications. (15 M)
5. Describe with neat diagram zones of aeration. (15 M)

Course Coordinator

S.S.E.S.A's

Science College

Congress Nagar, Nagpur

Certificate course in Groundwater Exploration

Session 2018-2019

Practical Examination

Time: 1 hour] [Max. Marks-25

1. Visit campus well for well inventory, Format will be provided for the record. (50 M)

2. Project (25 M)

Course Coordinator

SSES Science College, Congress Nagar, Nagpur-12

Department of Geology

SKILL BASE COURSE IN "GROUND WATER EXPLORATION (HYDROGEOLOGY)"

MARKSHEET

S.No	Name of the Student	Theory marks(75)	Practical marks(50)	Project (25)	Total (150)	Grade
1	Sahil V. Tarale	53	40	22	115	A
2	Parag V. Janbandhu	43	31	22	96	A
3	Ku. Vaishnavi m. Raut	64	35	23	122	A
4	Varnit S. Shende	36	40	22	98	A
5	Pratik S. Fulzele	29	45	22	96	A
6	Du. Apeksha P. Ambare	56	35	23	114	A
7	Sandip B. Malghati	63	44	22	129	A
8	Chirag K. Khadgi	35	40	22	97	A
9	Ku. Chetna Z. Lanjewar	55	45	23	123	A
10	Ku. Rutuja J. Rathod	57	38	24	119	A
11	Ku. Dhanashri K. Sarak	57	36	23	116	A
12	Piyush N. Raut	59	40	22	121	A
13	Ku. Tanushree M. Shende	47	26	23	96	A
14	Ku. Ruvela P. Sahare	54	46	23	123	A
15	Ku. Saloni S. Thorat	41	31	24	96	A
16	Ku. Raksha R. Salve	62	35	24	121	A
17	Mohit B. Shivane	55	45	22	122	A
18	Chanakya V. Tarone	70	50	23	143	A
19	Ku. Namisha U. Badwaik	64	50	23	137	A
20	Ayush S. Nikhare	66	40	22	128	A
21	Ku. Prachi K. Satke	70	33	24	127	A

Course Co.ordinator

Co. Ordinator
Skill base Courses
S.S.E.S. Science College
Nagpur - 12

स्वातंत्र्याचा अमृत महोत्सव

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. ...Pratik S. Fulzele..... *is awarded with Certificate on successful completion of the course titled* ....Ground Water Exploration..... *in session* 2018 - 19 ..... *under* ***Jeevan Shikshan Abhiyan*** *conducted for* ***45 hours*** *from* 1st March 2019 *to* 6th April 2019 *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 "B" *Grade*

Total Credits Earned : 01

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

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

Director
Board of Lifelong Learning
and Extension, RTMNU, Nagpur

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 (2018-19)

Course Title: Certificate Course in Groundwater Exploration (Hydrogeology)

Feedback Form

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

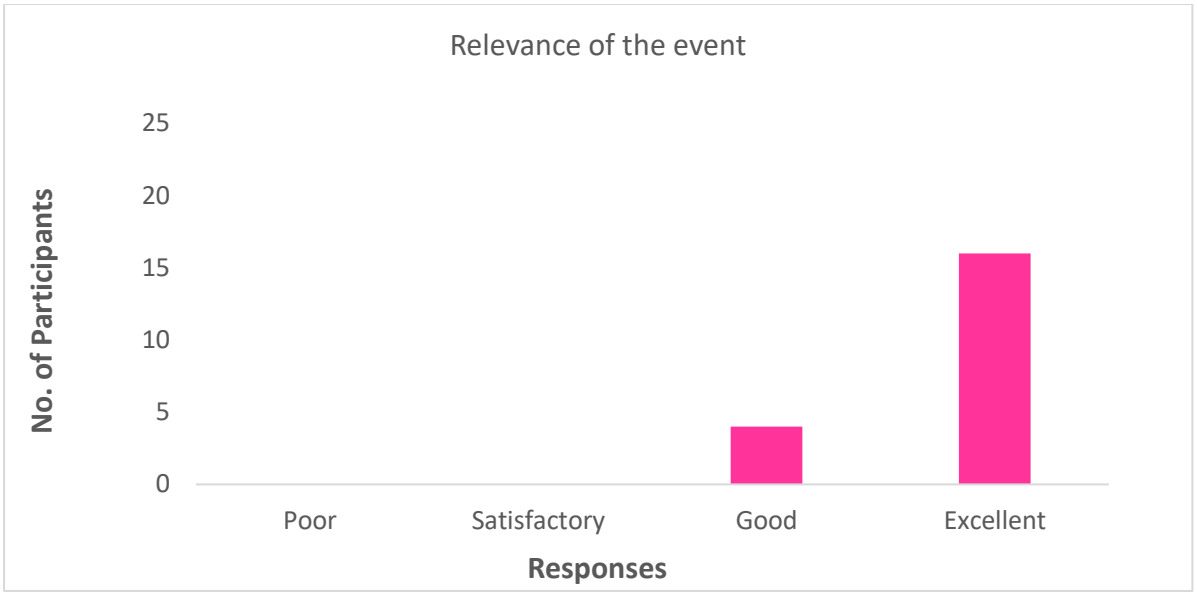
1 2 3 4

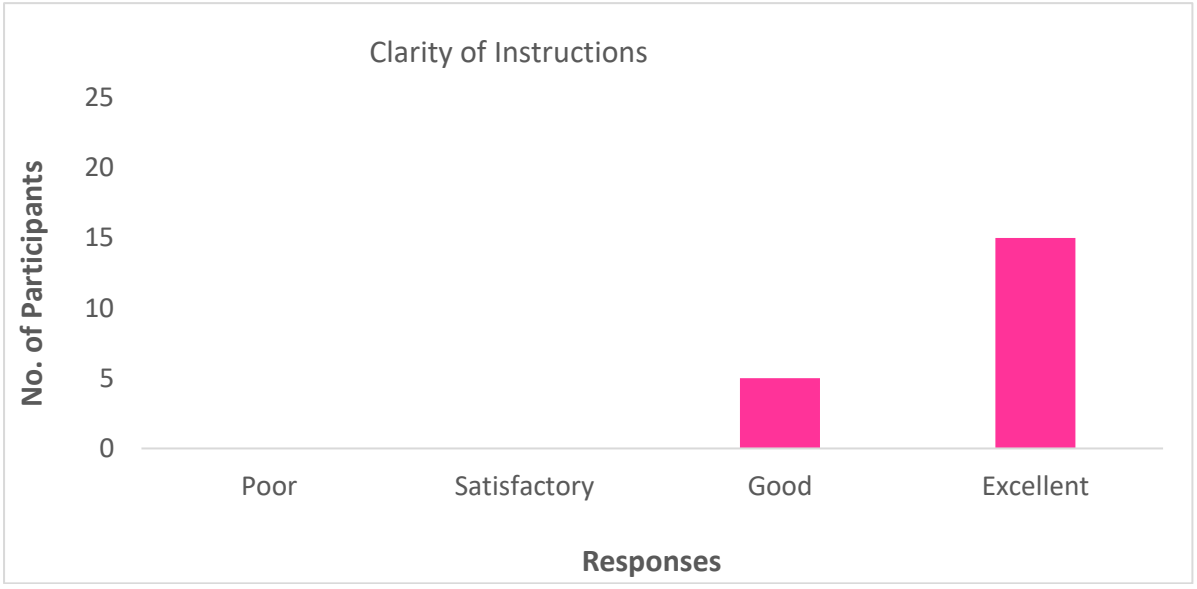
Q.4 Interaction and Participation

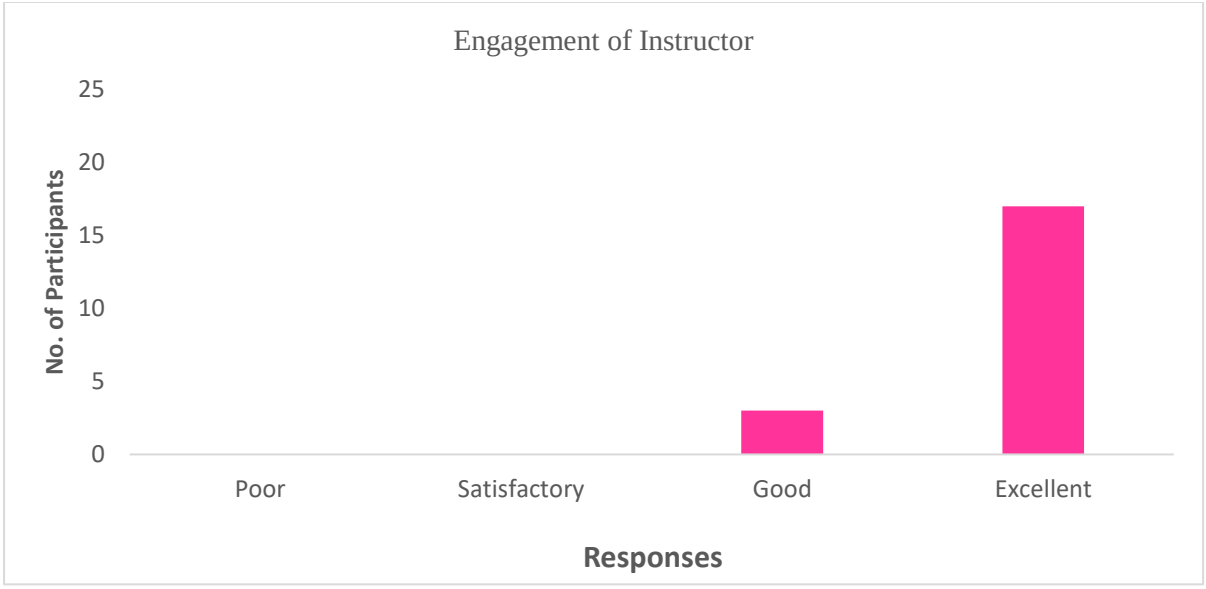
1 2 3 4

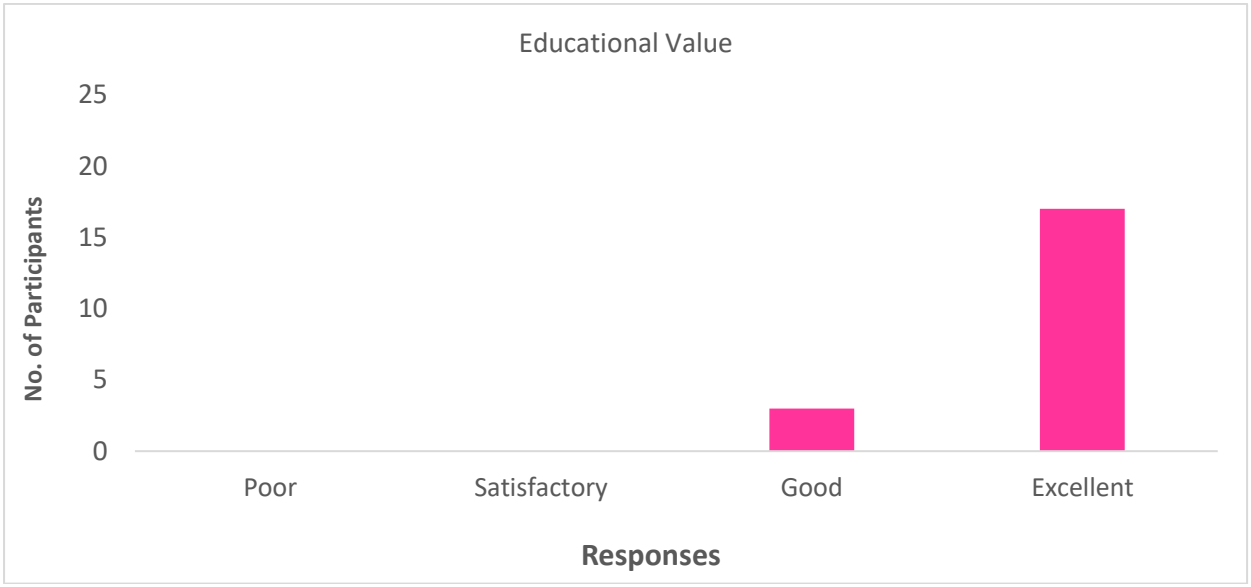
Q.5 Benefits of Program

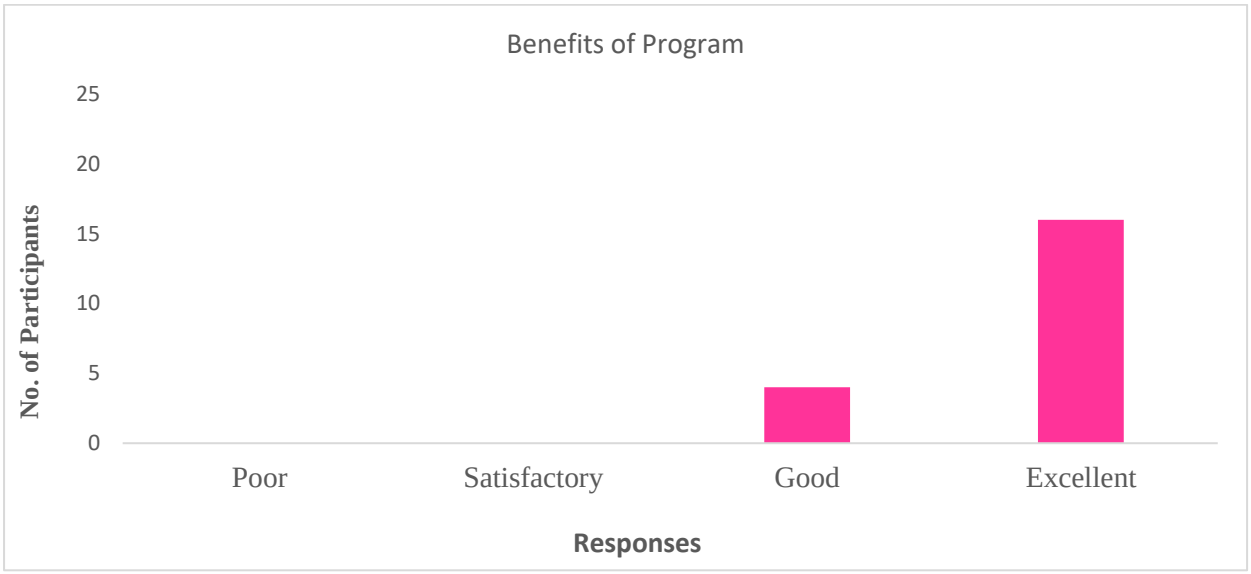
1 2 3 4


Relevance of the event
No. of Participants
25
20
15
10
5
0
Poor
Satisfactory
Good
Excellent
Responses


Clarity of Instructions
No. of Participants
25
20
15
10
5
0
Poor
Satisfactory
Good
Excellent
Responses


Engagement of Instructor
No. of Participants
25
20
15
10
5
0
Poor
Satisfactory
Good
Excellent
Responses


Educational Value
25
20
15
10
5
0
No. of Participants
Poor
Satisfactory
Good
Excellent
Responses


Benefits of Program
25
20
15
10
5
0
No. of Participants
Poor
Satisfactory
Good
Excellent
Responses