

Department of Chemistry
and Environmental Science

BB College, Asansol

Department of Chemistry & Environmental Science

Add on course- Agricultural Soil testing, 2020-21

The certificate course on “Agricultural Soil Testing” was performed by the Department of Environmental Science, B.B.College on and from 15.03.2021 to 22.03.21. The duration of the course was 40 hours distributed over a week. It was attended by 26 in-house learners of B.B.College, Asansol.

Objective of the course: As the paradigm of modern education is changing with more and more focus on skill development, the certificate course on “**Agricultural Soil Testing**” aims in skilling the B.Sc (Hons) students in the field of soil testing. By participating in the aforesaid course the students will learn the basics of soil science and more importantly get a hands on training pertaining to certain selected soil quality parameters which are relevant in the context of agriculture and soil nutrient management.

Post completion of the course an online examination was conducted via google form and subsequently certificates were awarded to the learners. Feedback regarding the course and faculty was also gathered from the learners via a google form.

Contents of the course:

1. Introduction to soil :(8 hours)

What is soil?, Definition of pedology and edaphology, soil formation, soil composition, soil profile, importance of soil to the biosphere, types of soil textures, major soil types in India.

2. Soil pollution: (6 hours)

What is soil pollution?, sources of soil pollution and their effects with special focus on pollution from synthetic fertilisers and pesticides, control of soil pollution.

3. Soil erosion: (6 hours)

Introduction to soil erosion, agents of soil erosion, types of soil erosion, soil erosion control, and desertification(causes and control)

4. Soil testing (Part A):(8 hours)

Introduction to soil sampling, taking a representative soil sample, measurement of soil temperature, soil moisture and soil ph

5. Soil testing (Part B): (6 hours)

Estimation of soil NPK by using the soil testing kit

6. Soil testing (Part C):(6 hours)

Determination of soil organic matter (Titrimetric method of Walkey and Black), preparation of soil testing report.

Link for student feedback form:

<https://forms.gle/ZaA76XTkm7LPaGV88>

Link for online examination form:

<https://forms.gle/cbsCKmHu5cjkmA1YA>

Attendance sheet:

Agricultural Soil Testing

Conducted By

Department of Environmental Science, BB College, Asansol

March 15th to March 22nd, 2021

Attendance Record

Name	15/3/21	16/3/21	17/3/21	18/3/21	19/3/21	20/3/21	22/3/21	Signature
MEENA SINGH	P	P	P	P	P	P	P	Meena Singh
PURBA KUNDU	P	P	P	P	P	P	P	Purba Kundu
HIMANSHU MONDAL	P	P	P	P	P	P	P	Himanshu Mondal
SUBIR DAS	P	P	P	P	P	P	P	Subir Das
SAANVI DAS	P	P	P	P	P	P	P	Sanvi Das
RITIKA CHANDUR	P	P	P	P	P	P	P	Ritika Chandur
ADITI MONDAL	P	P	P	P	P	P	P	Aditi Mondal
GANITA DA	P	P	P	P	P	P	P	Ganita Das
ADITI KUMAR	P	P	P	P	P	P	P	Aditi Kumar
JANAKA GOSWAMI	P	P	P	P	P	P	P	Janaka Goswami
BIJOY PRASAD	P	P	P	P	P	P	P	Bijoy Prasad
BITU DEY	P	P	P	P	P	P	P	Bitu Dey
SUBANU ADITYA	P	P	P	P	P	P	P	Subanu Aditya
SAHJANA MONDAL	P	P	P	P	P	P	P	Sahjana Mondal
USKARSHI MONDAL	P	P	P	P	P	P	P	Uskarshi Mondal
SANJIV PANDAY	P	P	P	P	P	P	P	Sanjiv Pandey
SOUVAN DUTTA	P	P	P	P	P	P	P	Souvan Dutta
ATASHI MUKHERJEE	P	P	P	P	P	P	P	Atashi Mukherjee
BONANI CHATTERJEE	P	P	P	P	P	P	P	Bonani Chatterjee
PARANITA GOSWAMI	P	P	P	P	P	P	P	Paranita Goswami
ABHINAV KUNDU	P	P	P	P	P	P	P	Abhinav Kundu
SUJALI CHAKRABORTY	P	P	P	P	P	P	P	Sujali Chakraborty
SOUMI HASAN	P	P	P	P	P	P	P	Soumi Hasan
MAGNA ROY	P	P	P	P	P	P	P	Magna Roy
RIYAN DAY	P	P	P	P	P	P	P	Riya Day
SATYAN DAS	P	P	P	P	P	P	P	Satyam Das

Sayantra Dutta 22/3/21

Mr. Sayantan Dutta

Head

Dept. of Environmental Science, Asansol

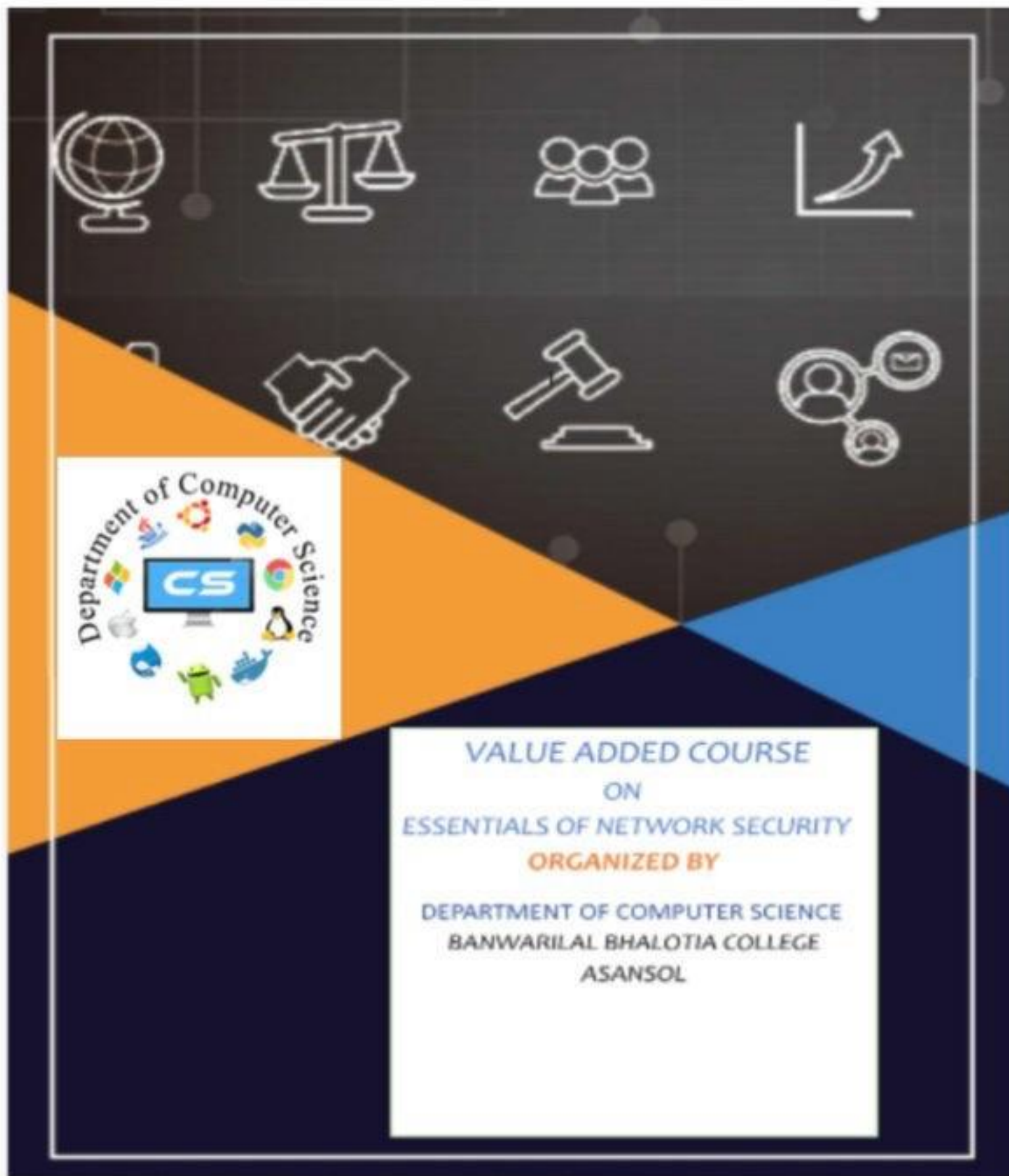
Link of various photos and the certificate awarding programme: <https://photos.app.goo.gl/qRd3wuY14CtjirQp9>

Department of Computer Science

DEPARTMENT OF COMPUTER SCIENCE

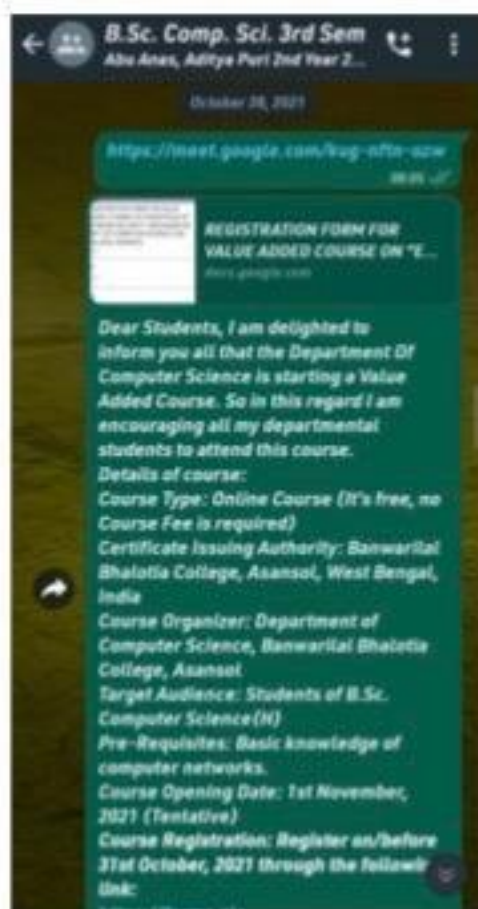
BANWARILAL BHALOTIA COLLEGE, ASANSOL

REPORT ON VALUE ADDED COURSE



NAME OF COURSE: ESSENTIALS OF NETWORK SECURITY

Notification for the students through whatsapp group:



NOTIFICATION BROCHURE LINK:

<https://drive.google.com/file/d/1y7ojwhkHIKt0EztCdacJ6wm4ouR738LA/view?usp=sharing>

NO. OF PARTICIPANTS: 68(Initial Registration)

At the end, 48 students of our department have successfully completed the course.

NAME OF RESOURCE PERSON: Mr. ARPAN TEWARY, SACT,
DEPT. OF COMPUTER SCIENCE, B.B.COLLEGE

TECHNICAL COMMITTEE MEMBER: Mr. ARPAN TEWARY

REGISTRATION RESPONSE SHEET SCREENSHOT:

REGISTRATION FORM FOR VALUE ADDED COURSE ON "ESSENTIALS OF NETWORK SECURITY" ORGANIZED...

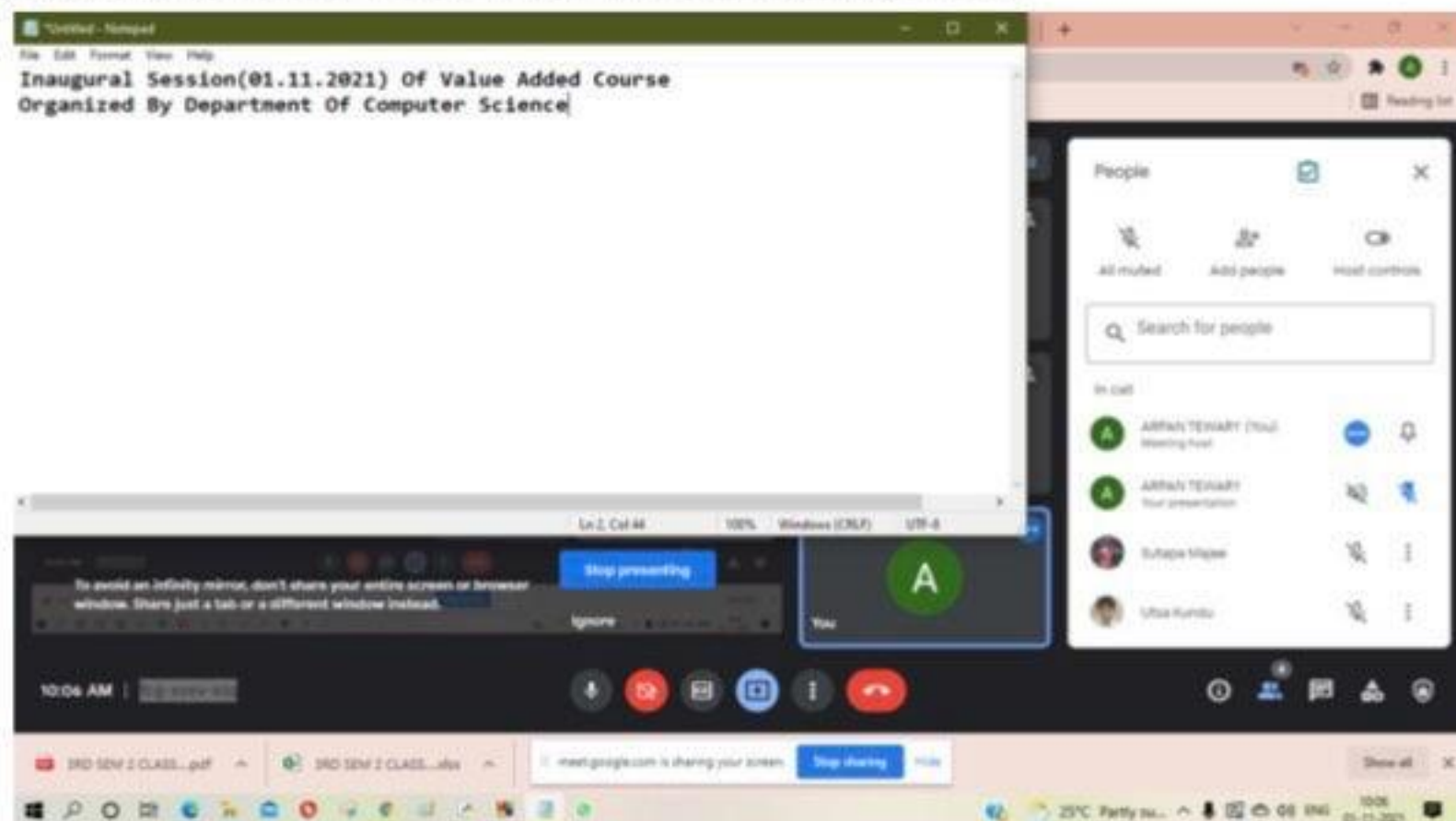
File Edit View Insert Format Data Tools Extensions Help Last edit was 2 minutes ago

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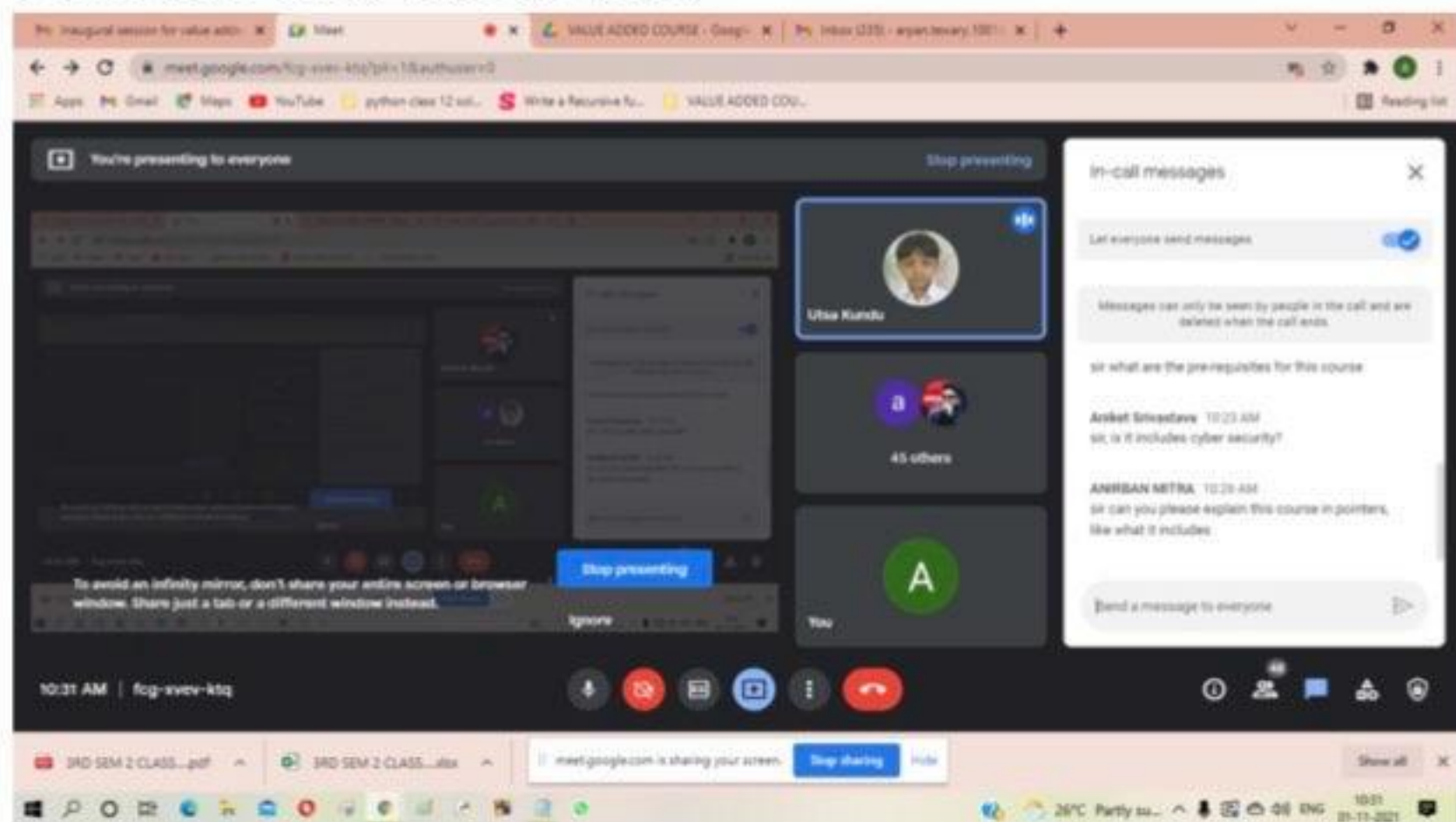
	A	B	C	D	E	F
1	Timestamp	Email Address	NAME	SEMESTER	CONTACT NO. (preferably WhatsApp no.)	
2	10/28/2021 13:28:15	pratikchakraborty140801	Pratik Chakraborty	3rd sem		8509600231
3	10/28/2021 13:28:27	abuanassrk@gmail.com	Abu Anas khandaker	3rd		8145236955
4	10/28/2021 13:28:36	debjyoti.luca@gmail.com	Debjyoti Mahato	3rd		8436252832
5	10/28/2021 13:29:08	ayushjaysmal.aj1248@gmail.com	Ayush Jayswal		1	9932644912
6	10/28/2021 13:29:10	adityapuri0902@gmail.com	Aditya puri	3rd		7872679680
7	10/28/2021 13:29:45	yadavanshisourav@gmail.com	SOURAV YADAV	THIRD		8250818731
8	10/28/2021 13:31:17	abhaykumarp02@gmail.com	ABHAY KUMAR PANDE	1st SEMESTER		8250961485
9	10/28/2021 13:33:14	aniketpaul1438@gmail.com	ANIKET PAUL	3rd SEMESTER		7063106198
10	10/28/2021 13:33:49	kowshikkarmakar4321@gmail.com	KOWSHIK KARMAKAR	3rd sem		8250362269/6297086765
11	10/28/2021 13:33:51	mitra.anirban7125@gmail.com	Anirban Mitra	first		7584912276
12	10/28/2021 13:37:46	nagsoumita04@gmail.com	Soumita Nag	1st semester		9091665002
13	10/28/2021 13:41:04	sandipshit79737@gmail.com	Sandip Shit	1 st		9563174931
14	10/28/2021 13:45:53	monojitmaji2307@gmail.com	Monojit Maji	3rd		9749638273
15	10/28/2021 13:46:01	abhijeet.abhiram@gmail.com	Abhijeet Shaw	1st		9064450576
16	10/28/2021 13:47:14	rianosborn@gmail.com	Rian Osborn	1st		7763016211
17	10/28/2021 13:57:09	gsrikanta368@gmail.com	Shrabani Ghosh	1st Semester		9609654667
18	10/28/2021 13:58:47	haseeb107@gmail.com	Haseeb Kumar Khan	1st		8509600231

+ Form Responses 1

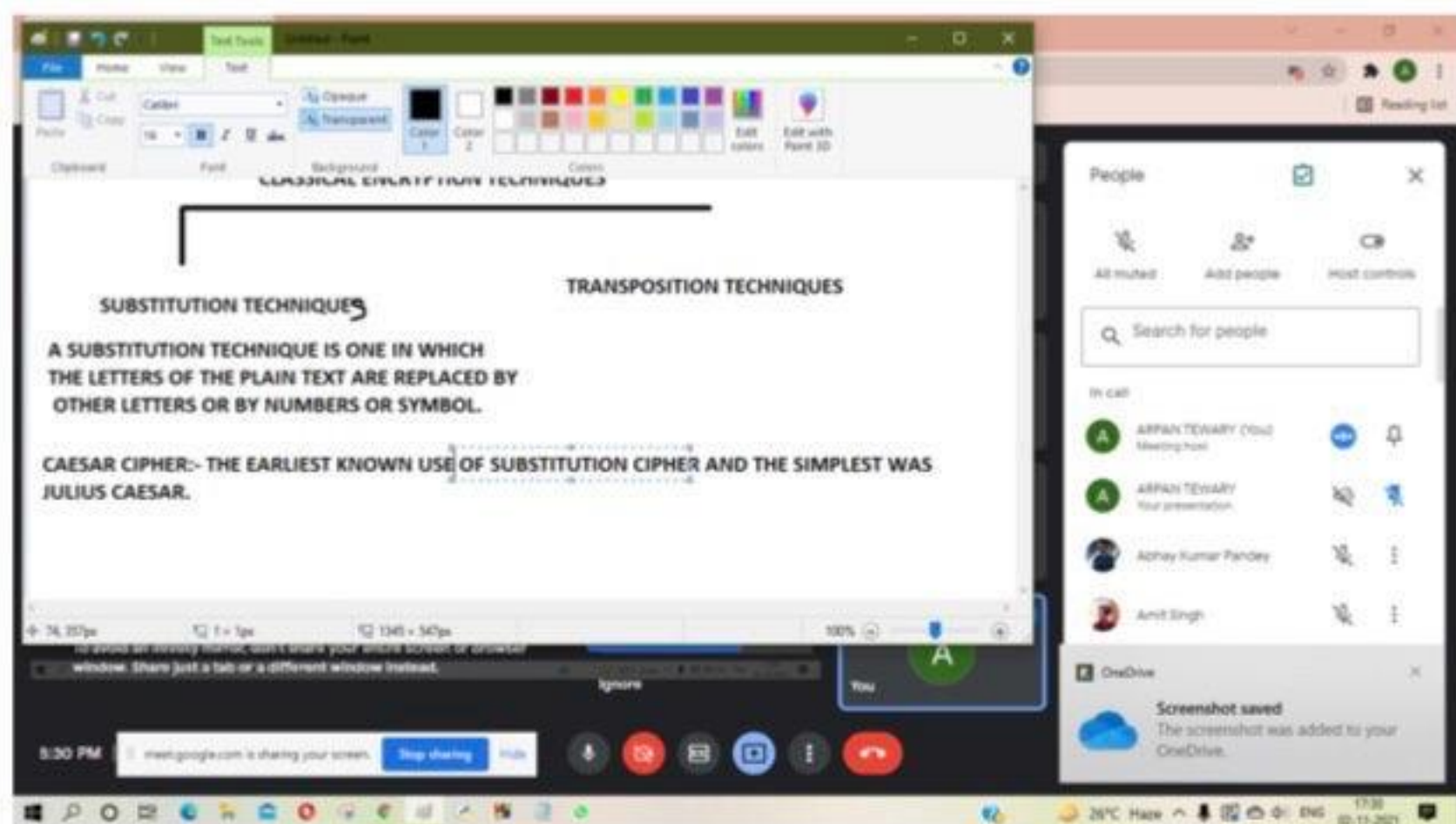
INAUGURAL SESSION HELD ON 01.11.2021



VARIOUS QUERIES REGARDING THE COURSE FROM THE STUDENTS WERE ANSWERED:



~~COMPILED BY ARPAN TEWARY, DEPARTMENT OF COMPUTER SCIENCE

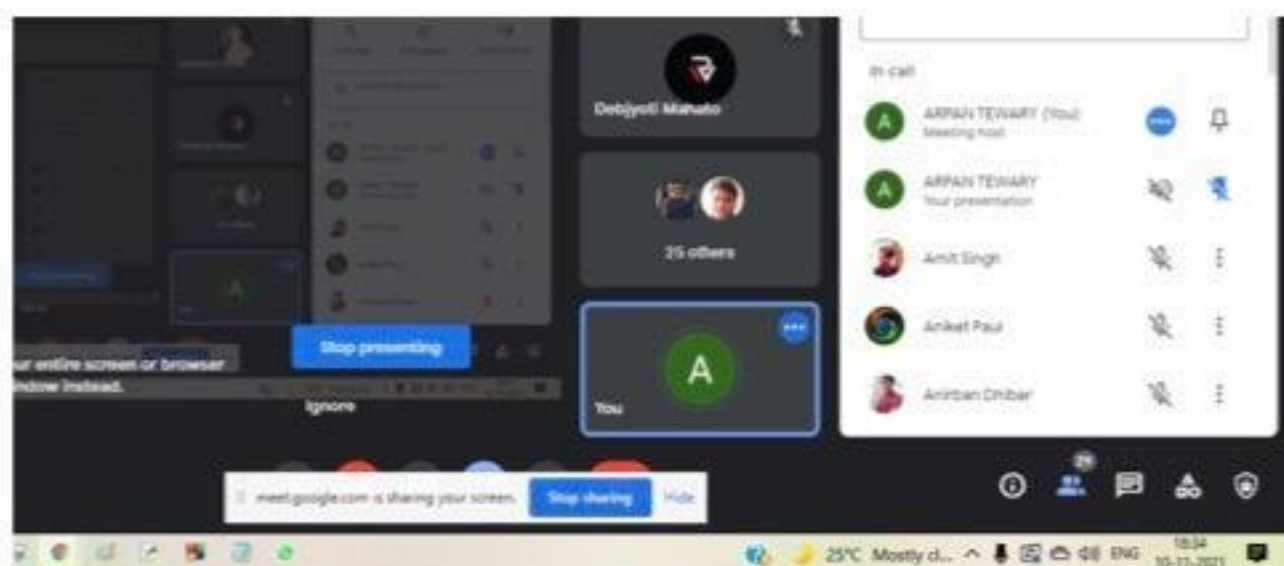


CLASS CONDUCTED ON 10/11/2021:

2CLASSES Meet Attendance 11/10/2021

Participants	Joined	Left	Duration
ARPAN TEWARY Meeting host	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
ARPAN TEWARY Your presentation	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Amit Singh	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Aniket Paul	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Anirban Dhibar	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
ANIRBAN MITRA	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Ankita Mondal	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Arijit Chatterjee	11/10/2021 17:36:41	11/10/2021 19:15:32	01:38:51
Bijay Mahato	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Daraksha Tahsin	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Debasish Mondal	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Debjoyoti Mahato	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
DEBOPRIYO SARKAR	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Deepak Sharma	11/10/2021 17:36:41	11/10/2021 19:10:42	01:34:01
Harsh Singh	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Koyel Mondal	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Madhurima Majee	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Moumita Maji	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Pratiksha Pathak	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
RENUKA MONDAL	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Rian Osborn	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Riyan Roy	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
SAIKAT DAS	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Shahbaz Shakil	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
soumita nag	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Sourmyajit Mukherjee	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Subhajit Gorai	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Swagata Goswami	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01
Swarnendu Banerjee	11/10/2021 17:36:41	11/10/2021 19:20:42	01:44:01

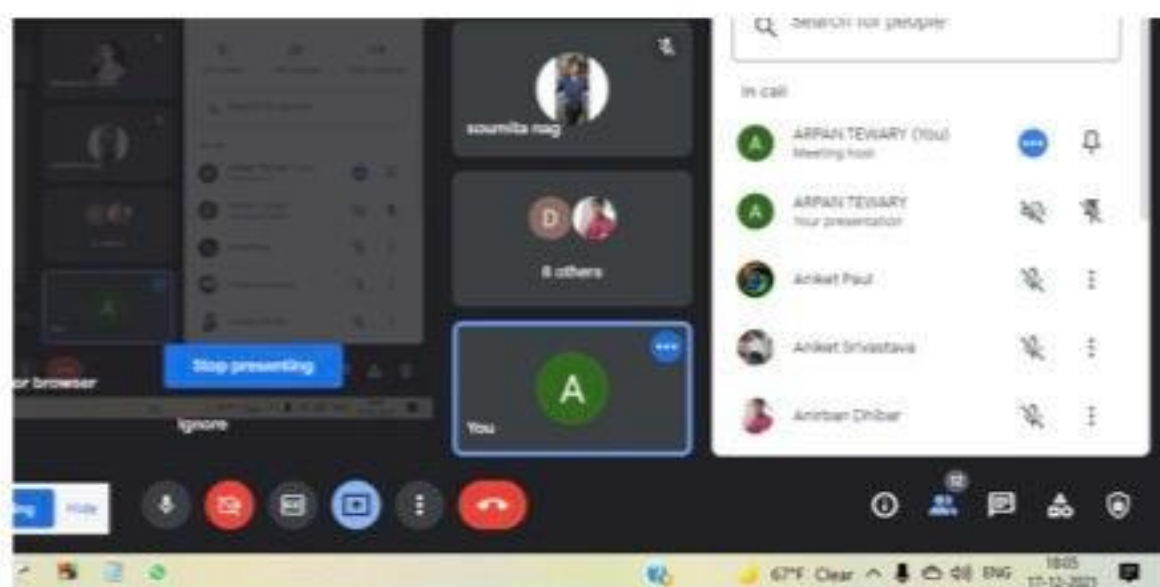
~~COMPILED BY ARPAN TEWARY, DEPARTMENT OF COMPUTER SCIENCE

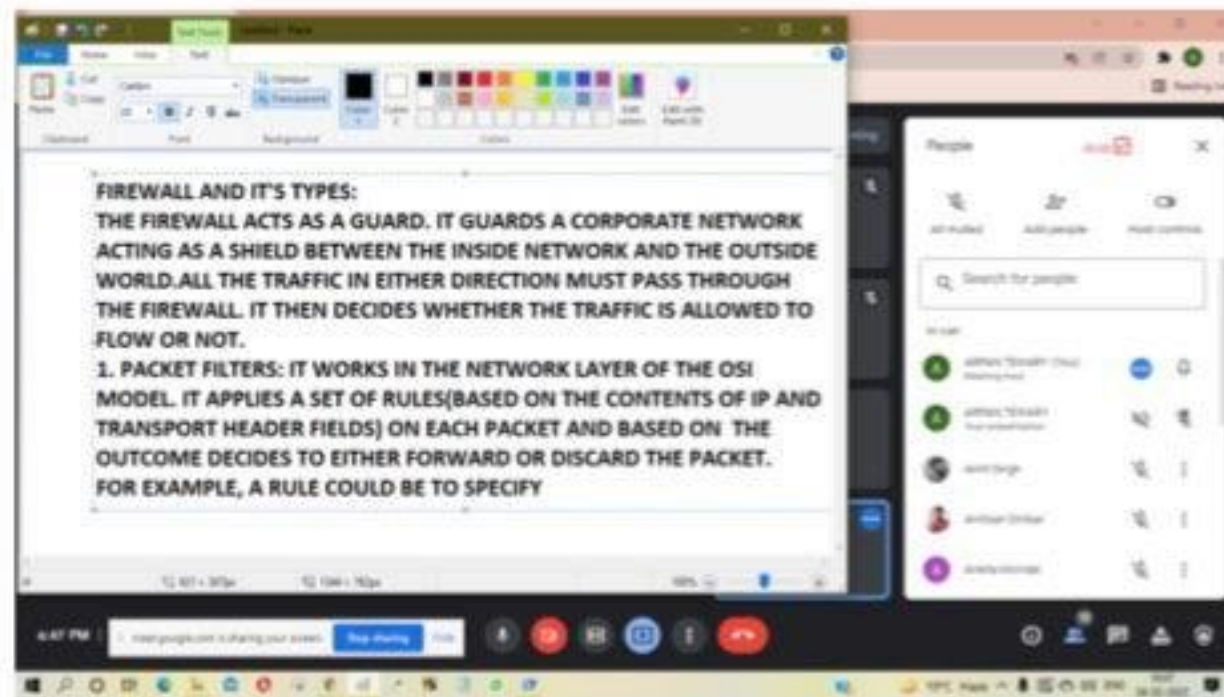


CLASS CONDUCTED ON 17/12/2021

VAC 2CLASSES Meet Attendance 12/17/2021

Participants	Joined	Left	Duration
ARPAN TEWARY			
Meeting host	12/17/2021 17:11	12/17/2021 18:56	01:45:15
Aniket Paul	12/17/2021 17:11	12/17/2021 18:56	01:42:15
Aniket Srivastava	12/17/2021 17:11	12/17/2021 18:56	01:42:15
Daraksha Tahsin	12/17/2021 17:11	12/17/2021 18:56	01:42:15
Pratiksha Pathak	12/17/2021 17:11	12/17/2021 18:56	01:42:15
Rana Dawn	12/17/2021 17:11	12/17/2021 18:56	01:42:15
soumita nag	12/17/2021 17:11	12/17/2021 18:56	01:42:15
Anirban Dhibar	12/17/2021 17:11	12/17/2021 18:56	01:42:15
arpita maji	12/17/2021 17:11	12/17/2021 18:56	01:40:49
Debasish Monda	12/17/2021 17:11	12/17/2021 18:56	01:40:49
Moumita Maji	12/17/2021 17:11	12/17/2021 18:56	01:40:49
Sankha Subhra	12/17/2021 17:11	12/17/2021 18:56	01:40:49





EXAMS WERE CONDUCTED ON WEEKLY BASIS:(SOME OF THE SCREENSHOTS WERE AS FOLLOWS)

Questions Responses **42** Settings Total points: 10

Value Added Course Exam (Week-1)

Form description

Email *

Valid email

This form is collecting emails. [Change settings](#)

Name- *

Short answer text

Semester- *

☐ 1st

☐ 3rd

☐ 5th

1. Network security provides authentication and access control for resources. *

☐

Week-2 EXAM(VALUE ADDED COURSE)

*(Type your email correctly)

Email *

Valid email

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NAME-

Short answer text

SEMESTER- *

☐ 1st

☐ 3rd

☐ 5th



Week-2 EXAM(VALUE ADDED COURSE) (Responses) ☆ 📄 ☁

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A1	Timestamp						
	A	B	C	D	E	F	
1	Timestamp	Email Address	Score	1. Three security goals a	2. ____ means conceal	3. In ____ cryptography,	4.
2	11/28/2021 14:35:20	sumanakoyel52@gemil.c	4 / 10	Confidentiality, encryption	Cryptography	Public key	M
3	11/28/2021 14:40:20	rianosborn@gmail.com	9 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
4	11/28/2021 14:41:17	kappa.kitty23@gmail.com	8 / 10	None of the above	None of the above	Symmetric-key	M
5	11/28/2021 14:41:49	moumitamaji717@gmail.	8 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
6	11/28/2021 14:42:07	majiarpita411@gmail.com	8 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
7	11/28/2021 14:43:17	aniketsrivastava4519@g	8 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
8	11/28/2021 14:44:12	aniketpaul1438@gmail.c	9 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
9	11/28/2021 14:45:05	debopriyosarkar011@gm	9 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
10	11/28/2021 14:46:11	bubu11062000@gmail.co	9 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
11	11/28/2021 14:46:53	pratikshapathak431@gm	9 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
12	11/28/2021 14:47:08	darakshatahsin@gmail.c	8 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M
13	11/28/2021 14:47:09	nagsoumita04@gmail.co	8 / 10	None of the above	Cryptography	Symmetric-key	M
14	11/28/2021 14:47:16	punam990103@gmail.co	4 / 10	Confidentiality, cryptogra	Cryptography	Public key	A
15	11/28/2021 14:48:18	jgbarat5422@gmail.com	8 / 10	Confidentiality, integrity	a Steganography	Symmetric-key	M

Questions

Responses

37

Settings

Total points: 10

VAC EXAM(WEEK-8)

Form description

Email *

Valid email

This form is collecting emails. [Change settings](#)

Name:

Short answer text

Semester: *

Short answer text

VAC EXAM(WEEK-8) (Responses) ☆ Saved to Drive

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	A	B	C	D	E	F	G
1	Timestamp	Email Address	Score	Name	Semester	Q1. Which of the followin	Q2. _____ is the
2	1/20/2022 20:04:25	soham4707@gmail.com	10 / 10	Soham Dey	1st	Atomicity	IKE
3	1/20/2022 20:05:30	aniketpaul1438@gmail.c	9 / 10	Aniket Paul	3rd	Atomicity	IKE
4	1/20/2022 20:05:50	punam990103@gmail.co	9 / 10	Punam Kumari	Sem 3	Atomicity	IKE
5	1/20/2022 20:07:49	moumitamaji717@gmail.	10 / 10	Moumita Maji		3 Atomicity	IKE
6	1/20/2022 20:07:52	majarpita411@gmail.cor	10 / 10	Arpita Maji	3rd	Atomicity	IKE
7	1/20/2022 20:08:22	nagsoumita04@gmail.co	10 / 10	Soumita Nag	1st	Atomicity	IKE
8	1/20/2022 20:09:26	aniketsrivastava4519@g	9 / 10	Aniket Kumar Srivastava	1st	Atomicity	IKE
9	1/20/2022 20:10:31	ayushjayswal.a1248@gr	10 / 10	Ayush Jayswal		1 Atomicity	IKE
10	1/20/2022 20:10:44	darakshatahsin@gmail.c	10 / 10	Daraksha Tahsin	1st	Atomicity	IKE
11	1/20/2022 20:10:50	baban07052003@gmail.	10 / 10	Budhaditya Mukherjee	3rd	Atomicity	IKE
12	1/20/2022 20:10:53	bm3961996@gmail.com	10 / 10	Bijay Mahato	3rd	Atomicity	IKE
13	1/20/2022 20:10:53	royr66742@gmail.com	10 / 10	Riyan Roy	3 rd	Atomicity	IKE
14	1/20/2022 20:11:27	reachtosubhajt@gmail.c	10 / 10	Subhajt Gorai		3 Atomicity	IKE
15	1/20/2022 20:11:32	anirban1706dhibar@gni	5 / 10	Anirban Dhibar	1st semester	Atomicity	IKE

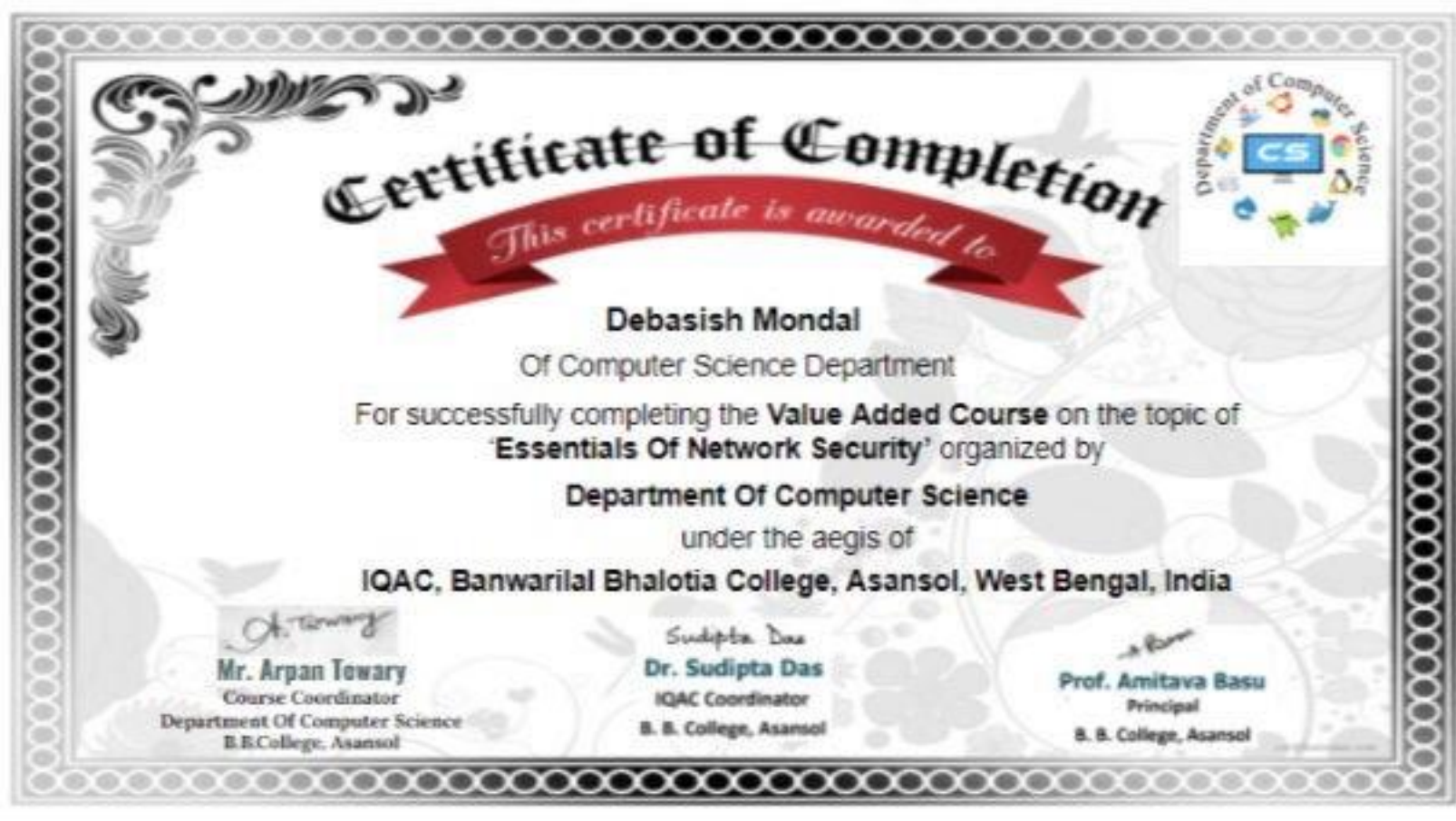
VALEDICTORY CEREMONY CONDUCTED ON 19/03/2022 FROM 7PM(IST) ONWARDS:

NOTICE IN WHATSAPP GROUP:



~~COMPILED BY ARPAN TEWARY, DEPARTMENT OF COMPUTER SCIENCE

CERTIFICATE DISTRIBUTION:(HERE ARE SOME SCREENSHOTS)-



Department of Geography



Estd. -1944

BANWARILAL BHALOTIA COLLEGE

ASANSOL, WEST BENGAL

35 Hours Certificate Course

on

DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE

Course Type: **Interdisciplinary** Certificate Course

Course Mode: **Online** Mode Online through Google Meet Platform

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Course Organizer: **Department of Geography**, Banwarilal Bhalotia College, Asansol

Under the Aegis of IQAC, Banwarilal Bhalotia College, Asansol

Target Audience: **UG/PG Level All Social Sciences student**

Date of Commencement of the Course: 1st November, 2021

Course Registration: Register on/before 29th October, 2021 through the following link

<https://forms.gle/xpijW33gA3AMVwCB8>

Course Duration: 12 Weeks (Approx. 3 Classes per Week, Each of 1 Hour Duration)

Class Timings: All the Classes will be Scheduled in the Afternoon between 3 PM – 4 PM (IST)

Course Fee: INR 100/- only

Course Evaluation: Regular Weekly Assignments & Final Exam (MCQ) at the end of the Course

Intake: 50 (Seats will be filled on “first come first served” basis)

Email id: geodeptbbc21@gmail.com



Estd. -1944

Banwarilal Bhalotia College

Constituent College of the Kazi Nazrul University

Govt. Sponsored (U.G & P.G.)

COLLEGES WITH POTENTIAL FOR EXCELLENCE

Asansol-713303, West Bengal (India)

☎(0341) 2274842, 2275414

☎IGNOU : 2274563,

☎NSOU : 227

Department of Geography (Day Shift)

To
The Principal through IQAC
Banwarilal Bhalotia College
Asansol,
713303, WB, India

Date: 12/10/2021

Subject: Departmental meeting regarding framing of the detailed Syllabus, Schedule and Board of Studies (BoS) for the Certificate Course on Data Collection, Representation and Analysis in Social Science to be held by the Department of Geography (Day Shift).

Respected Sir,

In the meeting held by the IQAC, Banwarilal Bhalotia College, with all the HODs of all the departments on 28.09.2021 regarding the introduction of Certificate Course in academic session 2020-2021, it was decided after discussion that our Department of Geography will introduce a 35 Hours Certificate Course entitled 'Data Collection, Representation and Analysis in Social Science' for this session. In this connection, the Department of Geography held a meeting with all faculties of the department to frame detailed Modules, Syllabus & schedule of the said Certificate Course. Following resolutions are made in the meeting -

- I. The course will comprise of 12 weeks or 35 hours including both Theory and Practical.
 - II. The detailed syllabus with modules for this course was chalked out in this meeting.
 - III. Practical and theory classes' will be taken simultaneously during the course.
 - IV. A Board of Studies (BoS) for this purpose was also constructed for the smooth running of the program. This Board included faculty members of our Department with Coordinators. The structure of the BoS is as follows:
 - Dr. Chandana Singha (Head of the Department & Course Coordinator).
 - Mrs Madhumita Mondal (Course Instructor)
 - Ms Disha Sengupta (Course Instructor)
 - Ms. Sayantani Roy (Course Instructor)
 - V. The course is scheduled to start on 01.11.2021 and to end on 31.01.2022 with the valedictory session and certificate distribution.
- There on behalf of all the faculty members of the department I request you to give us permission for the above mentioned course with its given syllabus and modules.

Thanking you,

Dr. Chandana Singha, Head of the Department Assistant Professor
Department of Geography (Day Shift)
Banwarilal Bhalotia College, Asansol-03



Estd: 1944

Banwarilal Bhalotia College

Constituent college of the **KAZI NAZRUL UNIVERSITY**, Asansol

(GOVT. SPONSORED **U G & P G** College)

NOTICE

Date: 22/10/2021

This is to inform to all concerned that department of Geography is going to organize a 35 Hours Certificate Course on **"DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE"** under the Aegis of IQAC, Banwarilal Bhalotia College, Asansol.

Details of the Course

Course Type: **Interdisciplinary** Certificate Course

Course Mode: **Online** Mode Online through Google Meet Platform

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Target Audience: **UG/PG Level All Social Sciences student**

Date of Commencement of the Course: 1st November, 2021

Course Registration: Register on/before 30th October, 2021 through the following link

<https://forms.gle/xpijW33gA3AMVwCB8>

Course Duration: 12 Weeks (Approx. 3 Classes per Week, Each of 1 Hour Duration)

Class Timings: All the Classes will be Scheduled in the Afternoon from 3 PM – 4 PM (IST)

Course Fee: **INR 100/- only**

Course Evaluation: Regular Weekly Assignments & Final Exam (MCQ) at the end of the Course

Intake: 50 (Seats will be filled on "first come first served" basis)

Certificates will be awarded on completion of the course.

In case of any queries, contact **Dr. Chandana Singha**

(MobNo.9474761871) email- geodeptbbc21@gmail.com

Dr. Chandana Singha

Course Co-ordinator

Department of Geography

Banwarilal Bhalotia College, Asansol, WB

Asansol, WB

Dr. Amitava Basu

Principal

Banwarilal Bhalotia College

DR. AMITAVA BASU
Principal, B. B. College
Jhargram, Asansol, P. Bardhaman
West Bengal - 713002

Phone: 0341-2274842 Web: www.bbcollge.ac.in

Fax: 0341-2274529 E-mail: bbcollge1944@gmail.com, naac.hec@gmail.com

Mobile : 9932940169



Estd. -1944

BANWARILAL BHALOTIA COLLEGE

ASANSOL, WEST BENGAL

35 Hours Certificate Course

on

DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE

Course Type: **Interdisciplinary** Certificate Course

Course Mode: **Blended** Mode (both Offline and Online) **Online** through Google Meet Platform.

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Course Organizer: **Department of Geography**, Banwarilal Bhalotia College, Asansol

Under the Aegis of IQAC, Banwarilal Bhalotia College, Asansol

Target Audience: **UG/PG Level All Social Sciences student**

Date of Commencement of the Course: 1st November, 2021

Course Registration: Register on/before 29th October, 2021 through the following link

<https://forms.gle/xpijW33gA3AMVwCB8>

Course Duration: 12 Weeks (Approx. 3 Classes per Week, Each of 1 Hour Duration)

Class Timings: All the Classes will be Scheduled in the Afternoon between 3 PM – 4 PM (IST)

Course Fee: INR 100/- only

Course Evaluation: Regular Weekly Assignments & Final Exam (MCQ) at the end of the Course

Intake: 50 (Seats will be filled on “first come first served” basis)

Email id: geodeptbbc21@gmail.com

Course Overview

Analyzing data using statistical methods plays an important role in every field of social sciences. Therefore, it is necessary to understand the basics of statistics in terms of collection, representation and interpretation of data. This course has been designed especially for the Under- Graduate students of social sciences. The CBCS (Choice Based Credit System) syllabus of UGC and different universities of West Bengal have been taken into consideration while choosing the course content.

Course Goals

Upon completion of the course, the participants

1. Will learn the basics of statistics
2. Will be prepared for inferential statistics
3. Will be able to conduct field survey professionally
4. Will improve the technical skill regarding MS office (MS word, MS Excel, MS Power Point)

Course Syllabus/Modules (Both Theory, Practical)

Week 1 & 2 (Module – 1 Theory): INTRODUCTION (6 Classes)

Concept of data: Definition, Types, Sources

Scale of Measurement

Surveying: Types, Methods, Significance

Assignments at the end of each week.

Week 3, 4 & 5 (Module – 2 Theory/Practical): DATA COLLECTION AND TABULATION (6 Classes)

Data Collection Methods

Sampling, Tabulation of Data

Questionnaire Design

Assignments at the end of each week.

Week 6, 7, 8 & 9 (Module – 3 Practical): DATA ANALYSIS (12 Classes)

Central Tendency

Measures of Dispersion

Correlation and Regression

Standard Score

Time Series Analysis

Assignments at the end of each week.

Week 10, 11 & 12 (Module – 4 Practical): DATA REPRESENTATION (9 Classes)

Microsoft Excel: Introduction to MS Excel, Preparation of Charts and Layouts, Different Statistical Analysis

Microsoft Powerpoint: Preparation of presentation

Microsoft Word: Writing of data analysis, findings and interpretation

Assignments at the end of each week.

Reference Books

1. Ajai, S. G. and Sanjaya, S. G. (2009): Statistical Methods for Practice and Research, Sage Publications, New Delhi.
2. Berry, B.J.L. and Marble, D.F. (eds.): Spatial Analysis---A reader in Geography.
3. King, L. S. (1969): statistical Analysis in Geography, Prentice-Hall.
4. Kothari, C.R. (2007): Research Methodology: Methods and Techniques, New Age International Publishers.
5. Mahmood, A. (1977): Statistical Methods in Geographical Studies, Concept.
6. Pal, S. K. (1998): Statistics for Geoscientists, Tata McGraw Hill, New Delhi.
7. Sarkar, A. (2013): Quantitative Geography: techniques and presentations, Orient Black Swan Private Ltd., New Delhi.

Course Instructors



1. Dr. Chandana Singha,

Assistant Professor and Head (**Course Co-ordinator**)



2. Mrs Madhumita Mondal, SACT-I



3. Ms. Disha Sengupta, SACT-I



4. Ms. Sayantani Roy, SACT-II

Invited Speakers



Dr. Koushik Kumar Hati, Assistant Professor, Department of Economics, Desbandhu Mahavidyalaya, Chittaranjan, Paschim Bardhaman, WB



Dr. Asraful Alam (PhD and Post Doc), Assistant Professor and Head, Serampore Girls, College, University of Calcutta, WB



Sri Mithun Ray, Assistant Professor and Head, Department of Geography, Malda College, Malda, WB



Mr Ajitesh Barman, Lecturer, Metallurgical Engineering Department, Asansol Polytechnic, Asansol, WB

For any other information, please contact: 9474761871



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(INDIA)

Phone: **0341-2274842**

Fax : **0341-2274529**

Web: **www.bbcollege.ac.in**

E-mail: **bbcollege1944@gmail.com**

Ref .No.- BBC/Geo/CC2022/S01

Date: 18.12.2021

To

Mr. Mithun Ray
Assistant Professor and Head
Department of Geography
Malda College, University of Gour Banga
West Bengal, India

Subject: Invitation as a Resource Person for Certificate Course on 29th December, 2022

Respected Sir,

With immense pleasure, we would like to inform you that the Department of Geography under the aegis of Internal Quality Assurance Cell of Banwarilal Bhalotia College, Asansol, India, is conducting 35 HOURS CERTIFICATE COURSE . The Course aims to offer a platform for understanding basic statistics in terms of collection, representation and interpretation of data. We shall be honoured to have you with us as an **Invited Speaker** on 29th December, 2022 and grant us the opportunity to be enriched by your eloquence and profundity.

Thanking you in anticipation of an affirmative.

Yours Sincerely,

Prof. (Dr.) Amitava Basu
Principal
Banwarilal Bhalotia College,
Ushagram, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303



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(INDIA)

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Fax : **0341-2274529**

Web: **www.bbcollege.ac.in**

E-mail: **bbcollege1944@gmail.com**

Ref.No.- BBC/Geo/CC2022/S02

Date: 10.01.2022

To

Dr. Asraful Alam, Ph.D and Post Doc
Assistant Professor and Head
Department of Geography
Serampore Girl's College, University of Calcutta
West Bengal, India

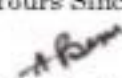
Subject: Invitation as a Resource Person for Certificate Course on 15th January, 2022

Respected Sir,

With immense pleasure, we would like to inform you that the Department of Geography under the aegis of Internal Quality Assurance Cell of Banwarilal Bhalotia College, Asansol, India, is conducting 35 HOURS CERTIFICATE COURSE. The Course aims to offer a platform for understanding basic statistics in terms of collection, representation and interpretation of data. We shall be honoured to have you with us as an **Invited Speaker** on 15th January, 2022 and grant us the opportunity to be enriched by your eloquence and profundity.

Thanking you in anticipation of an affirmative.

Yours Sincerely,


Prof. (Dr.) Amitava Basu
Principal
Banwarilal Bhalotia College,
Ushagram, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303



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ASANSOL – 713303, WEST BENGAL
(INDIA)

Phone: **0341-2274842**

Fax : **0341-2274529**

Web: **www.bbcollege.ac.in**

E-mail: **bbcollege1944@gmail.com**

Ref.No.- BBC/Geo/CC2022/S03

Date: 04.02.2022

To

Mr. Ajitesh Barman

Lecturer

Asansol Polytechnique, Asansol

West Bengal, India

Subject: Invitation as a Resource Person for Certificate Course on 6th February, 2022

Respected Sir,

With immense pleasure, we would like to inform you that the Department of Geography under the aegis of Internal Quality Assurance Cell of Banwarilal Bhalotia College, Asansol, India, is conducting 35 HOURS CERTIFICATE COURSE . The Course aims to offer a platform for understanding basic statistics in terms of collection, representation and interpretation of data. We shall be honoured to have you with us as an **Invited Speaker** on 6th February, 2022 and grant us the opportunity to be enriched by your eloquence and profundity.

Thanking you in anticipation of an affirmative.

Yours Sincerely,

Prof. (Dr.) Amitava Basu

Principal

Banwarilal Bhalotia College,

Ushagram, Asansol

DR. AMITAVA BASU

Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303



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(INDIA)

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Fax : **0341-2274529**

Web: **www.bbcollege.ac.in**

E-mail: **bbcollege1944@gmail.com**

Ref.No.- BBC/Geo/CC2022/S04

Date: 04.02.2022

To

Dr Koushik Kumar Hati
Assistant Professor
Department of Economics
Deshbandhu Mahavidyalaya, Chittaranjan
Visiting Faculty
Department of Business Administration
Kazi Nazrul University
West Bengal, India

Subject: Invitation as a Resource Person for Certificate Course on 8th February, 2022

Respected Sir,

With immense pleasure, we would like to inform you that the Department of Geography under the aegis of Internal Quality Assurance Cell of Banwarilal Bhalotia College, Asansol, India, is conducting 35 HOURS CERTIFICATE COURSE . The Course aims to offer a platform for understanding basic statistics in terms of collection, representation and interpretation of data. We shall be honoured to have you with us as an **Invited Speaker** on 8th February, 2022 and grant us the opportunity to be enriched by your eloquence and profundity.

Thanking you in anticipation of an affirmative.

Yours Sincerely,

Prof. (Dr.) Amitava Basu
Principal
Banwarilal Bhalotia College,
Ushagram, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303



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Fax : **0341-2274529**

Web: **www.bbcollege.ac.in**

E-mail: **bbcollege1944@gmail.com**

Ref.No.- BBC/Geo/CC2022/RP01

Date: 19.02.2022

To
Dr Koushik Kumar Hati
Assistant Professor
Department of Economics
Deshbandhu Mahavidyalaya, Chittaranjan
Visiting Faculty
Department of Business Administration
Kazi Nazrul University
West Bengal, India

Subject: Invitation as a Resource Person for Valedictory Event of Certificate Course on "Data Collection, Representation and Analysis in Social Science on 23rd February, 2022

Respected Sir,

With immense pleasure, we would like to invite you to our Valedictory Session of 35 hours certificate course on " Data Collection, Representation and Analysis in Social Science" organized by Department of Geography under the aegis of IQAC that will be held on 23rd February 2022 at 1pm.

We hope you would be able to fit this event in your busy schedule. The participants and organizers will benefit a lot from your expertise on the topic.

Kindly confirm your acceptance for the date.

Yours Sincerely,

Prof. (Dr.) Amitava Basu
Principal
Banwarilal Bhalotia College,
Ushagram, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303

REGISTRATION DETAILS LINK

https://docs.google.com/spreadsheets/d/1IRxuggnrel7_z7hEaod5blfe_WH2Jesf/edit?usp=sharing&ouid=113616305717404141695&rtpof=true&sd=true

Examination Question Paper Link

<https://docs.google.com/forms/d/1WzIcQMxxUAXTM501oTDkyYVdJRdUPQvNYfr2ZT-cZl/edit?usp=sharing>

Examination response link

https://docs.google.com/spreadsheets/d/1wzbmCyCmR1Ma_MmS7CLAYurw4g5JaX7c26XA0v7_XZg/edit?usp=sharing

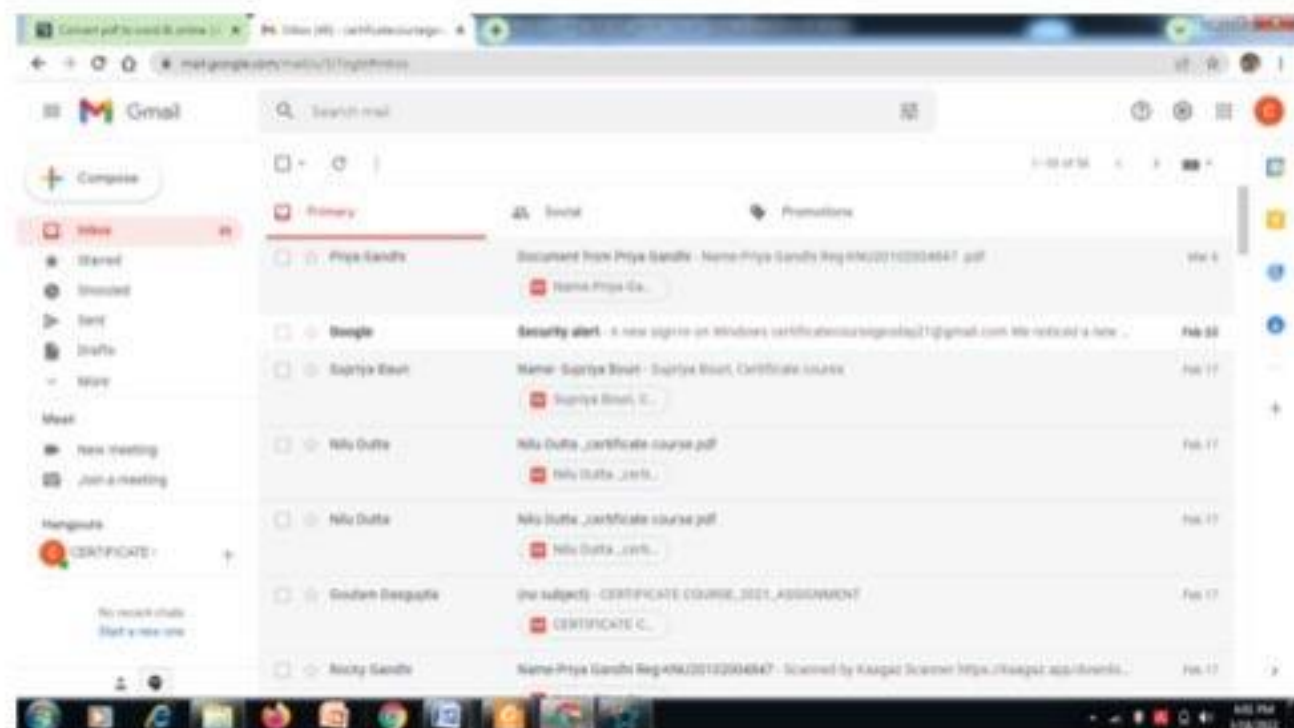
Feedback Link for resource person

https://docs.google.com/spreadsheets/d/1qPtz4LMHWsiWLcKcLfjv-KJ7d0gnsucWuezzysI_TAU/edit?usp=sharing

Overall Feedback of the Certificate Course

<https://docs.google.com/spreadsheets/d/1Q279FsGaAqDpfbzbdwbYPfVnhuuwmpTQW1B93htGSs/edit?usp=sharing>

Assignment submission through email





35 Hours Certificate Course

on

DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE

Organized by

Department of Geography

Under the aegis of

IQAC, Banwarilal Bhalotia College, Asansol, West Bengal, India

Certificate of Presentation

This is to acknowledge that _____ has delivered a lecture as an **Invited Speaker** on the topic "*Microsoft PowerPoint: Preparation of Presentation*" on **6th February, 2022** from **7.00pm to 9.00 pm** at 35 Hours Certificate Course on **Data Collection, Representation and Analysis in Social Science**, organized by Department of Geography, under the aegis of Internal Quality Assurance Cell, Banwarilal Bhalotia College, Asansol, West Bengal, India.

Dr. Chandana Singha
Assistant Professor & Head
Course Coordinator
Banwarilal Bhalotia College, Asansol

Dr. Sudipta Das
IQAC Coordinator &
Assistant Professor in Mathematics
Banwarilal Bhalotia College, Asansol

Dr. Amitava Basu
Principal & Secretary
Banwarilal Bhalotia College, Asansol

Banwarilal Bhalotia College, Asansol, West Bengal

Department of Geography (Day Shift)

Certificate of Appreciation



On Successful Completion of Certificate Course entitled as
“DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE”

Awarded to

Mr./Ms./Mrs. _____ of _____
_____ of **Banwarilal Bhalotia College** has successfully arranged and completed a 35 hours long certificate course as a **Course Instructor** (From 1st November 2021 to 31st January, 2022) organized by the Department of Geography (Day Shift) under the aegis of IQAC, Banwarilal Bhalotia College, Asansol, West Bengal, India.

SIGNATURE OF COURSE
COORDINATOR
Dr. Chandana Singha
Banwarilal Bhalotia College, Asansol

SIGNATURE OF
IQAC COORDINATOR
Dr. Sudipta Das
Banwarilal Bhalotia College, Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
Banwarilal Bhalotia College, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713001

Banwarilal Bhalotia College, Asansol, West Bengal

Department of Geography (Day Shift)

Certificate of Participation

On Successful Completion of Certificate Course entitled as
"DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE"

Awarded to

Mr./Ms./Mrs. _____

of

of

_____ for his/her participation in a
certificate course of 35 hours duration (From 1st November 2021 to 31st January, 2022)
organized by the Department of Geography (Day Shift) under the aegis of IQAC,
Banwarilal Bhalotia College, Asansol, West Bengal, India.

STATEMENT OF MARKS

Internal Assessment (Out of 20): + Online Examination (Out of 30): = Total Marks (Out of 50): Grade



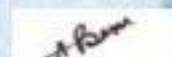
SIGNATURE OF COURSE
COORDINATOR

Dr. Chandana Singha
Banwarilal Bhalotia College, Asansol



SIGNATURE OF
IQAC COORDINATOR

Dr. Sudipta Das
Banwarilal Bhalotia College, Asansol



SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
Banwarilal Bhalotia College, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Udhagram, Asansol, P. Bardhaman
West Bengal - 713303

Banwarilal Bhalotia College, Asansol, West Bengal

Department of Geography (Day Shift)

Certificate of Appreciation

On Successful Completion of Certificate Course entitled as
"DATA COLLECTION, REPRESENTATION AND ANALYSIS IN SOCIAL SCIENCE"

Awarded to

Mr./Ms./Mrs. _____ of _____

_____ of **Banwarilal**

Bhalotia College has successfully arranged and completed a 35 hours long certificate

course as a **Course Co-ordinator** (From 1st November 2021 to 31st January, 2022)

organized by the Department of Geography (Day Shift) under the aegis of IQAC,

Banwarilal Bhalotia College, Asansol, West Bengal, India.

Sudipta Das

SIGNATURE OF
IQAC COORDINATOR
Dr. Sudipta Das
Banwarilal Bhalotia College, Asansol

A Basu

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
Banwarilal Bhalotia College, Asansol

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303

The screenshot shows a Google Meet interface. At the top, a status bar indicates 'Arafat Alam is presenting'. The main window displays a presentation slide titled '35 HOURS CERTIFICATE COURSE' by the Department of Geography at Banwarilal Bhalotia College, Asansol, India. The slide includes the text 'Standard Scores: Z score' and 'Dr. Arafat Alam, M.A., M.Sc., M.Phil., Ph.D., M.A., M.Ed., Assistant Professor, Department of Geography, Saranagar Girls' College, (Affiliated to the University of Calcutta) (1981-2002)'. On the right side of the screen, a grid of participant video feeds is visible, showing several attendees. The bottom of the screen shows the Google Meet controls and a system taskbar at the very bottom.

WhatsApp Meet - mfk-rvgm-xhg

meet.google.com/mfk-rvgm-xhg

Mithun Ray is presenting

SAMPLING

Need, Types, Significance and Methods

Mithun Ray
Department of Geography
Mada College (University of Gour Banga)
E-mail: mithun.ray143@gmail.com

People

- Chandana Singha (You)
- Abhijit Mondal
- ANANYA ROY
- Ankita Faha
- Baisakhi Ghosh
- Bani Bauri
- Brishti Pal
- Debidyuti Roy
- Deep Mukherjee

6:37 PM | mfk-rvgm-xhg

ONLINE CLASS OF RESOURCE PERSON

REC

$$y = c + mx$$

(34)

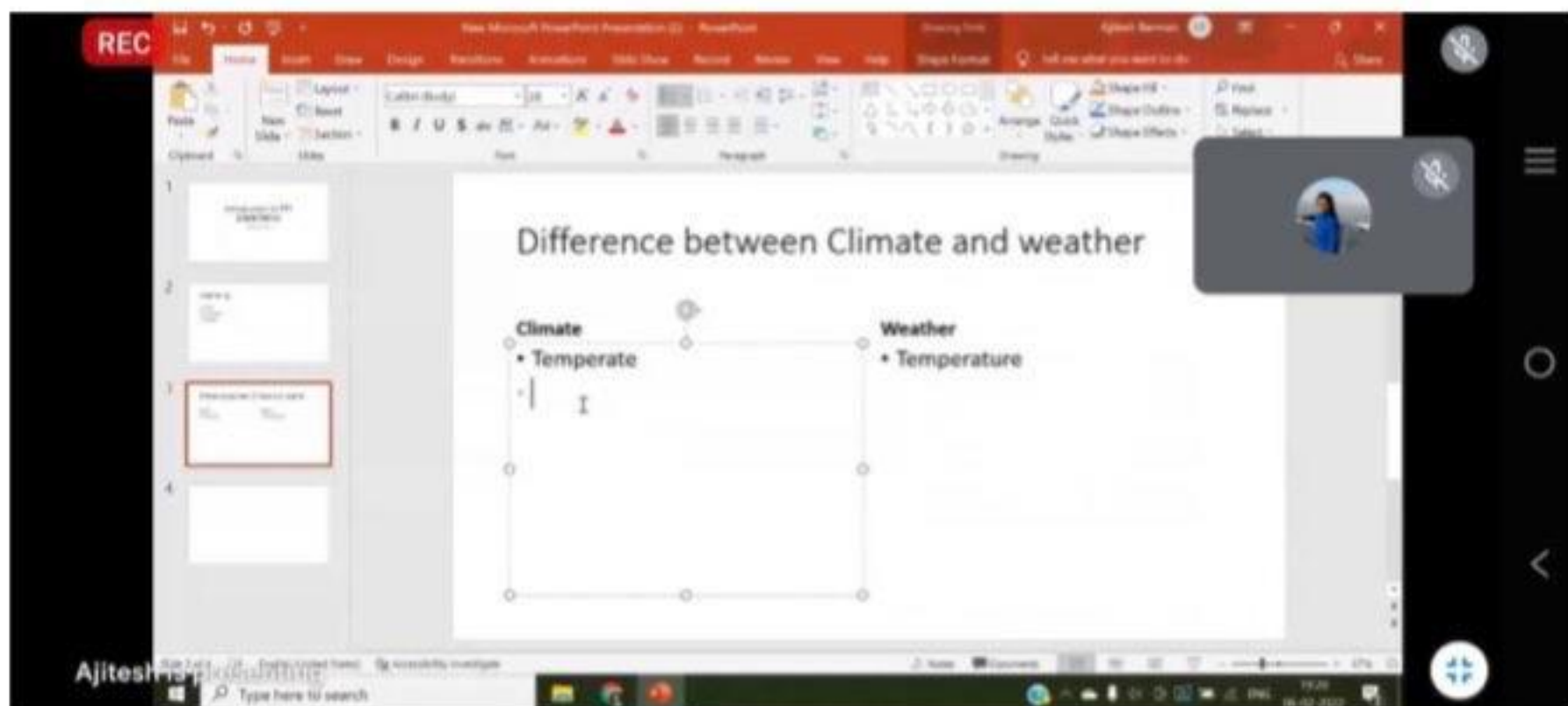
SUTAPA BANERJEE (You)

Koushik Kumar Hati

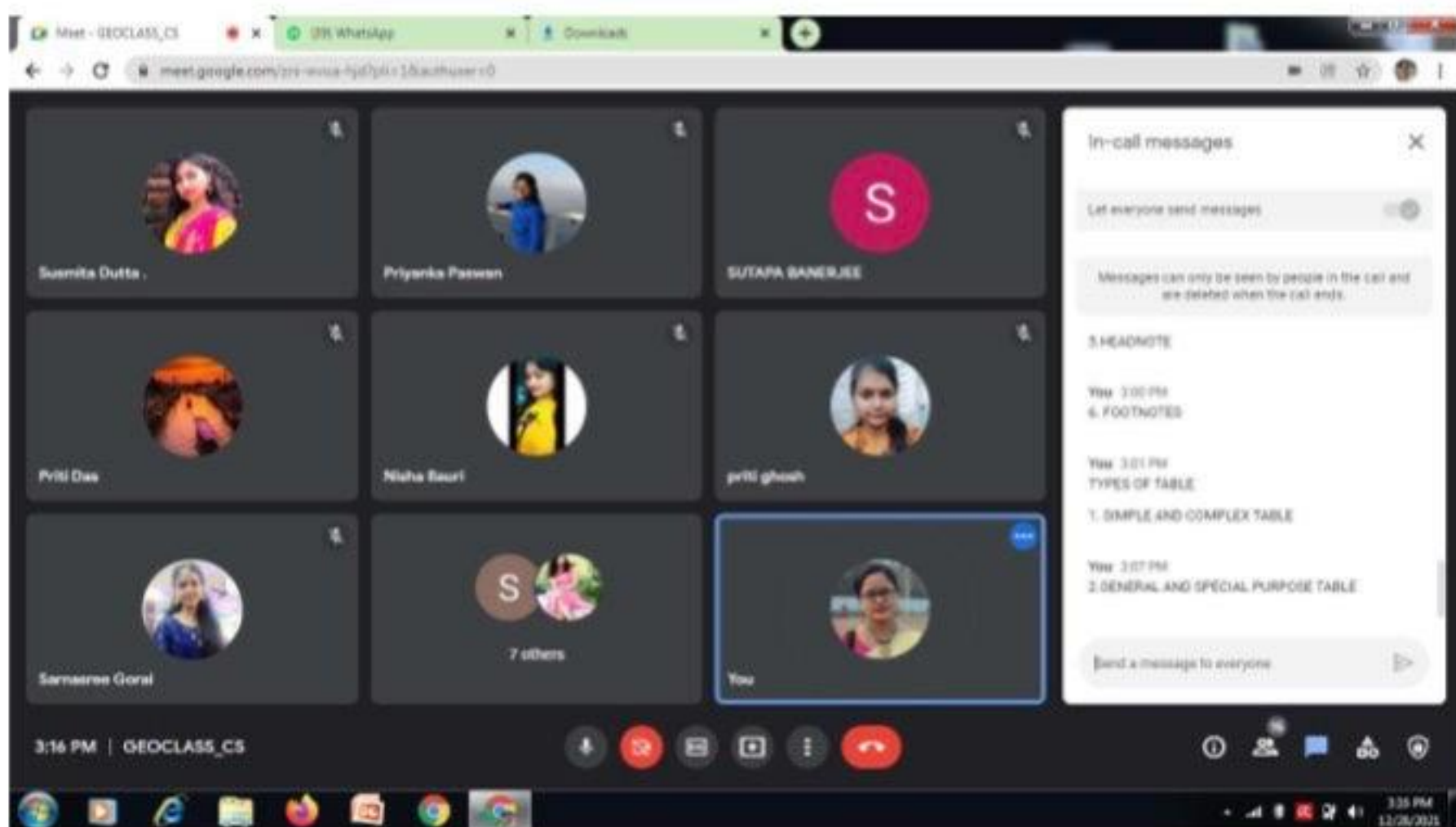
Durba Mondal

Koushik Kumar Hati

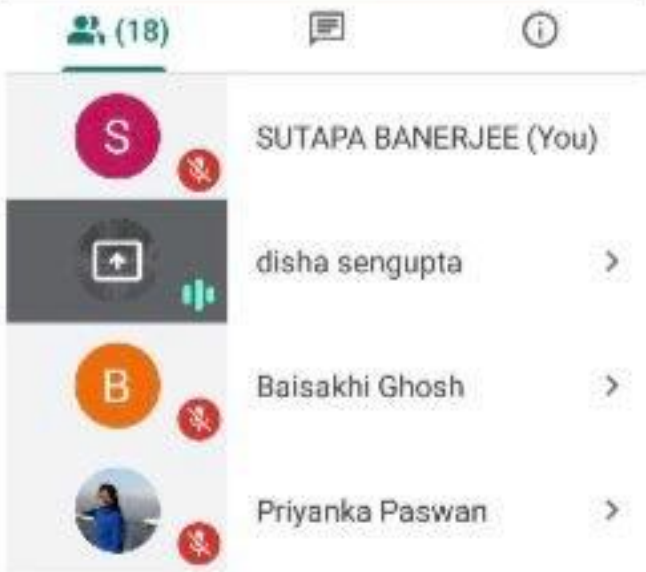
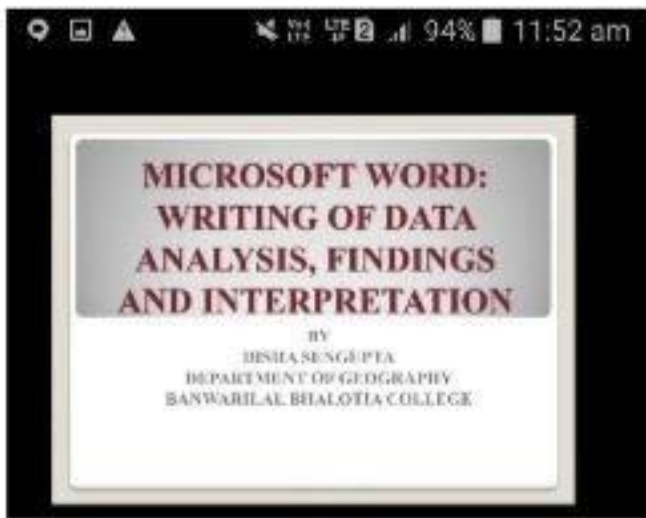
ONLINE CLASS BY RESOURCE PERSON



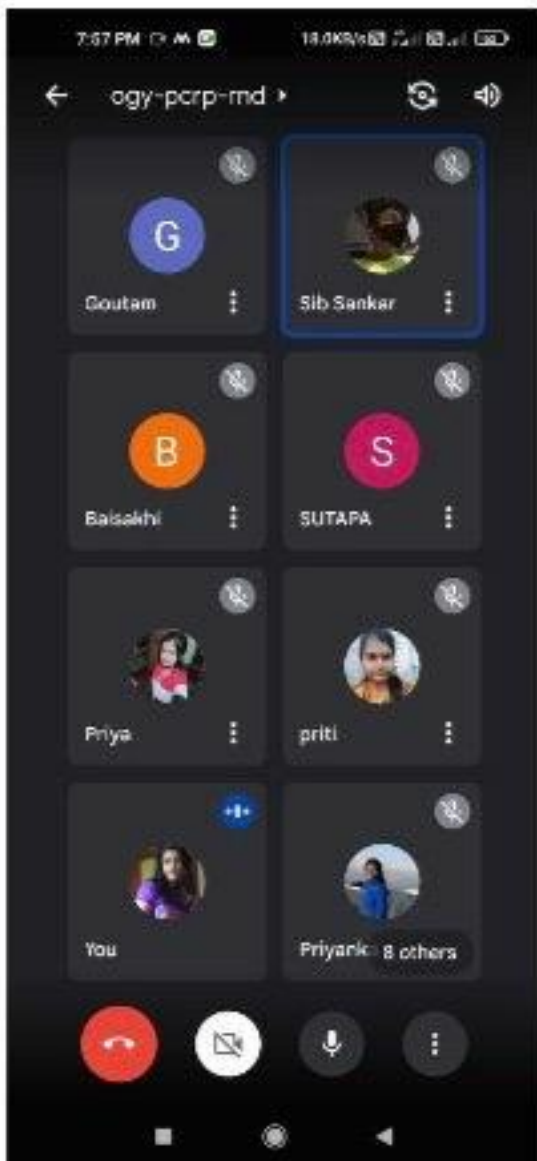
ONLINE CLASS BY RESOURCE PERSON



ONLINE CLASS BY COURSE CO-ORDINATOR



ONLINE CLASS BY COURSE INSTRUCTOR



ONLINE CLASS BY COURSE INSTRUCTOR



Estd. -1944

Banwarilal Bhalotia College

Constituent College of the Kazi Nazrul University

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☎(0341) 2274842, 2275414

☎IGNOU : 2274563,

☎NSOU : 227

Department of Geography (Day Shift)

To,

Date: 23.02.2022

The Principal

Banwarilal Bhalotia College Asansol-713303,

WB, India

Subject: Report for the Certificate Course on Data Collection, Representation and Analysis in Social Science to be held by the Department of Geography from November 2021 to February, 2022 (for the Session of 2020-21)

Respected Sir,

With respect to above mentioned subject, I am feeling glad to report you that the certificate course entitled '**Data Collection, Representation and Analysis in Social Science**' that we undertook from our department this year has been successfully completed. Out of 49 students who took admission, 48 could finally complete the course and receive the certificates in the valedictory session.

As mentioned in our schedule, the course was 35 hours duration with 3 hours classes per week. This course started with the inaugural lecture of Dr. Chandana Singha, Head and Course co-ordinator of the course, Department of Geography, Banwarilal Bhalotia College. Four resource persons took 8 hours Practical classes through google meet. Rest of the theory and practical classes were taken by the Departmental Faculties. I, as a course coordinator, extend my sincere thanks to all of them.

The feedback of the students is enthusiastic demanding more similar courses in the near future. All the documents of the course are attached herewith in sequential order for your pursue.

Thanking you,
Yours truly

Dr. Chandana
Singha,

Course Coordinator
Assistant Professor
and Head

Department of Geography (Day Shift)

Banwarilal Bhalotia College, Asansol -713303
WB, India.

बीबी कॉलेज के भूगोल विभाग की ओर से किया गया सर्टिफिकेट वितरण



आसनसोल. आसनसोल के बीबी कॉलेज के भूगोल विभाग के डे शिफ्ट की ओर से आयोजित रसामाजिक

सहायक प्रोफेसर और प्रमुख भूगोल सेमापुर कॉलेज (हुगली) और डॉ कौशिक कुमार हाटी, देशबंधु

Photos of Valedictory session



Marks Statement for Certificate Course					
Name	Email id	MCQ (30)	Assignment (20)	Score	Grade
Susmita Dutta	susmitadutta0501@gmail.com	22	17	39	A
Subrata bhattacharya	subratabh2000@gmail.com	29	16	45	A ⁺
Baisakhi Ghosh	baisakhighosh862@gmail.com	25	17	42	A ⁺
Brishti Pal	brishtipal481@gmail.com	25	16	41	A ⁺
Samapti gorai	samaptigorai2002@gmail.com	27	17	44	A ⁺
Syed Altab Ali	altab203ali@gmail.com	28	18	46	A ⁺
Ishita Banerjee	ishitabanerjee.in@gmail.com	27	18	45	A ⁺
Nilu Dutta	niluduttakmp@gmail.com	27	17	44	A ⁺
Sangita Kora	sangitakora201@gmail.com	27	17	44	A ⁺
Supriya Bouri	supriyabauri972@gmail.com	26	16	42	A ⁺
Payal Mondal	mondalpayal19@gmail.com	27	18	45	A ⁺
joydip kumbhakar	kumbhakarjoydip@gmail.com	25	17	42	A ⁺
Pratap Mondal	mondalpratap284@gmail.com	25	18	43	A ⁺
Sangita Sharma	www.sharmasangita1234@gmail.co m	25	17	42	A ⁺
Nandita Das	dasnandita223@gmail.com	25	18	43	A ⁺
Deepa Kora	deepakora46@gmail.com	22	18	40	A ⁺
Indrani Roy	rindrani35@gmail.com	25	17	42	A ⁺
Sutapa Banerjee	sutapabal11@gmail.com	25	19	44	A ⁺
Kartik pal	kartikpal630@gmail.com	27	18	45	A ⁺
Sarnasree Gorai	goraisarnasree@gmail.com	28	18	46	A ⁺
Sayani Maji	sayanimaji091@gmail.com	28	17	45	A ⁺
Goutam Dasgupta	goutamdasgupta06@gmail.com	27	17	44	A ⁺
Priyanka Kumari Paswan	priyankapaswan64473@gmail.com	25	19	44	A ⁺
Sumana Pal	sumanapal46@gmail.com	27	17	44	A ⁺
Kamal Rakshit	kamalakshit9@gmail.com	22	18	40	A ⁺
Disha Bhattacharjee	bhattacharyarimi82@gmail.com	28	17	45	A ⁺
Gopinath ghosh	gopinathghosh2002@gmail.com	21	17	38	A
MUNMUN NANDI	munmun.sattore@gmail.com	25	17	42	A ⁺
Sib Sankar Roy	sibroy198@gmail.com	29	18	47	A ⁺
Debduyti Roy	ritu20566@gmail.com	23	18	41	A ⁺
Abhijit mondal	abhijitdytc@gmail.com	20	18	38	A
Bani Bauri	banibauri27@gmail.com	23	18	41	A ⁺
Puja Nandi	nandipuja2001@gmail.com	25	17	42	A ⁺
SAYANI MONDAL	24sayani2000@gmail.com	26	17	43	A ⁺
Shatabdi Roy	shatabdi12122000@gmail.com	25	17	42	A ⁺
ANKITA NAHA	ankitanaha451@gmail.com	25	17	42	A ⁺
ANANYA ROY	mail2000ananyaroy@gmail.com	26	17	43	A ⁺
Durba Mondal	durbamondal059@gmail.com	24	17	41	A ⁺
Nisha Bauri	nishabauri16102002@gmail.com	28	18	46	A ⁺
Tania parvin	taniaparvin78692@gmail.com	20	19	39	A ⁺
Priyanka Sengupta	senguptapriyanka2001@gmail.com	28	17	45	A ⁺
TANUSHREE JANA	tanushreejana333@gmail.com	25	16	41	A ⁺
Priti Das	daspritidas729@gmail.com	26	17	43	A ⁺
PALLABI debnath	debnathpallabi40@gmail.com	25	17	42	A ⁺

Esha Thakur	eshath.444@gmail.com	24	18	42	A ⁺
Priya Gandhi	Priyagandhi4152@gmail.com	22	18	40	A ⁺
Deep mukherjee	Mukherjeedeep832@gmail.com	20	19	39	A

Department of History
(Hindi Shift)

To
The Principal through IQAC
Banwarilal Bhalotia College
Asansol-713303, WB, India

Subject - Departmental Meeting regarding framing of the detailed Syllabus and Schedule for the **Certificate Course on "A History of Business in India: from Ancient to Modern Times"** to be conducted by the Department of History (Hind Shift).

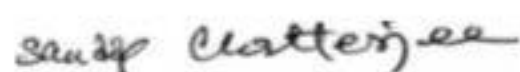
Dear Sir,

We are delighted to inform that the Department of History (Hindi Shift) is proposing a Certificate Course on **"A History of Business in India: from Ancient to Modern Times."** In this connection, the Department of History (Hindi Shift) held a meeting on **28.09.2021** with all the faculties of the department to decide on the syllabus and schedule of the proposed Certificate Course. Following resolutions were reached upon in the meeting –

1. The course will comprise of **40 hours**.
2. The entire course will be conducted **online**.
4. The course is scheduled to start on **01/11/2021** and to end on **04/12/2021** with the **valedictory ceremony** and certificate distribution to be held on **08/12/2021**.
5. All the respected faculty members of our department will deliver lectures. Moreover, **resource persons from other Universities and Colleges in India** have kindly agreed to deliver lectures to our beloved students.
6. The detailed **syllabus** was also chalked-out in this meeting.

On behalf of all the faculty members of the department, I would humbly request you to give us permission for the proposed course.

Thanking you in anticipation,



Dr. Sandip Chatterjee,
Assistant Professor and **Course Coordinator.**
Dept. of History (Hindi Shift)
Banwarilal Bhalotia College
Date: 28.09.2021

Date: 29/09/2021

NOTICE

This is to inform our beloved students that the Department of History (Hindi Shift) is starting a CERTIFICATE COURSE, which is duly approved by the IQAC, Banwarilal Bhalotia College, Asansol.

Details of the course

- 1. Course Title: “A History of Business in India: from Ancient to Modern Times”**
- 2. Duration of the course: 40 hours**
- 3. Course Fee: INR 100 only** (Students should make their payments to the following College account:
Bank Name= Punjab National Bank, Branch= Ushagram, Asansol, A/c Name= Banwarilal Bhalotia College, A/c No.=0824050010032, IFSC = PUNB0082420, MICR= 713024008).
- After payment, please send screenshots or photos of payment to WhatsApp- **9830527441** and email- **business.history.bbcollege@gmail.com**
- 4. Target Participants:** Undergraduate students of Social Sciences and Humanities of our College
- 5. Number of seats:** 80 (Eighty) (Seats will be filled on “first come first served” basis)
- 6. Last day of registration of names:** 26 October, 2021
- 7. Starting Date:** 1 November, 2021

Certificates will be awarded on completion of the course.

For registration, please fill up the google form:

<https://forms.gle/Y66coxvnQCG8sQMg6>

In case of any queries, contact **Dr. Sandip Chatterjee**- Ph. 9830527441,
email- business.history.bbcollege@gmail.com

A Basu

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman
West Bengal - 713303

Sandip Chatterjee

Course Co-Ordinator

Dr. Sandip Chatterjee

Department of History (Hindi Shift)

Banwarilal Bhalotia College, Asansol

17 th November, 6 PM	History of the Early Industries in Modern India: Making a Case for Business History	Dr. Sandip Chatterjee , Assistant Professor, Department of History (Hindi Shift), Banwarilal Bhalotia College
19 th November, 6 PM	Industries in Early Modern India: A Few Case Studies	Dr. Sandip Chatterjee , Assistant Professor, Department of History (Hindi Shift), Banwarilal Bhalotia College
20 th November, 6 PM	Transport as the Domination of the Colonial Business: The Case of Railway	Dr. Debashis Mandal , Assistant Professor, Department of History (Hindi Shift), Banwarilal Bhalotia College
22 nd November, 6 PM	The Emergence of the Big Business: Steel and Mining Industries	Mr. Subhas Siddharth , State Aided College Teacher, Department of History (Hindi Shift), Banwarilal Bhalotia College
23 rd November, 6 PM	Indigenous Business Enterprises and the Swadeshi movement	Mrs. Kanchan Kumari , State Aided College Teacher, Department of History (Hindi Shift), Banwarilal Bhalotia College
24 th November, 6 PM	The Business of War in Colonial India	Dr. Manas Dutta , Assistant Professor, Department of History, Aliah University , Kolkata
25 th November, 6 PM	The Sweetmeat Sellers of Kotechandpur and the Case of the Light Railway: A Story from 1880s Bengal	Dr. Paulami Guha Biswas , Visiting Faculty, Department of History, Ambedkar University Delhi
26 th November, 7.30 PM	The Business of Movie Making in Late Colonial India	Dr. Nandita Banerjee , Associate Professor, Department of History, Sidho-Kanho-Birsha University , Purulia
27 th November, 4.30 PM	The Business of Cinema in Early Post-colonial Period in India	Dr. Nandita Banerjee , Associate Professor, Department of History, Sidho-Kanho-Birsha University , Purulia
1 st December, 6 PM	Transport as the Domination of the Colonial Business: The Case of Shipping	Dr. Debashis Mandal , Assistant Professor, Department of History (Hindi Shift), Banwarilal Bhalotia College
2 nd December, 6 PM	Market, Money and the Circulation of Capital	Dr. Sushmita Pati , Assistant Professor, National Law School of India University , Bangalore
3 rd December, 6.30 PM	The Business of War in Post-Colonial India	Dr. Manas Dutta , Assistant Professor, Department of History, Aliah University , Kolkata

2 nd December, 6 PM	Market Money and the Circulation of Capital	Dr. Sushmita Pati , Assistant Professor, National Law School of India University , Bangalore
3 rd December, 6.30 PM	The Business of War in Post-Colonial India	Dr. Manas Dutta , Assistant Professor, Department of History, Aliah University , Kolkata

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4 th December, 7.30 PM	A History of Business in India: Relevance and Future Prospects	Dr. Sandip Chatterjee , Assistant Professor, Department of History (Hindi Shift), Banwarilal Bhalotia College
8 th December, 3 PM	Valedictory Ceremony (to be held offline at the Vivekananda Seminar Hall, Banwarilal Bhalotia College, Asansol)	Guest of Honour: Dr. Tridib Santapa Kundu , Principal, Deshabandhu Mahavidyalaya The event will be graced by our Principal Dr. Amitava Basu , our esteemed colleagues and our beloved students

Sandip Chatterjee

Course Co-Ordinator

Dr. Sandip Chatterjee

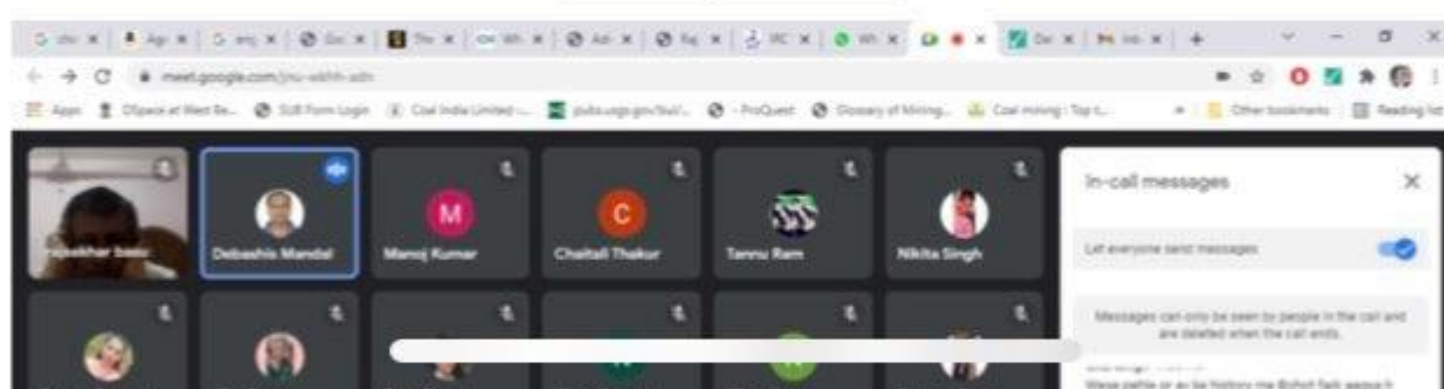
Department of History (Hindi Shift)

Banwarilal Bhalotia College, Asansol

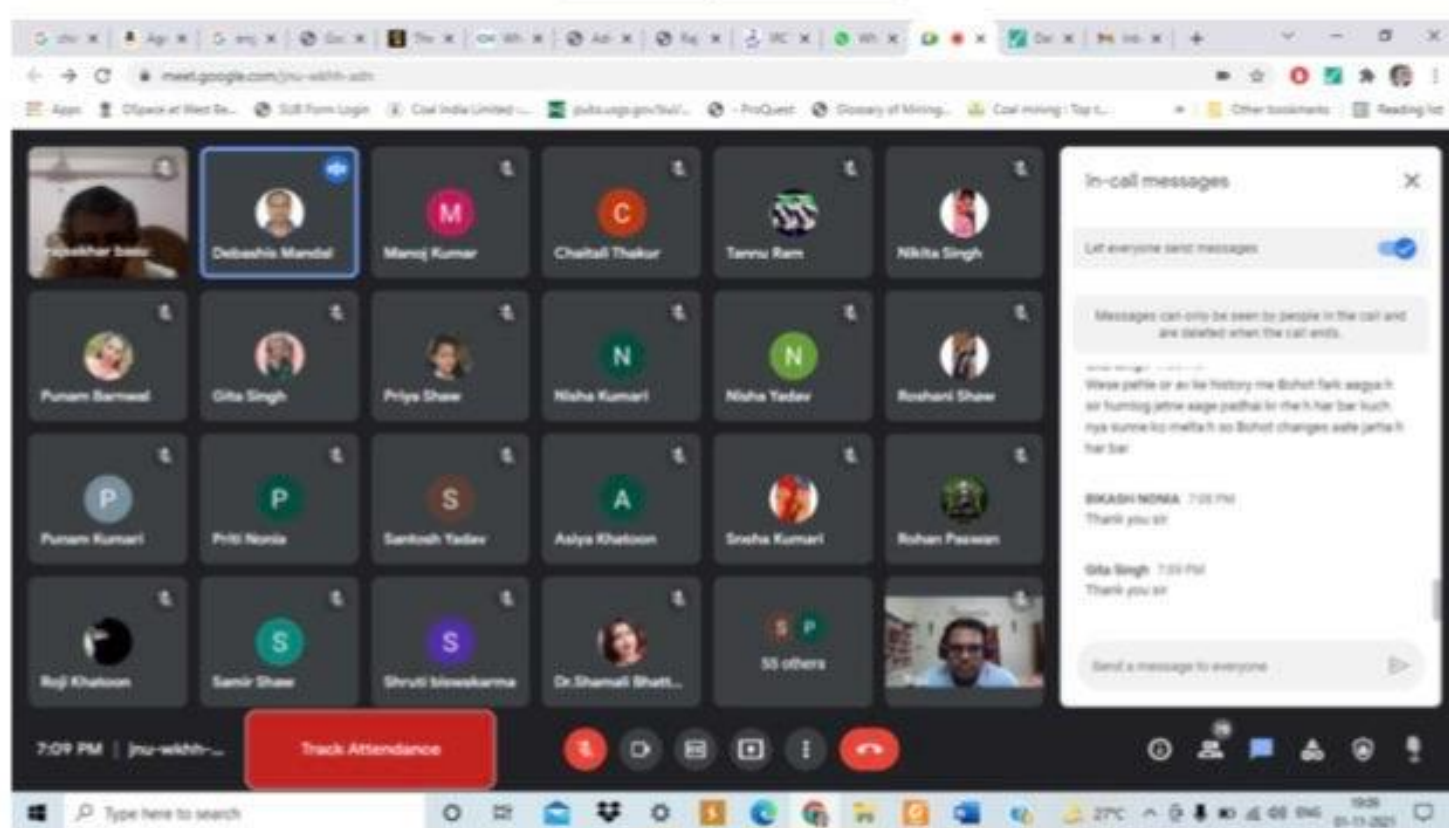
A Basu

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhamar
West Bengal - 713303

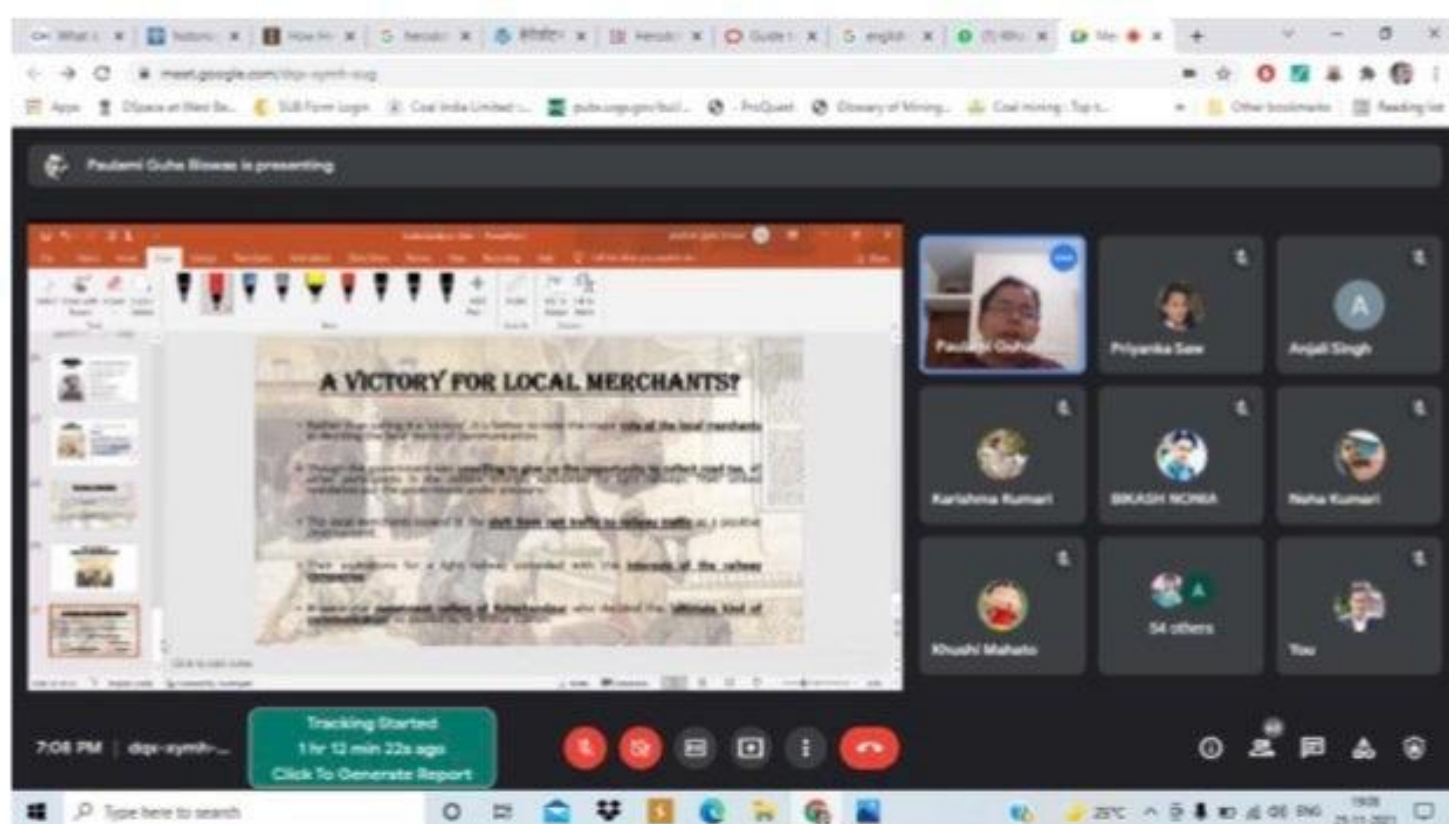
Screenshot of Lecture 1- 1st November, 2021, Prof. Rajsekhar Basu, Department of History,
University of Calcutta



Screenshot of Lecture 1- 1st November, 2021, Prof. Rajsekhar Basu, Department of History,
University of Calcutta



Screenshot of Lecture 14- 25th November: Dr. Paulami Guha Biswas, Ambedkar
University Delhi



3. History of Education System
4. Political Elements in medieval india
5. Social work related
6. Cultural history of modern India
7. Intellectual History

Feedback form link:

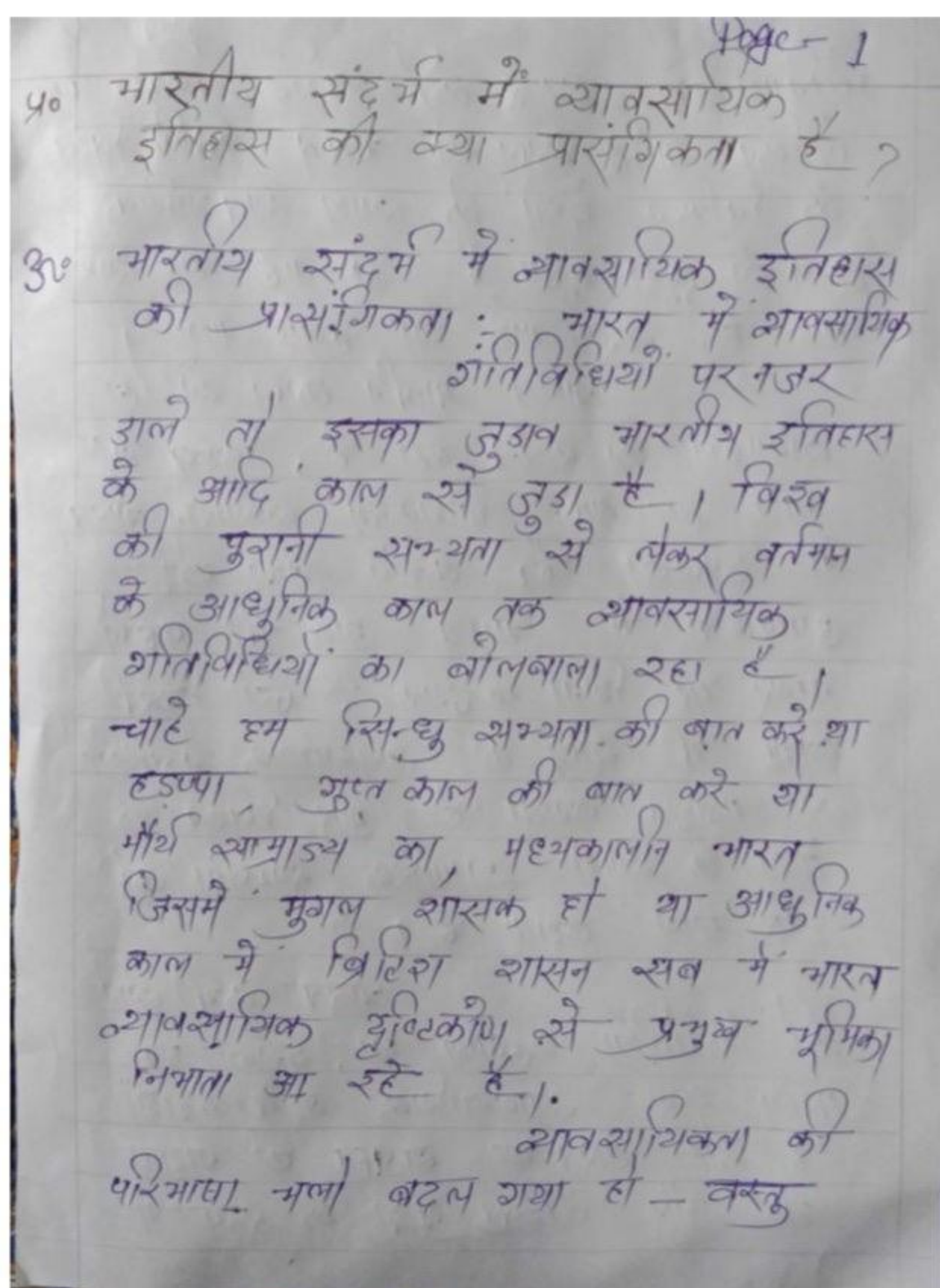
<https://forms.gle/h6DspGtHvuLsJiLu9>

EXAMINATION:

We decided to conduct assignment-based examination and the following assignment was given to the students:

What is the relevance of business history in Indian context? भारतीय संदर्भ में व्यावसायिक इतिहास की क्या प्रासंगिकता है?

Our beloved students did pretty well in the examination and many of them came up with praiseworthy answers. I am attaching one fantastic assignment for your kind perusal.



आवश्यक दुर्लभों से प्रमुख भूमिका
निभाता आ रहे है।

आवश्यकता की
परिभाषा मूलो बदल गया है - वस्तु

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Page 2
विनिमय से वस्तु की खरीद - बिक्री तक
लेकिन आदि काल से भारत विश्व
के विभिन्न देशों के साथ आवश्यक
रूप से जुड़ा हुआ है। चाहे वह समुद्र
मार्ग हो, शक्ति मार्ग या हवाई मार्ग।

भारत प्राचीन काल से ही
संसाधनों का स्रोत रहा है, विश्व में
पाये जाने वाले अधिकतम संसाधन भारत
में उपलब्ध हैं, कच्चे माल की
उपलब्धता में भारत अब भी पहले
नम्बर पर गिना जाता है जो किसी
देश की राष्ट्र की आवश्यक नजरिये
से मजबूत करता है और विश्व के
देशों के साथ आर्थिक सम्बंध को
और आगे बढ़ाता है।

भारत कभी सोने
की चिड़िया कहलाता था, इसका एक
मुख्य कारण आवश्यक शक्तिविधियों
है जो भारत के शक्ति को बढ़ाता
था और वैश्विक मुद्रा के रूप में

Page - 3
बहुमूल्य वस्तु, धन प्राप्त करता था।
भारत में...

बहुमूल्य वस्तु, धन प्राप्त करता था।
 भारत में ऐसा भी समय आया जब
 लोग व्यापार के लिए स्पेन, पोर्तुगल के
 सिक्के का उपयोग करते थे जो उस
 समय भारत की देशों का ही आर्थिक
 और पिछड़ी था।

विदेशी आक्रमण भी
 भारत पर आर्थिक दृष्टिकोण से किया
 जाता रहा है। चारों धर्म आक्रमणों
 की करे या मुगल या अंग्रेजों की
 व्यवस्था पहले यहाँ व्यापार करने के लक्ष्य
 (बहाने) से ही आर्थिक रूप में उनसे
 राजनीतिक सलाह दीया लिया और
 अपभिक्षवाद के रूप में बुरा कर भारत का
 गरीब, कंगाल बना दिया।

प्राचीन काल में व्यापार के रूप में
 भारत से मसाले, कपास, विभिन्न वस्तुएँ
 इत्यादि का निर्यात किया जाता था
 क्योंकि यहाँ से सारा वस्तुएँ काफी
 महङ्ग था।

हिंद महासागर का नाम एक ऐसा नाम है
 जो हिंदुस्तान के नाम पर पड़ा इसका मुख्य
 कारण व्यापार मार्ग के रूप में यह महासागर
 है।

अगर हम अपनी औपनिवेशिक भारत
 की बात करें तो इस समय भारतीय
 व्यापार पर पूरी तरह से अंग्रेजों का
 कब्जा था, उनके मुताबिक खेती, चाय,
 कॉफी, कपास, नील, धन के रूप में
 कोयला, और अन्य खनिज पदार्थ चमड़ा
 इत्यादि बनाया जाना विभिन्न प्रकार के
 कच्चे माल को भारत से ब्रिटेन ले जाना
 था। उस समय उत्पादन के रूप में वस्तुओं
 का निर्माण भारत में ही के बराबर होता
 था, क्योंकि उस समय ब्रिटिशों का
 साधनों के रूप में कुछ देखा था। यही
 कारण है अगर समय भारत उत्पादन करने
 वाला था।

आपनी वैश्व काल में ही भारत ने

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पृष्ठ 5
यातायात के कई साधन प्राप्त किये जैसे
रेल परिवहन, हवाई जहाज, पानी जहाज
(शिप) इत्यादि जो आज के समय में
आवसायिक रूप से उसाकों, वस्तुओं
और परिवहन व्यवस्था के रूप में महत्वपूर्ण
भूमिका निभा रहा है।

आजाद भारत में हम
भारतीयों ने व्यापार की दृष्टि से
पूरे विश्व में कार्य शुरू हैं। चाहे
वह उत्पादन समुग्री सं. या सेवा प्रदान
करना या प्रम। आज भारत वैश्वीकरण
की दुनिया में एक तरह से
आवसायिक नजरियों को अपनाया हुआ है
उदाहरण के रूप में, विज्ञान, टेक्नालॉजी
शिक्षा, सांस्कृतिक यहां तक की शारीरिक
आयाम, योग आदि। आवश्यक
Communication के रूप में भारत बहुत
मजबूत हुआ है इसके
साथ सैन्य रूप से भी जो उसके
आनी भारतीय व्यापार को न्यार चोर्ड लगता
है। इसके साथ ही भारत की अमी बहुत कुछ
करना बाकी है।

Attendance

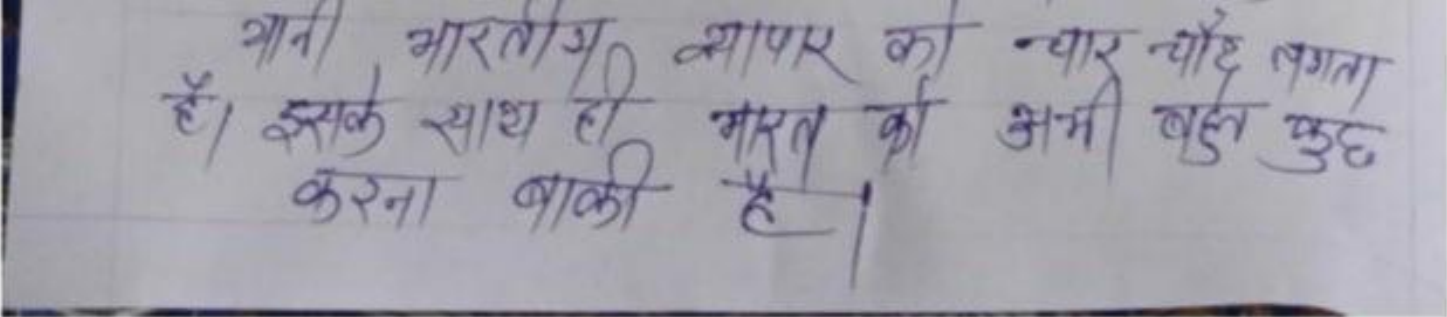
82 students attended the certificate course. Students' attendance was **remarkable** and they were pretty consistent throughout the course. All the classes were held online on **Google Meet** platform and we used **Google Meet Tracker** to keep track of students' attendance. Let me cite one attendance report for your kind perusal.

Google Meet Attendance Tracking Report

Lecture 1: 1st November, 2021

Meeting Name: jnu-wkhh-and, Date: 1-Nov-2021

Number Of People Attended More Than 65% Of Meeting: 72



Attendance

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Meeting Name: jnu-wkhh-and, Date: 1-Nov-2021

Number Of People Attended More Than 65% Of Meeting: **72**

Number Of People Attended Less Than 65% Of Meeting: **21**

S.No	Participant Name	Attended Duration	Attended Percen
1	AISHA SHA	51 min 44s	80%
2	AJIT RAY	50 min 26s	78%
3	AKANKSHA KUMARI YADAV	34 min 30s	54%
4	AKASH BURMAN	51 min 44s	80%
5	AMBRIN AFSANA	51 min 44s	80%
6	ANISHA THAKUR	47 min 8s	73%
7	ANJALI DAS.	45 min 13s	70%
8	ANSU VARMA	51 min 44s	80%
9	ANWESHA ACHARYA	51 min 44s	80%
10	ARBAJ ANSARI	51 min 44s	80%
11	ARTI SHAW,MUSKAN SHAW	14 min 4s	22%
12	ARUN KR.	51 min 44s	80%
13	ASHA RAUTH	51 min 44s	80%
14	ASIYA KHATOON	51 min 30s	80%
15	BIKASH NONIA	51 min 44s	80%
16	BOBBY NONIA	51 min 44s	80%
17	CHAITALI THAKUR	51 min 44s	80%

S.No	Participant Name	Attended Duration	Attended Percentage
18	CHANDANI PARVEEN	50 min 3s	78%
19	CHHAYA KUMARI	50 min 7s	78%
20	DARAKHSHAN SEKH	48 min 16s	75%
21	DEBASHIS MANDAL	1 hr 4 min 52s	100%
22	DIPALIKUMARI SHAW	25 min 33s	40%
23	DR.SHAMALI BHATTACHARYAY	51 min 44s	80%
24	DUKHO CHOUDHARY	51 min 44s	80%
25	GAUSIA SABA	26 min 5s	41%
26	GITA SINGH	51 min 44s	80%
27	GITA TIWARI	6 min 47s	11%
28	JAFAR SEKH	23 min 6s	36%
29	JASBIR KOUR	51 min 21s	80%
30	JAYA CHOUDHARY	51 min 44s	80%
31	JYOTI CHOUDHARY	49 min 16s	76%

32	JYOTI KUMARI CHOWHAN	17 min 28s	27%
33	KAJAL NONIA	51 min 44s	80%
34	KANCHAN BHUIYA	51 min 44s	80%
35	KANCHAN KUMARI	39 min 16s	61%
36	KARAN RAM	17 min 59s	28%
37	KARISHMA KUMARI	50 min 27s	78%
38	KHUSHI MAHATO	51 min 44s	80%
39	KIRAN KUMARI RAJAK	51 min 29s	80%
40	KOMAL PANDEY	22 min 18s	35%
41	KUMKUM SHARMA	47 min 35s	74%
42	KUNDAN V		
43	MANOJ KUMAR	49 min 11s	76%

49	NEHA KUMARI	51 min 44s	80%
50	NELI EKKA	51 min 44s	80%
51	NIKHAT PARBIN	51 min 44s	80%
52	NIKITA SINGH	51 min 44s	80%
53	NIRMALA SHARMA	51 min 44s	80%
54	NIRU KUMARI	27 min 6s	42%
55	NICHA KUMARI	51 min 44s	80%
56		51 min 44s	80%
57		2 min 6s	4%
58		26 min 18s	41%
59	PRITI NONIA	51 min 42s	80%
60	PRIYA KUMARI RAM	41 min 55s	65%
61	PRIYA SHAW	51 min 44s	80%
62	PRIYANKA BURNWAL	50 min 7s	78%
63	PUNAM BARNWAL	22 min 55s	36%
64	PUNAM KUMARI	51 min 44s	80%
65	RABINA KUMARI	51 min 44s	80%
66	RAJSEKHAR BASU	51 min 44s	80%
67	RAKESH KUMAR	51 min 44s	80%
68	RANI NONIA	51 min 44s	80%
69	RANI SINGH	42 min 25s	66%
70	RATAN SINHA	51 min 44s	80%
71	RIYA RAJAK	14 min 54s	23%

S.No	Participant Name	Attended Duration	Attended Percen
72	ROHAN PASWAN	51 min 44s	80%
73	ROJI KHATOON	51 min 44s	80%
74	ROSHANI SHAW	51 min 44s	80%
75	RUDRA ANKIT	49 min 38s	77%
76	SABA TAHREEN	6 min 3s	10%
77	SAKSHI BARMAN	51 min 44s	80%
78	SAMIR SHAW	51 min 44s	80%
79	SANDIP CHATTERJEE	51 min 44s	80%
80	SANTOSH YADAV	51 min 44s	80%
81	SHAHESTA PARWEEN	51 min 33s	80%
82	SHRUTI BISWAKARMA	51 min 44s	80%
83	SHRUTI KUMARI	51 min 44s	80%
84	SNEHA KUMARI	51 min 44s	80%
85	SOHRAT FATMA	51 min 44s	80%
86	SONALI SHAW	49 min 49s	77%
87	SONU VIRAT	51 min 44s	80%
88	SUBHASH SIDHARTH	51 min 44s	80%
89	SUJEET RAJAK	51 min 44s	80%
90	SWETA PASWAN	51 min 44s	80%
91	TANISHA KAUR	51 min 44s	80%
92	TANIYA RAI	23 min 52s	37%
93	TANNU RAM	51 min 44s	80%



Banwarilal Bhalotia College

Department of History (Hindi Shift)

Certificate of Participation

On Successful Completion of a Certificate Course titled
"A History of Business in India: from Ancient to Modern Times"

Awarded to

Mr./Ms./Mrs. SUJEET RAJAK

of 5TH SEMESTER HISTORY HONOURS

of ***Banwarilal Bhalotia College*** for his/her participation in a certificate course of 40 hours duration organised by the department of History (Hindi shift) under the aegis of IQAC, Banwarilal Bhalotia College, Asansol-713303, West Bengal, India

SIGNATURE OF COURSE
COORDINATOR
Dr. Sandip Chatterjee
Banwarilal Bhalotia
College, Asansol

SIGNATURE OF COORDINATOR
IQAC
Dr. Sudipta Das
Banwarilal Bhalotia College,
Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
Banwarilal Bhalotia College,
Asansol

The Format of Certificates given to Resource Persons



Valedictory Ceremony on 08/12/2021

Certificates conferred upon by Dr. Amitava Basu, Principal, Banwarilal Bhalotia College





Certificates conferred upon by Dr. Tridib Santpa Kundu, the Principal of Deshabandhu Mahavidyalaya and the Guest of Honour of the Valedictory Ceremony



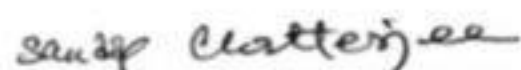
To
The Principal
Banwarilal Bhalotia College
Asansol - 713303,
West Bengal, India

Subject - Report of the Certificate Course on "A History of Business in India: from Ancient to Modern Times" (From 01.11.2021 to 08.12.2021) conducted by the Department of History (Hind Shift)

Dear Sir,

With respect to the above-mentioned subject, I am delighted to report you that the Certificate Course on **"A History of Business in India: from Ancient to Modern Times"**, conducted by our department this year has been completed. **82 students** completed the course and received certificates in the valedictory session. As mentioned in our schedule, the course was of **40 hours** duration. It started with the Inaugural lecture of **Professor Rajsekhar Basu, Professor, Department of History, University of Calcutta** via Google meet. Rest of the Lectures were delivered by our departmental faculties as well as **resource persons from other Universities and Colleges in India**. I, as a co-ordinator, extend my sincere thanks to all of them. The feedback of the students is encouraging and they are demanding more similar courses in the near future. All the documents of the course are attached herewith for your kind perusal.

Yours sincerely,



Dr. Sandip Chatterjee

Course co-ordinator
Dept. of History (Hindi Shift)
Banwarilal Bhalotia College
Asansol-713303,
West Bengal, India
Date: 10.12.2021

Department of Mathematics



Report on the Online Certificate Course on
A Tensorial Way to Relativity & Cosmology
Organized by
Department of Mathematics
Banwarilal Bhalotia College, Asansol

As per the growing need of the UG and PG level students in Mathematics and Physics, a twelve-week Online Certificate Course on the topic “A Tensorial Way to Relativity & Cosmology” was introduced by the Department of Mathematics, Banwarilal Bhalotia College, Asansol, West Bengal, India. The objective of this course was to familiarize the students about the concepts of tensors and to enable them further to use the idea of tensors to develop the Theories in Modern Physics such as Relativity and Cosmology. The curriculum for this course was thoroughly designed by the Course Co-ordinator Dr. Sudipta Das, Assistant Professor in Department of Mathematics, Banwarilal Bhalotia College. The Brochure for this course (attached with this Report) was circulated well in advance. Many students were highly enthusiastic about this course and a total of **107 people** from all over India have registered. A dedicated WhatsApp Group was also created for further communication regarding this Course. This Certificate Course was inaugurated by Prof. Amitava Basu, Principal, Banwarilal Bhalotia College, Asansol through a virtual session on **17th October, 2021**. Dr. Tapas Kumar Maji, Head and Assistant Professor, Department of Mathematics, Banwarilal Bhalotia College greeted the audience by his Welcome Address. Dr. Supriya Pan, Assistant Professor in the Department of Mathematics, Presidency University, Kolkata was our Chief Guest for the Inauguration Program who delivered a lucid speech to the participants to introduce them with the basics of Relativity and Cosmology and to motivate them for further research in these areas. During the course, other topics of Modern Physics were also discussed whenever needed. Also, at a later stage of this course, a brief exposure to the most important open problems for present-day Physics was provided and the current status of the research activities in Relativity and Cosmology were also discussed for the interested students. The course has received some very positive overall feedbacks though some UG level students have requested to offer this course at more basic level as some topics of this course was considered to be much advanced for them. A large amount of assignment problems as well as numerous homework problems were given to the students as hand-in exercises and they submitted their answers through Google Form or WhatsApp. After the twelve-week duration of this course, a Final Test was conducted through Online Assignment on 16th January, 2022. A total of **28 participants** have passed this Test and received Online Certificates through an Online Valedictory Program on **17th January, 2022**.

The other details regarding this Certificate Course is hereby attached along with this Report.

participants have passed this Test and received Online Certificates through an Online Valedictory Program on 17th January, 2022.

The other details regarding this Certificate Course is hereby attached along with this Report.

Certificate Course on A Tensorial Way to Relativity & Cosmology

Course Type: Online Certificate Course (It's free, no Course Fee required)

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Course Organizer: Department of Mathematics, Banwarilal Bhalotia College, Asansol
Under the Aegis of IQAC, Banwarilal Bhalotia College, Asansol

Target Audience: UG/PG Level Mathematics and Physics Students

Pre-Requisites: Basic Knowledge on Geometry, Differential Calculus & Vectors

Course Opening Date: 17th October, 2021 (Tentative)

Course Registration: Register on/before 10th October, 2021 through the following link
<https://forms.gle/dfQo3E9HtNfsxAEw5>

Course Duration: 12 Weeks (Approx. 3 Classes per Week, Each of 1 Hour Duration)

Course Mode: Virtual/Online through Google Meet Platform

Class Timings: All the Classes will be Scheduled in the Evening between 7 PM – 9 PM (IST)

Course Exams: Regular Weekly Assignments & Final Exam at the end of the Course

Course Instructor: Dr. Sudipta Das, Assistant Professor in Department of Mathematics
Banwarilal Bhalotia College, Asansol - 713303, West Bengal, India
Email id: sudipta_jumaths@yahoo.co.in

Course Outline & Outcome:

This course is specifically designed for advanced UG and PG level students in Mathematics and Physics. We will start with the basic idea of tensors as a generalization of vectors. We will then gradually move on to learn the details of algebraic operations on the tensors along with the transformation laws. Then we will proceed to the core topic of tensor calculus and study the ideas like metric tensors, curvature and derivatives of tensors with adequate examples. Finally, we will delve deeper into the course where the applications of tensor calculus in different fields of Physics, especially in Special & General Theory of Relativity and Cosmology will be discussed in details with some elaborate demonstrations. This course will enable the students to learn about the modern-day research topics such as Relativity and Cosmology and to acquire the necessary tools which will surely help them in their future fields of research. Certificates will be issued at the end of the Course to the successful participants.

Course Syllabus/Modules

Week 1 & 2 (Module – 1): Basics of Tensors & Tensor Algebra (5-6 Classes)

Vectors, Euclidean & non-Euclidean Geometry, notations about indices & summation convention, symmetric & anti-symmetric systems, tensors as generalization of vectors, transformation properties of tensors: contravariant, covariant & mixed tensors, algebraic operations on tensors: contraction, inner product & outer product of tensors, idea of metric tensor and its applications. **Assignments at the end of each week.**

Week 3, 4 & 5 (Module – 2): Introduction to Tensors Calculus (8 Classes)

Differentiation of tensors: covariant derivative, definition and properties of affine connection & Christoffel symbols, differential operators & their properties: gradient, curl, divergence & Laplacian, Lagrangian & geodesic equations, definition & properties of Riemann curvature tensor, Ricci tensor & Ricci scalar. **Assignments at the end of each week.**

Week 6, 7 & 8 (Module – 3): Tensorial Description of Special Theory of Relativity (9-10 Classes)



Back Final Report on Certi...



Differentiation of tensors: covariant derivative, definition and properties of affine connection & Christoffel symbols, differential operators & their properties: gradient, curl, divergence & Laplacian, Lagrangian & geodesic equations, definition & properties of Riemann curvature tensor, Ricci tensor & Ricci scalar. **Assignments at the end of each week.**

Week 6, 7 & 8 (Module – 3): Tensorial Description of Special Theory of Relativity (9-10 Classes)

4-dimensional Minkowski Spacetime & four-vectors, Principles of Relativity, interval between two events, Lorentz transformations: time dilation & length contraction, velocity & acceleration four-vectors, energy-momentum four-vector, angular momentum tensor, relativistic dynamics: covariant Newton's law, covariant laws of electromagnetism. **Assignments at the end of each week.**

Week 9, 10, 11 & 12 (Module – 4): Applications to General Relativity & Cosmology (12 Classes)

Action integral, electromagnetic field equations, action for matter fields, Einstein tensor, Introduction to Theory of General Relativity, Einstein field equations, Black Holes: Schwarzschild solution, introduction to Cosmology: Robertson-Walker metric, Friedmann equations, solutions to Friedmann equations and models of our Universe, distance measurements, cosmological redshift, Hubble law and expanding universe, Basic idea of Cosmic Microwave Background Radiation (CMBR). **Assignments at the end of each week.**

Course Materials/Reference Books:

Basic Texts:

1. Tensors, Relativity and Cosmology by Mirjana Dalarsson & Nils Dalarsson, Academic Press.
2. Introducing Einstein's Relativity by Ray D'Inverno, Oxford University Press.
3. Spacetime and Geometry by Sean M. Carroll, Addison Wesley.

For Further Reading:

4. Lecture Notes on General Relativity by Matthias Blau.

<http://www.blau.itp.unibe.ch/GRlecturenotes.html>

5. Relativity, Gravitation and Cosmology by Robert J. A. Lambourne, Cambridge Publishers.

About Course Instructor:

Dr. Sudipta Das has joined at Banwarilal Bhalotia College, Asansol on 25th February, 2015 as an Assistant Professor in Mathematics and working here till date. He has completed his Ph.D. from Indian Statistical Institute, Kolkata on 7th January, 2015. His specialization is in Mathematical Physics and his research interest lies in the fields of Relativity and Cosmology, especially on the topic of Dark Energy in Cosmology. Presently he is offering numerous UG Courses for B.Sc. Mathematics Hons. students on Differential Calculus & Differential Equations, Calculus of Several Variables, Particle Dynamics, Dynamics of Rigid Bodies, Probability & Statistics, Special Theory of relativity; and one PG Course for M.Sc. Physics students on Special Theory of Relativity. An avid reader and traveller, whenever not busy with teaching jobs or research works, Dr. Das can often be found to be travelling in the Himalayas.



Inauguration Program for the Certificate Course on



4 of 7

**Inauguration Program for the Certificate Course on
A Tensorial Way to Relativity & Cosmology**

Organized by

Department of Mathematics, Banwarilal Bhalotia College, Asansol

Under the Aegis of

IQAC, Banwarilal Bhalotia College, Asansol

Date: 17th October, 2021

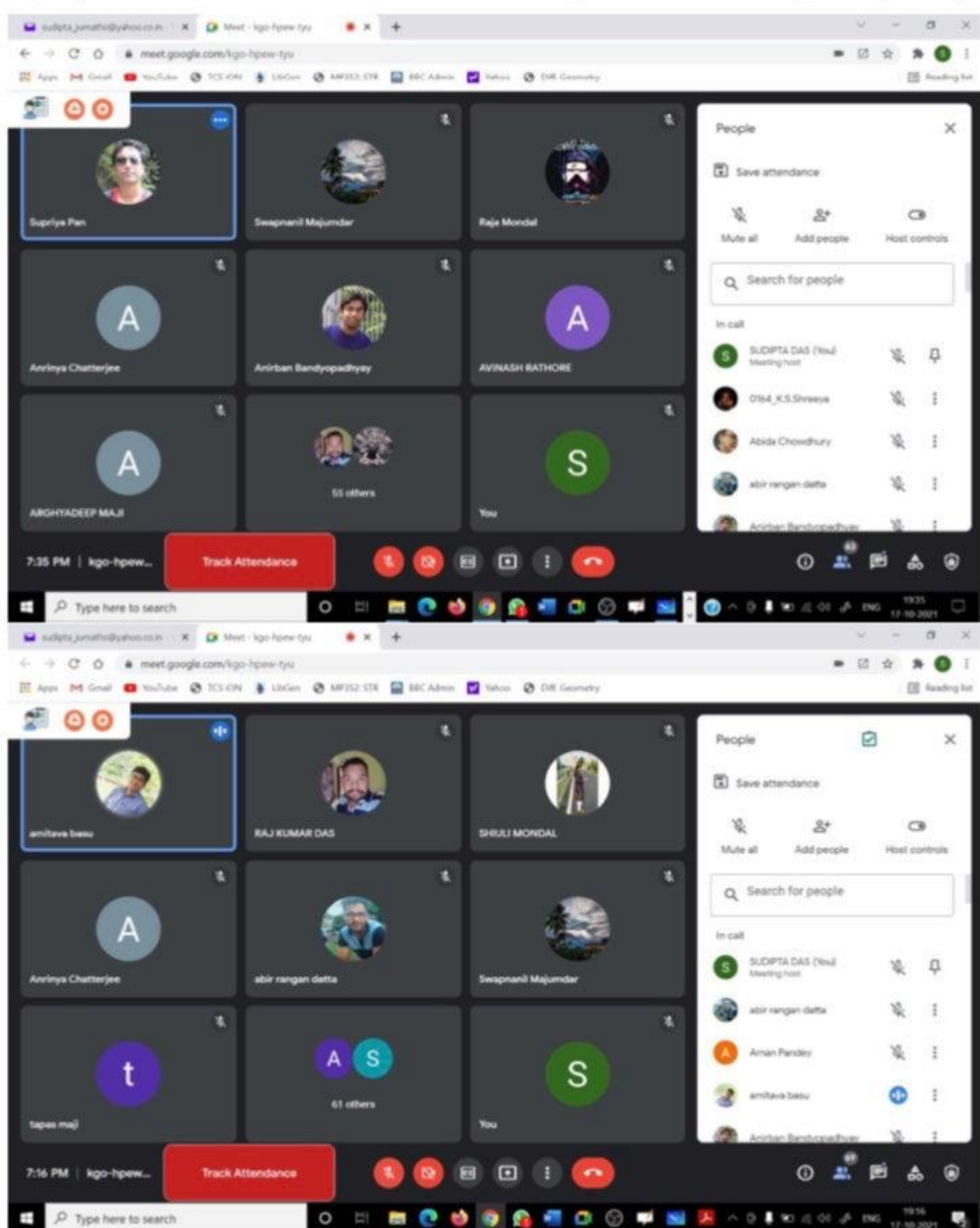
Time: 7 PM Onward

Program	Dignitaries	Schedule
Introductory Speech	Dr. Tapas Kumar Maji Head & Assistant Professor Department of Mathematics Banwarilal Bhalotia College, Asansol	7:00 PM
Welcome Address & Inaugural Speech	Prof. (Dr.) Amitava Basu Principal Banwarilal Bhalotia College, Asansol	7:10 PM
Invited Speech	Dr. Supriya Pan (Guest Speaker) Assistant Professor Department of Mathematics Presidency University, Kolkata	7:20 PM

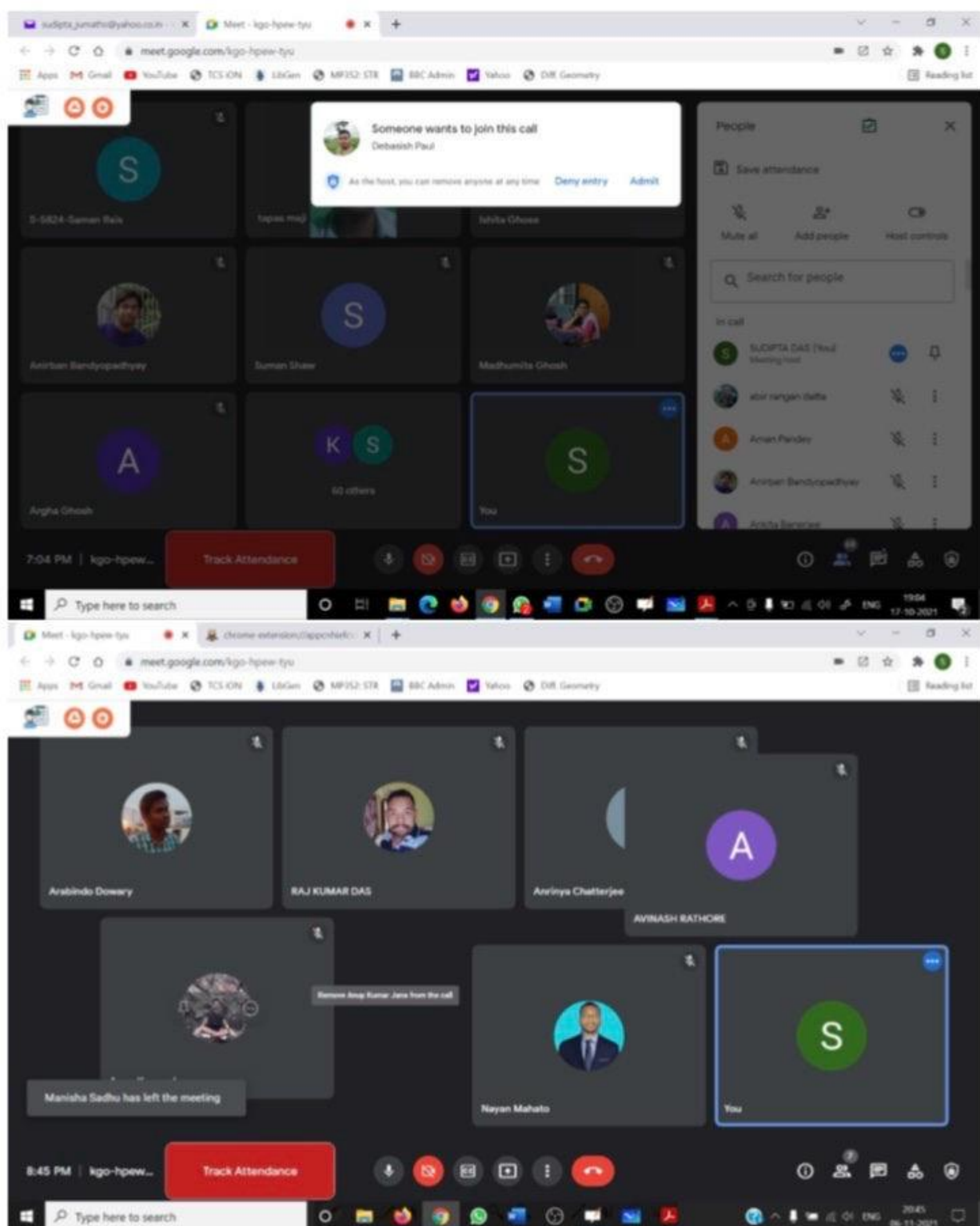
**Meeting Link: <https://meet.google.com/kgo-hpew-tyu>
(Please join 5 minutes before schedule for smooth functioning)**



Sample Screenshots of Classes of Certificate Course During Jan 2021 to Dec 2021 by Dr. Sudipta Das



6 of 7



Sample Online Certificates for the Course



Sample Online Certificates for the Course



Department of Philosophy

**A Certificate Course on
Stress Management – A Solution to Personality Disorders**

Course Type: (Online Certificate Course .It's free, no Course Fee required)

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Course Organizer: Department of Philosophy & Education , Banwarilal Bhalotia College, Asansol

Target Audience: UG Level Students

Pre-Requisites: Basic Knowledge on psychology and computer or smart phone.

Course Opening Date: 11 /11/2021 (Tentative)

Course Registration: Register on/before 09 /11 / 2021 through the following link

<https://forms.gle/UfkZoz5N7vFE3HfV>

Course Duration: 5Weeks (Approx. 6 Classes per Week, Each of 1 Hour Duration, Except Sunday)

Course Mode: Virtual/Online through Google Meet Platform

Class Timings: All the Classes will be scheduled in the Evening between 7 PM – 9 PM (IST)

Course Evaluation: Final Assessment at the end of the Course

Course Instructor: Dr Sutapa Basu , Associate Professor in Department of Philosophy

Banwarilal Bhalotia College, Asansol - 713303, West Bengal, India

Email id: sutapa.basu57@gmail.com

Course Outline & Outcome:

This course is specifically designed for all UG level students . We will start with the basic ideas of stress, adjustment ,mal adjustment and its impact on day to day lives of the students. We will then gradually proceed on to learn the details of how stress hampers significantly the development of personality and day to day works in various ways. Then we will proceed to the core topic of how to cope with stress and stress management with adequate examples and expert opinions. Finally, we will go deeper into the course where the applications of stress management and its benefits will be discussed in details. This course will enable the students to learn how the modern-day stress full life leads to various mental disorder and to acquire the necessary knowledge which will surely help them in their future and will enable them to develop a clear insight for balanced personality development and successful adjustment. Certificates will be issued at the end of the Course to the successful participants.

Course Syllabus/Modules :

Week 1 & 2 (Module – 1): What is stress and causes of stress and its impact on daily lives. (7-8 Classes)

Meaning and definition of stress. Causes of stress among college goer. Types of Stress , Sources of Stress

Week 3, 4 (Module – 2): What is adjustment, mal-adjustment, personality and its relation with stress. (8 Classes)

Concept of adjustment and mal-adjustment. Different factors responsible for mal adjustment. A brief idea on personality and its determinants, theories and techniques of assessment.

Week 5,6 (Module – 3): Stress management and coping strategies. (7-8 Classes)

Ways of reducing stress and various coping strategies to dealt with stress and lead a happy and healthier life.

Week 7,8 (Module – 4): Assessment techniques of personality and feedbacks from the students. (8 Classes)

Benefits of personality assessment, various techniques of assessing personality; observation, situational test, questionnaire, personality inventory, rating scale and projective techniques.

Assignments at the end of week.

Course Materials/Reference Books:

Basic Texts:

1. S. K. Mangal- Essentials of Educational Psychology.
2. সুশীল রায়- শিক্ষা মনোবিদ্যা
3. ডঃ সনৎ কুমার ঘোষ- শিক্ষায় সংগতি - অপ সংগতি এবং নির্দেশনা
4. NCERT- Guidance and Counselling
5. Dr. K.P. Sehgal- Guidance and Counselling
6. Bhan S. & Dutt, N. K. (1986). Mental Health through Education. New Delhi: Vision Books.
7. Brown, J. F. (1940). The Psycho-dynamics of Abnormal Behavior. New York: McGraw Hill Book Co.
8. PPT, PDF and other study materials.

Chairperson: Professor, (Dr) Amitava Basu, Principal, Banwarilal Bhalotia College, Asansol

About Course Instructor:

Dr. Sutapa Basu, Associate Professor in Philosophy has been serving in the B.B. College, Asansol since past 30 years. She is a dedicated and students favoured teacher of repute. She has been associated with many research projects and published many papers in the various reputed journals. Her educational contribution also includes many UGC sponsored research projects including two post-doctoral projects from the Ramakrishna Mission Institute of Culture, Golpark, Kolkata. She has also published three books to her credit; Indian philosophy, The life and teaching of Sri Sarada Devi-The Divine philosopher, Sri Sri Maa Sarada – Matrviter Darshan. Except this she has kept herself involved with many philanthropist works. She used to get regular invitations to deliver lectures on Sri Sri Maa Sarada & Swami Vivekananda.

Course Coordinator :

Satyashree Deviprasad Rout, Department of Education, Banwarilal Bhalotia College, Asansol
Contact mail id : mrsdprout@gmail.com

Link for Registration will remain open till – 9/11/2021

<https://forms.gle/UfkZoz5N7vFE3HfV>

CERTIFICATE COURSE : STRESS MANAGEMENT - A SOLUTION TO PERSONALITY DISORDERS
INSTRUCTORS SCHEDULE:

1. Dr. Sutapa Basu.[Philosophy]
2. Dr.Santosh Kumar Behera. [Education]
3. Mrs.Susmita layek (Banarjee). [Philosophy]
4. Mrs.Tutul Chattaraj.[Philosophy]
5. Mr.Satyashree Deviprasad Rout. [Education]
- 6.Miss.Poulomi Sarkar. [Education]

1	11/11/2021	Dr. Sutapa Basu	Introduction about the course	Unit-1
2	12/11/2021		Aims, Objective, ... etc	
3	13/11/2021	Satyashree Rout	Stress- Meaning, Causes	
4	16/11/2021		Types,	
5	18/11/2021		Causes of stress among adults.	
6	20/11/2021		Effect of stress	
7	22/11/2021	Dr.Santosh Kr Behera	Need and demand to know on stress	
8	23/11/2021	Tutul Chattaraj	What is Adjustment & Mal adjust	Unit-2
9	24/11/2021		=	
10	25/11/2021		Factors responsible for Mal-adjust	
11	26/11/2021		Effect of Mal-adjustment & its prohibition	
12	27/11/2021	Sushmita Banarjee	What is personality, Definition,	
13	29/11/2021		Meaning, Importance to know	
14	30/11/2021		On personality. Any theories on	
15	1/12/2021		Personality.	
16	2/12/2021	Poulomi Sarkar	Various Ways of reducing Stress	Unit-3
17	3/12/2021		Need of Exercise & yoga	
18	4/12/2021		Defence Mechanism	
19	6/12/2021		Role Of family	
20	7/12/2021		& Home .	
21	8/12/2021	Satyashree Rout	Coping Strategies	
22	9/12/2021		& various techniques.	
23	10/12/2021		Assessment of Personality	Unit-4
24	11/12/2021		Various techniques	
25	13/12/2021			
26	14/12/2021			
27	15/12/2021			
28	16/12/2021			
29	17/12/2021			
30	18/12/2021	Valedictory Session		

NOTICE

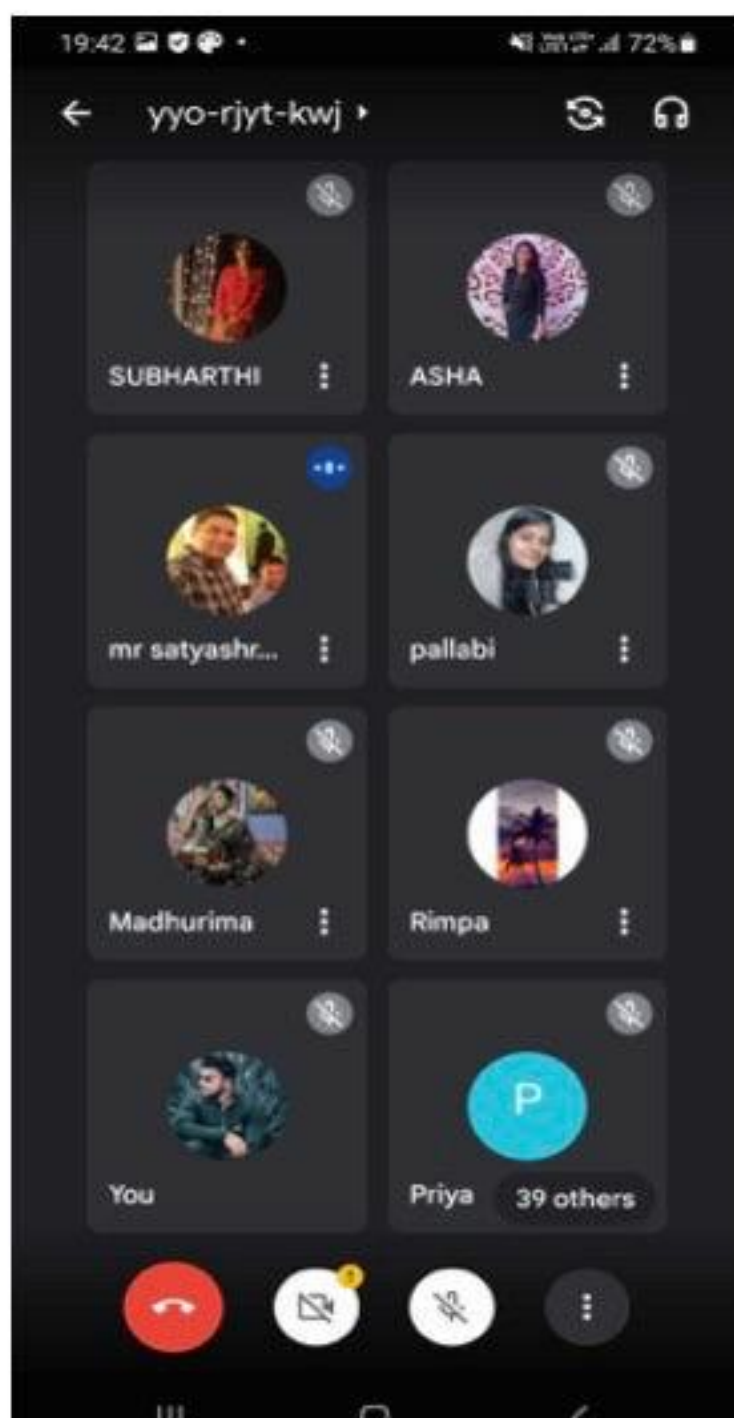
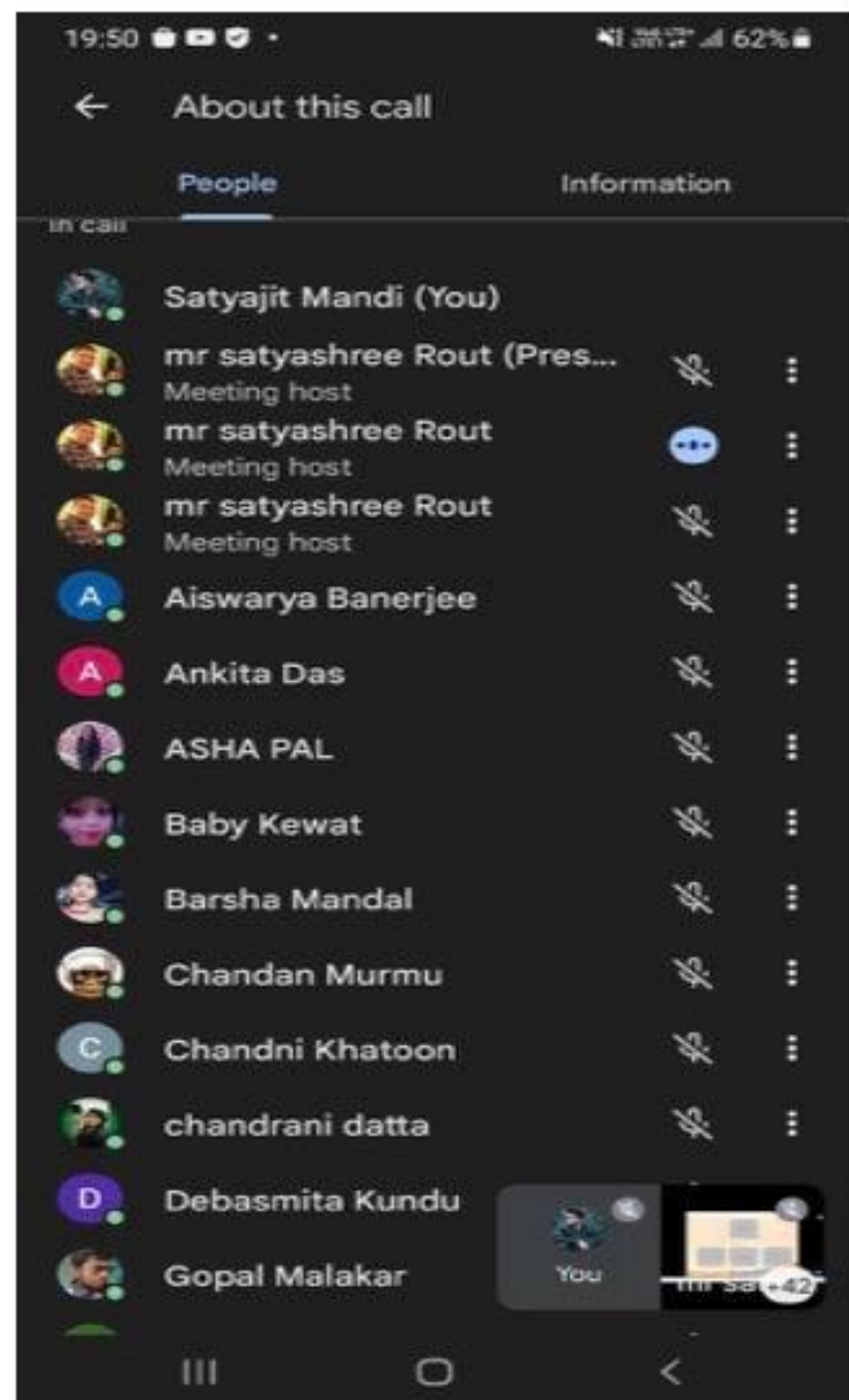
Dear students, first of all our heartfelt thanks to all of you for the sincerity and support towards the certificate course. Without your support it wouldn't have been a grand success. I would like to inform you all that a final assessment of the course would be conducted by the google form(mcq type). A feedback form will be sent to you after that , please fill up the form carefully. The qualifying marks to obtain the Certificate is 30 marks. You must reply to your assessment and feedback form by tomorrow 12pm. After the schedule time is over no reply will be entertained.

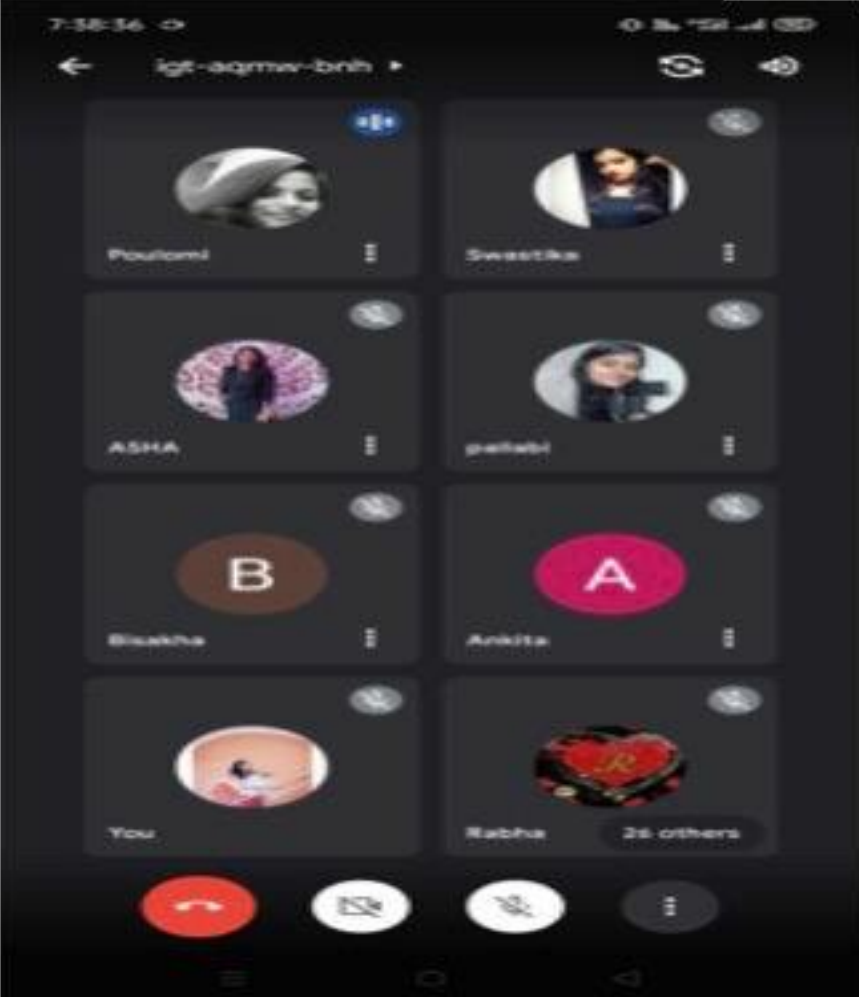
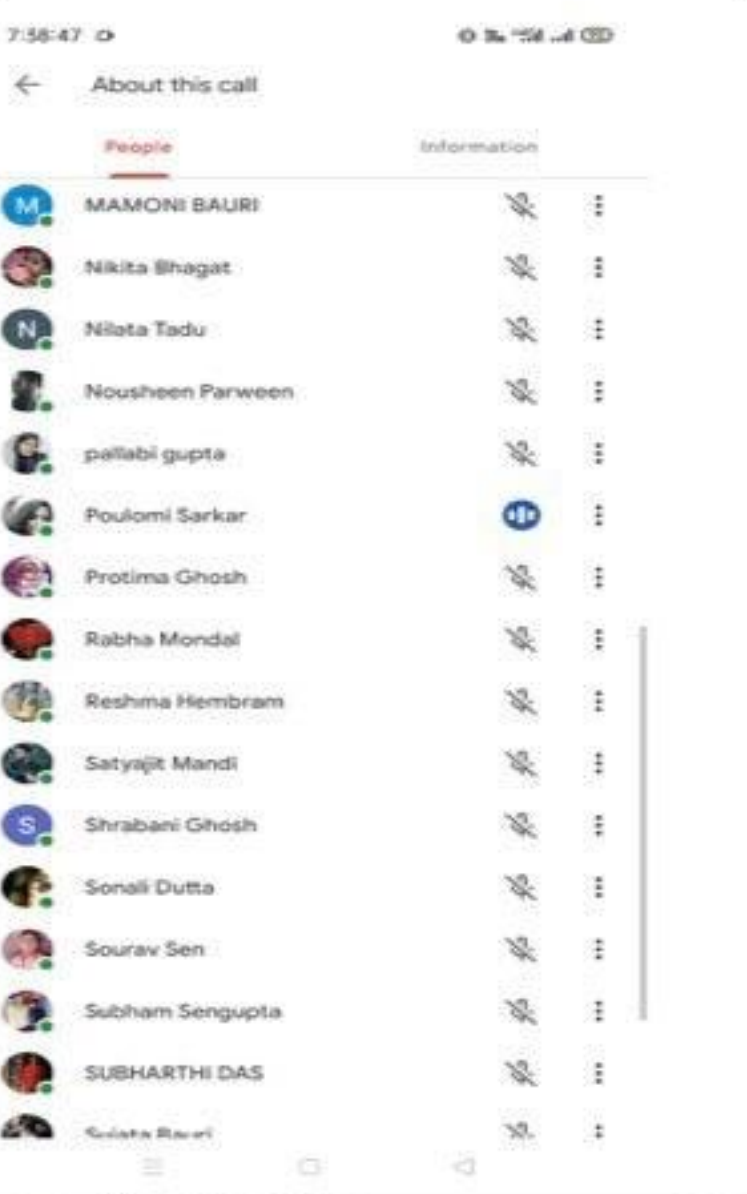
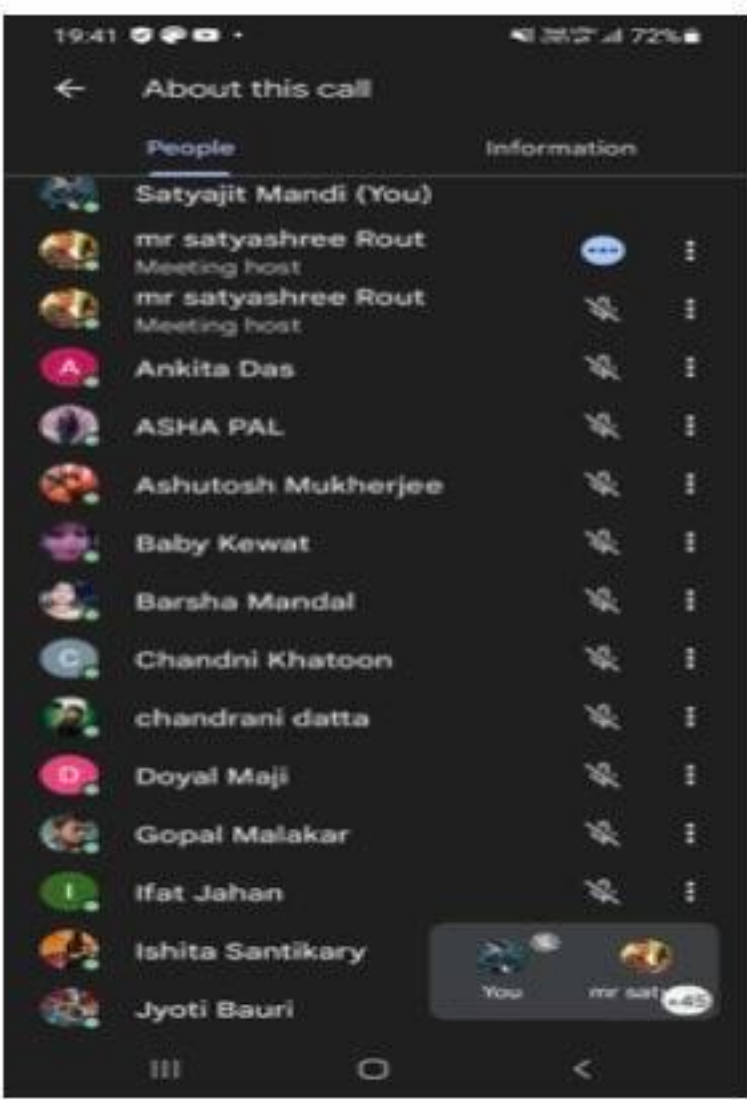
Thank you all.
Course Coordinator.

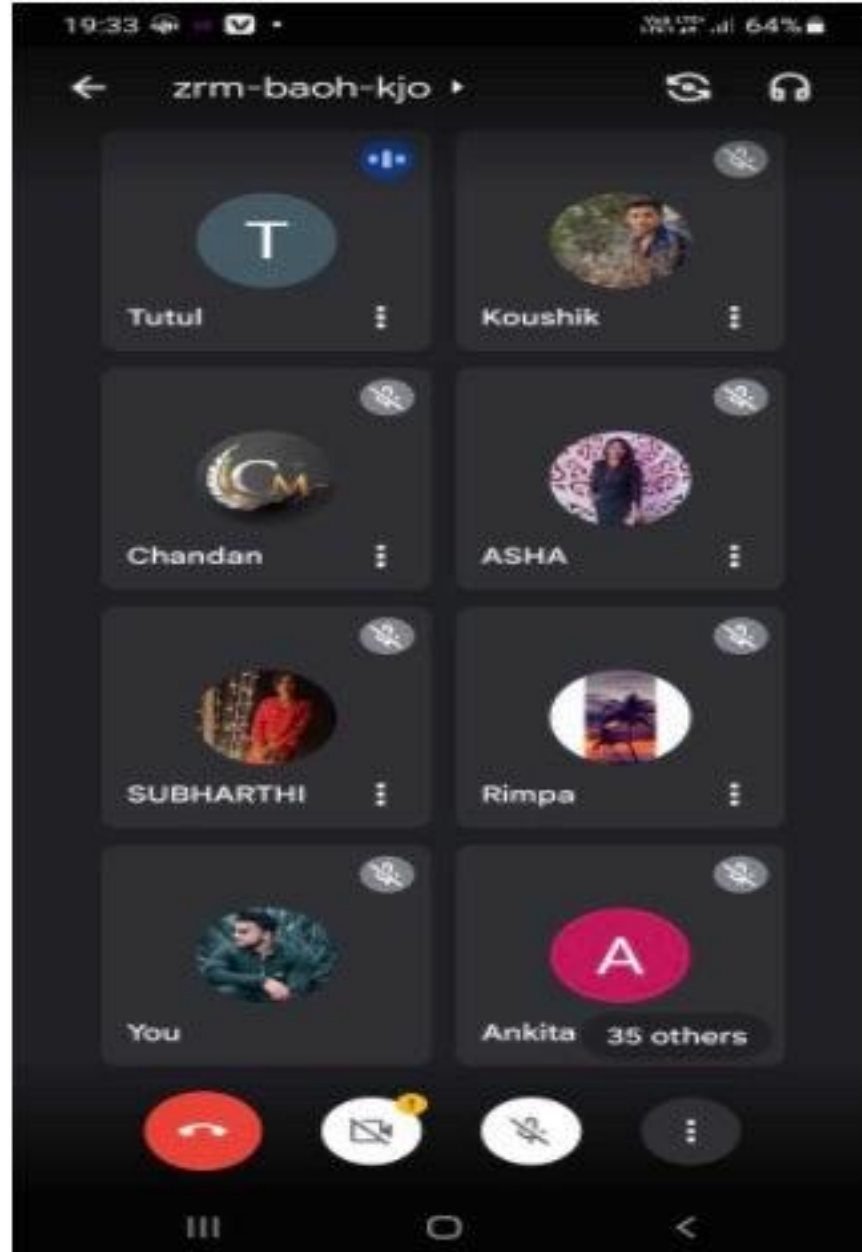
Online classes

A Reminder

Dear Students, the link for your session will be provided to you by this whatsapp group at 6.45 pm. You all can join by clicking on the link through [google meet](#). Waiting eagerly to meet you all soon.







Here are the Certificates of all the Student's who has successfully completed the Certificate Course and those who has participated but don't able to obtained the qualifying marks. All the names and semester name is written according to the data provided by you in the final google form (Assessment form). Still if you find any mistake then inform me personally. Thank you dear student's for your support and love. God bless you all. Students feedback Form on the Certificate Course. Stress Management- A solution to personality disorders.

<https://forms.gle/8svxJPxnySWxUPrJ9>

Banwarilal Bhalotia College



ESTD -1944

Department of Philosophy & Department of Education

Certificate of Participation

Awarded to Mr./Ms./Mrs. Tina Das of
a student of Banwarilal Bhalotia College (Course B.A. Semester 1) has
participated in the Certificate course entitled 'Stress Management – A
Solution to Personality Disorders'. This certificate course of 40 hours
duration was conducted by the Department of Philosophy & Department of
Education under the aegis IQAC of Banwarilal Bhalotia College, Asansol -
713303, West Bengal, India and held during 2021.

SIGNATURE OF COURSE
CO-ORDINATOR

Mr. Satyashree Deviprasad Rout,
Department of Education
B.B.College, Asansol

SIGNATURE OF COURSE
INSTRUCTOR

Dr. Sutapa Basu
Associate Professor,
Department of Philosophy
B.B.College, Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
B.B.College, Asansol

Banwarilal Bhalotia College



ESTD -1944

Department of Philosophy & Department of Education

Certificate of Completion

On successful completion of Certificate Course entitled 'Stress Management
– A Solution to Personality Disorders'.

Awarded to Mr./Ms./Mrs. Ronita Sinha of
a student of Banwarilal Bhalotia College (Course B.A. Semester 1st).
This certificate course of 40 hours duration was conducted by the Department of
Philosophy & Department of Education under the aegis IQAC of Banwarilal
Bhalotia College, Asansol -713303, West Bengal, India and held during 2021.

SIGNATURE OF COURSE
CO-ORDINATOR

Mr. Satyashree Deviprasad Rout,
Department of Education
B.B.College, Asansol

SIGNATURE OF COURSE
INSTRUCTOR

Dr. Sutapa Basu
Associate Professor,
Department of Philosophy
B.B.College, Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
B.B.College, Asansol

Department of Physics

Banwarila Bhalotia College, Asansol

Department of Physics

Certificate Course Report

UG & PG Department of Physics of Banwarilal Bhalotia College, Asansol conducted a **twelve weeks online certificate course** on “*Scientific Writing: Tools & Techniques*” under the aegis of IQAC. The course was started on and from 16th November 2021 and ended on 8th Feb’2022 with a valedictory session. Around **100** participants including faculties as well as students across the country registered for the course. The syllabus of the course was designed by our faculties Dr. Ambalika Biswas and Dr. Abhik Ghosh. Dr. Ambalika Biswas was the coordinator while Dr. Abhik Ghosh was the instructor. Three classes were held per week and regular assessments through assignments, quizzes and projects were done. Attendance above 80% and 70% score in the regular assessments were the two essential criteria that had to be fulfilled by the participants to obtain the course completion certificate. 15 candidates were successfully awarded the certificates in an online valedictory program. The course details along with the syllabus, attendance link, sample certificates, screenshot of valedictory program are attached below.

The brochure:



Course Outline & Outcome	Module 1 (20 L)
The course on scientific writing will prepare the students to writing their thesis and other scientific writings necessary at each step of research. Knowledge about various graph plotting software will help the budding researchers analyse data. This course will give an overall view of scientific research to the students.	Computer skills Using Computer technology (i) Microsoft Word - Formatting (including margins, tabs, indents, justification, etc), Using the table feature, Creating tables of content (ii) Microsoft Excel: Creating tables, charts, graphs. (2 L)
Course Syllabus/Modules	Latex Software (i) Introduction to Latex (ii) Document structure (iii) Mathematical typesetting (iv) Spacing (v) Authors and font styles (vi) Tables, arrays and lists (vii) Multi-line equations (viii) Text formatting (ix) Bibliography (x) Slides (xi) Including graphics (xii) Business letter (14 L)
Module 1 (20 L)	Computer / Mathematics / Python Introduction to plotting graphs with Geogebra (i) Plotting 2D graphs: both functions and data files. Changing plot range, plot style: the options with points (w p), with dots (w d), with lines (w l), with linepoints (w lp), line type (lt), line width (lw). Using the set command for samples, sample names, labels, labels, etc. (ii) Use defined functions [including the use of binary operator (*) for piece-wise defined functions.] (iii) Fitting data files using geogebra (iv) Polar and parametric plots (v) Saving and exporting (4 L)
Research- What is it? How do researchers communicate? Types of scientific communication. Examining examples of different types of scientific communication. (2 L)	Course Materials/Reference Books: 1. The Scientific Literature: A Guided Tour, Joseph E. Murray & Alan G. Gross, University of Chicago Press, New Edition (2017). 2. Communicating Science, Alan G. Gross, Joseph E. Murray, Michael S. Roth, Public Press (2019). 3. LaTeX - A Document Preparation System, Leslie Lamport (Second Edition), Addison Wesley, 1984. 4. Geogebra in action: understanding data with graphs, Philip S. Jones (Publishing 2019). 5. The Mathematica Book, Stephen Wolfram, 7 th Edition, Publisher: Wolfram Media, Inc.
Scientific Literature Searching the scientific literature. Using the UTM library. Using online search engines. What is a refereed journal? Plagiarism and how to avoid it. (2 L)	About Course Co-ordinator and Instructor:
Content Creating a literature review. Reporting other sections of a research report (abstract, introduction, materials and methods, results and discussion, conclusion). Including and summarizing research data. (2 L)	
Reference citation How to cite references (i) Within the text (ii) How to make list of references. (2 L)	
Other communication Other types of scientific writing (i) research proposals (ii) creating a fact sheet/bulletin (iii) articles for popular press (iv) essays, letters and emails. (1 L)	



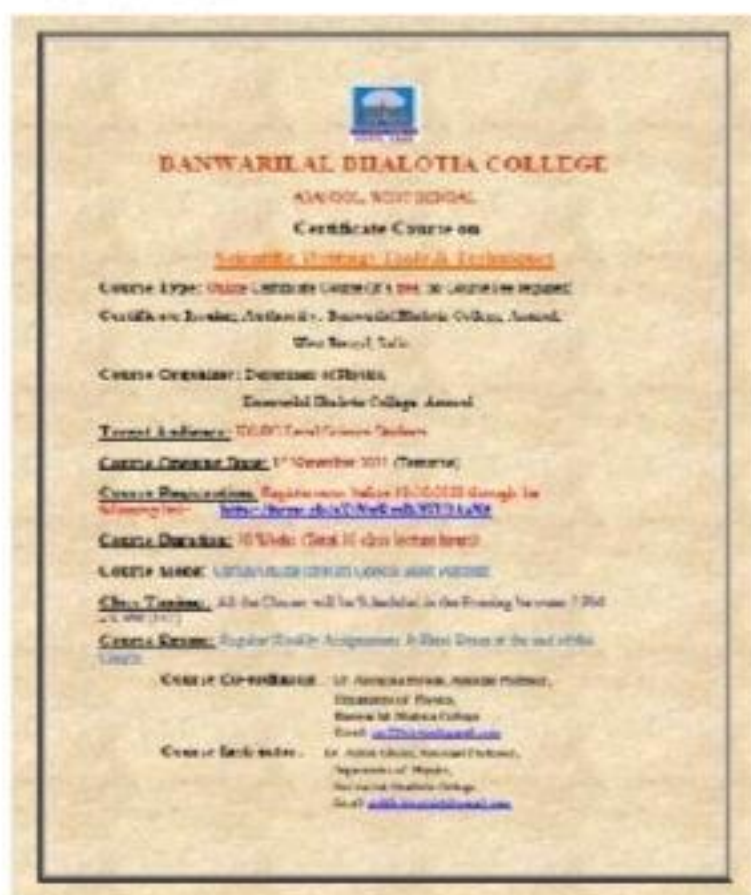
Banwarila Bhalotia College, Asansol

Department of Physics

Certificate Course Report

UG & PG Department of Physics of Banwarilal Bhalotia College, Asansol conducted a **twelve weeks online certificate course** on “*Scientific Writing: Tools & Techniques*” under the aegis of IQAC. The course was started on and from 16th November 2021 and ended on 8th Feb’2022 with a valedictory session. Around **100** participants including faculties as well as students across the country registered for the course. The syllabus of the course was designed by our faculties Dr. Ambalika Biswas and Dr. Abhik Ghosh. Dr. Ambalika Biswas was the coordinator while Dr. Abhik Ghosh was the instructor. Three classes were held per week and regular assessments through assignments, quizzes and projects were done. Attendance above 80% and 70% score in the regular assessments were the two essential criteria that had to be fulfilled by the participants to obtain the course completion certificate. 15 candidates were successfully awarded the certificates in an online valedictory program. The course details along with the syllabus, attendance link, sample certificates, screenshot of valedictory program are attached below.

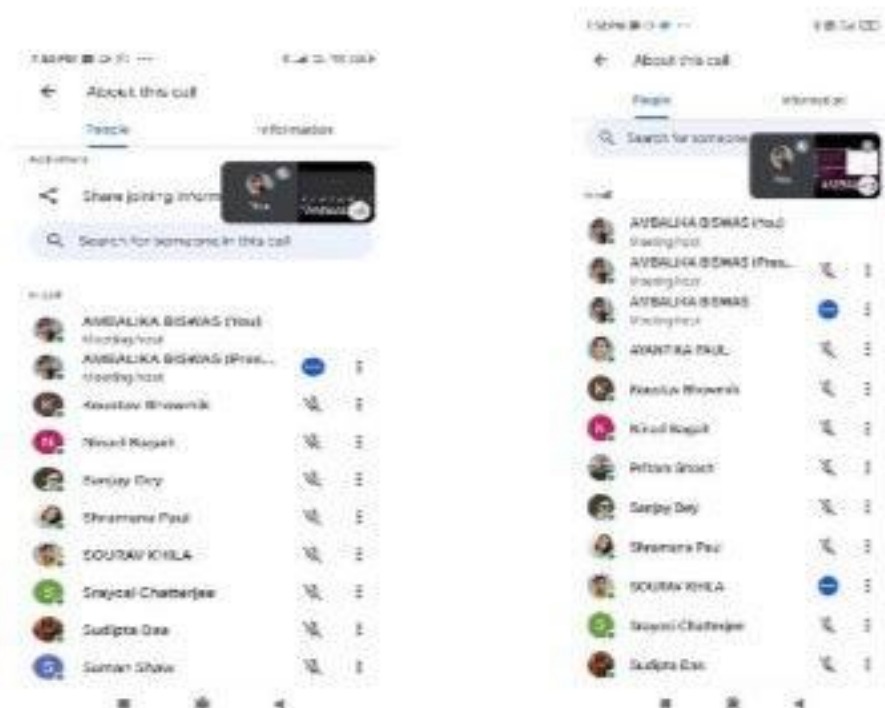
The brochure:



Course Outline & Outcome	
<p>The course on scientific writing will prepare the students for writing their thesis and other scientific writings necessary at each step of research. Knowledge about various graph plotting software will help the budding researchers analyse data. This course will give an overall view of scientific research to the students.</p>	
Course Syllabus/Modules	
Module 1 (08L)	
Introduction	
Research- What is it? How do researchers communicate? Types of scientific communication, Examining examples of different types of scientific communication.	(1 L)
Scientific Literature	
Searching the scientific literature, Using the UTM library, Using online search engines, What is a refereed journal? Publications and how to read it.	(2 L)
Content	
Creating a literature review, Reporting other sections of a research report (abstract, introduction, materials and methods, results and discussion, conclusions), Including and summarizing research data.	(1 L)
Reference citations	
How to use references (i) Within the text (ii) How to make lists of references	(1 L)
Other communication	
Other types of scientific writing (i) research proposals (ii) creating a fact sheet/bulletin (iii) articles for popular press (iv) essays, letters and emails.	(1 L)
Power Presentations	
Organization and formats for posters, Using Microsoft PowerPoint	(1 L)
Oral Presentations	
Designing and preparing slides for oral presentations, Importing tables, charts and graphs from Excel/Originating pictures for use in presentations, Using virtual aids without overloading a Using Microsoft PowerPoint	(1 L)
Module 2 (08 L)	
Computer skills	
Using Computer technology (i) Microsoft Word : Formatting (including margins, tabs, indents, justification, etc), Using the table feature, Creating tables of content (ii) Microsoft Excel: Creating tables, charts, graphs.	(2 L)
Latex Software	
(i) Introduction to Latex (ii) Document structure (iii) Mathematical typesetting (iv) Spacing (v) Accents and their styles (vi) Tables, arrays and lists (vii) Multi-line equations (viii) Text formatting (ix) Bibliography (x) Slides (xi) Including graphics (xii) Business letter (14L)	
Geoglot / Mathematics / Python	
Introduction to plotting graphs with Geoglot (i) Plotting 2D graphs: both functions and data files, Changing plot range, plot style: the options-with points (w p), with dots (w d), with lines (w l), with linespoints (w lp), linestyle (l), linewidth (lw), Using the set command for samples, xrange, yrange, xlabel, ylabel, title etc (ii) Use defined functions [including the use of unary operators (* -) for piece-wise defined functions] (iii) Fitting data files using geoglot (iv) Polar and parametric plots (v) Saving and exporting	(4L)
Course Materials/Reference Books:	
<ol style="list-style-type: none"> The Scientific Literature: A Guided Tour, Joseph E. Harniss & Alan G. Gross, University of Chicago Press, New Edition (2017). Communicating Science, Alan G Gross, Joseph E. Harniss, Michael S. Kelly, Palgrave Press (2007) LaTeX - A Document Preparation System, Leslie Lamport (Second Edition), Addison-Wesley, 1994. Geoglot in action: understanding data with graphs, Philip H. Jones (Manning 2019) The Mathematics Book, Douglas Wilfong, 1st Edition, Publisher: Wolfram Media, Inc. 	
About Course Co-ordinator and Instructor:	
<p>Dr. Anshulika Biswas has done her PhD from S. N Bose National Centre for Basic Sciences, Kolkata on Statistical High Energy Physics. With an expertise in Particle Physics she continues her research on Beyond Standard Model Physics, Higgs Physics, Dark Matter, String Theory and model building. Presently she is offering many UG & PG courses in Physics.</p> <p>Dr. Ankita Ghosh has done her PhD from Indian Institute of Technology (IIT), Kharagpur. Her primary research interest is in Particle astrophysics and Cosmology. Currently, she is teaching UG and PG Physics courses in B.S. College for nearly 7 years.</p>	

The registration link: <https://forms.gle/nXsNwRmDJfFU9AaN6>

Attendance Screenshots:



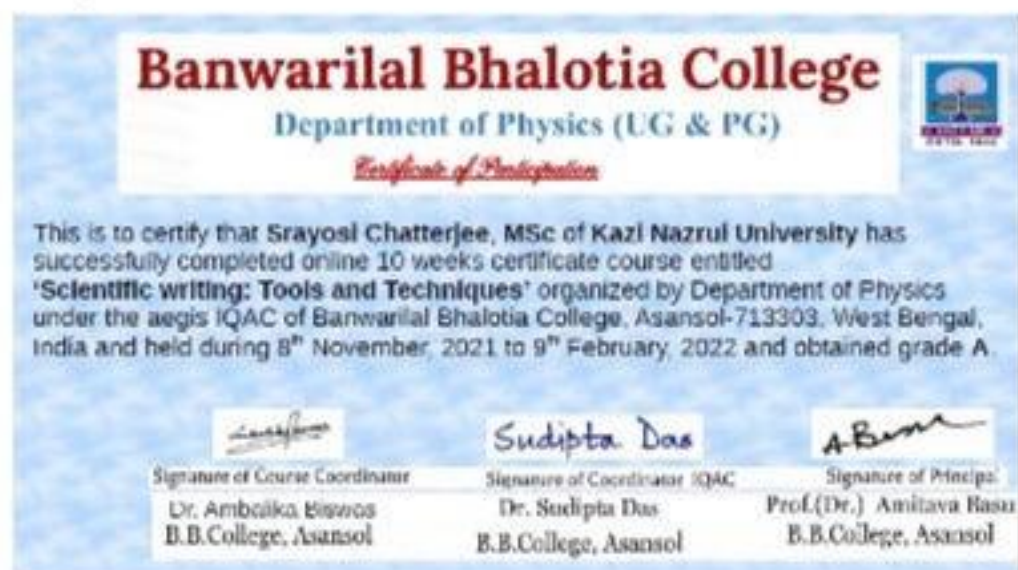
Attendance link:

https://docs.google.com/forms/d/e/1FAIpQLSeI9HSingJs6-HTFqK-tbKZQnOPDlvC8KwzrLjPOw4k_Qe7UA/viewform?usp=sf_link

Valedictory program Screenshot link:



Sample certificate:



Banwarilal Bhalotia College, Asansol

Department of Physics

Certificate Course Report

UG & PG Department of Physics of Banwarilal Bhalotia College, Asansol conducted a **ten weeks online certificate course** on “*Advanced Computational Physics*” under the aegis of IQAC. The course was started on and from 9th November 2021 and ended on 18th Jan’2022 with a valedictory session. There around **151** participants including faculties as well as students across the country were registered in the course. One participant from South Africa was also registered in the course although due to mismatch of time schedule between two countries he cannot completed the course successfully. The syllabus of the course was designed by our faculties Dr. Kousik Mukherjee, Dr. Jayanta Kumar Majhi and Mr. Kajal Maji. Dr. Kousik Mukherjee was the coordinator while Dr. Jayanta Kumar Majhi and Mr. Kajal Maji were two instructors. There held three classes per week and the assessment were done through regular assignment, quizzes, attendance & finalized with a MCQ test. At the end of the course 24 participants who have fulfilled all the criteria and qualify the Final examination were issued certificate. The course detail with syllabus is given in the brochure. The registration link, instructions, the attendance link sample certificate, Screenshot of valedictory and the Whatsapp group link all are given below herewith.

The registration link:

<https://docs.google.com/spreadsheets/d/1KQuprk1UznEmbjrrg2frLx8F6mIxGQtbuXIVLlp55kQ/edit?usp=sharing>

Attendance link:

https://docs.google.com/spreadsheets/d/1Bci1Sy_aalpw_s46l6msBb5ZSI20LkeHpX5UvmkNeI0/edit?usp=sharing

The brochure link:

<https://drive.google.com/file/d/1eQtE7W819E4fczZNdwgig9LDDQk4C1PV/view?usp=sharing>

Valedictory program Screenshot link:

<https://drive.google.com/file/d/18OXtfT4ts9VdZPCwqmyqCxq9M4cu1M8l/view?usp=sharing>

Sample certificate link:

https://drive.google.com/file/d/1WLOimBLYKUE_42XoEH5rgj4TwYQN_5bU/view?usp=sharing

Instructor

Instructor

Coordinator

Mr. Kajal Maji Dr. Jayanta Kumar Majhi Dr. Kousik Mukherjee

Department of Statistics



Report on the Online-Certificate Course on *Basic Statistics*

Organized by Department of Statistics, Banwarilal Bhalotia College, Asansol

The field of statistics is the science of learning from data. Statistical knowledge helps us to use the proper methods to collect the data, employ the correct analyses, and effectively present the results. Statistics is a crucial process behind how we make discoveries in science, make decisions based on data, and make predictions. Statistics allows us to understand a subject much more deeply. There are two main reasons why studying the field of statistics is crucial in modern society. First, this guide us for learning from data and navigating common problems that can lead us to incorrect conclusions. Second, given the growing importance of decisions and opinions based on data, it's crucial that we can critically assess the quality of analysis that others present to us. As per need of the new age of data, where abundance of data and implementation of data based method is changing our daily life, the eight week online certificate course on "Basic Statistics" was introduced by the department of Statistics on 10th November, 2022 for UG and PG students. More than 40 students have participated. Only 26 students have secured 60% or more on each of the five online tests and they have received the E- certificates.

Certificate Course on Basic Statistics

Course Type: Online Certificate Course (It's free, no Course Fee required)

Certificate Issuing Authority: Banwarilal Bhalotia College, Asansol, West Bengal, India

Course Organizer: Department of Statistics, Banwarilal Bhalotia College, Asansol

Target Audience: UG Level students of Mathematics, Economics and Statistics

Pre-Requisites: Knowledge of 10+2 level Calculus.

Course Opening Date: 15th November, 2021 (Tentative)

Course Registration: Register on/before 10th November, 2021 through the following link

<https://forms.gle/xSaxqiD9QsN6K7Mr6>

Course Duration: 4 Weeks (Approx. 4 Classes per Week, Each of 2 Hours Duration)

Course Mode: Virtual/Online through Google Meet Platform

Class Timings: All the Classes will be scheduled in the Evening between 7 PM – 9 PM (IST)

Course Exams: Regular Weekly exams/ assignments.

Course Instructor: Kuntal Bakuli, Assistant Professor in Department of Statistics

Banwarilal Bhalotia College, Asansol - 713303, West Bengal, India

Email id: kuntal.statistics1986@gmail.com

Course Outline & Outcome:

Understanding statistics is essential to understand the social and behavioral sciences. In this course you will learn the basics of statistics; not just how to calculate them, but also how to evaluate them.

In the first part of the course we will discuss methods of descriptive statistics. You will learn what cases and variables are and how you can compute measures of central tendency (mean, median and mode) and dispersion (standard deviation and variance). Next, we discuss how to assess relationships between variables, and we introduce the concepts correlation and regression.

The second part of the course is concerned with the basics of probability: calculating probabilities, probability distributions and sampling distributions. You need to know about these things in order to understand how inferential statistics work.

The third part of the course consists of an introduction to methods of inferential statistics - methods that help us decide whether the patterns we see in our data are strong enough to draw conclusions about the underlying population we are interested in. We will discuss confidence intervals and significance tests.

An assignment will be provided at the end of each week. An assignment can be submitted several times. A student has to score minimum 60% in each assignment to complete the course. The Certificate will be issued only after completion of the course.

Course Syllabus/Modules

Course Introduction: Before we start, we'll give you a broad sense of what the course is about and how it's organized. Are you still deciding whether this is the course for you? Then make sure to check out the 'Course Outline and Outcome' and 'What to expect from this course' sections below, so you'll have the essential information you need to decide and to do well in this course! If you have any questions about the course format, deadlines or grading, you'll probably find the answers here.

Module 1 : Exploring Data (2 classes)

In this first module, we'll introduce the basic concepts of descriptive statistics. We'll talk about cases and variables, and we'll explain how you can order them in a so-called data matrix. We'll discuss various levels of measurement and we'll show you how you can present your data by means of tables and graphs. We'll also introduce measures of central tendency (like mode, median and mean) and dispersion (like range, interquartile range, variance and standard deviation). We'll not only tell you how to interpret them; we'll also explain how you can compute them. In this module we'll only discuss situations in which we analyze one single variable. This is what we call univariate analysis. In the next module we will also introduce studies in which more variables are involved.

Module 2: Correlation and Regression (2 Classes)

In this second module we'll look at bivariate analyses: studies with two variables. First we'll introduce the concept of correlation. We'll investigate contingency tables (when it comes to categorical variables) and scatterplots (regarding quantitative variables). We'll also learn how to understand and compute one of the most frequently used measures of correlation: Pearson's r . In the next part of the module we'll introduce the method of OLS regression analysis. We'll explain how you (or the computer) can find the regression line and how you can describe this line by means of an equation. We'll show you that you can assess how well the regression line fits your data by means of the so-called r -squared. We conclude the module with a discussion of why you should always be very careful when interpreting the results of a regression analysis.

Module 3: Probability and Probability Distributions (4 classes)

This module introduces concepts from probability theory and the rules for calculating with probabilities. This is not only useful for answering various kinds of applied statistical questions but also to understand the statistical analyses that will be introduced in subsequent modules. We start by describing randomness, and explain how random events surround us. Next, we provide an intuitive definition of probability through an example and relate this to the concepts of events, sample space and random trials. A graphical tool to understand these concepts is introduced here as well, the tree-diagram. Thereafter a number of concepts from set theory are explained and related to probability calculations. Here the relation is made to tree-diagrams

again, as well as contingency tables. We end with a lesson where conditional probabilities, independence and Bayes rule are explained. All in all, this is quite a theoretical module on a topic that is not always easy to grasp. That's why we have included as many intuitive examples as possible.

Probability distributions form the core of many statistical calculations. They are used as mathematical models to represent some random phenomenon and subsequently answer statistical questions about that phenomenon. This module starts by explaining the basic properties of a probability distribution, highlighting how it quantifies a random variable and also pointing out how it differs between discrete and continuous random variables. Subsequently the cumulative probability distribution is introduced and its properties and usage are explained as well. In a next lecture it is shown how a random variable with its associated probability distribution can be characterized by statistics like a mean and variance, just like observational data. The effects of changing random variables by multiplication or addition on these statistics are explained as well. The lecture thereafter introduces the normal distribution, starting by explaining its functional form and some general properties. Next, the basic usage of the normal distribution to calculate probabilities is explained. And in a final lecture the binomial distribution, an important probability distribution for discrete data, is introduced and further explained. By the end of this module you have covered quite some ground and have a solid basis to answer the most frequently encountered statistical questions. Importantly, the fundamental knowledge about probability distributions that is presented here will also provide a solid basis to learn about inferential statistics in the next modules.

Module 6: Methods of Estimation (4 classes)

We can distinguish two types of statistical inference methods. We can: (1) estimate population parameters; and (2) test hypotheses about these parameters. In this module we'll talk about the first type of inferential statistics: estimation by means of Point estimation method and confidence intervals. In Point estimation we use the observed value of a statistic to estimate the population parameters. A confidence interval is a range of numbers, which, most likely, contains the actual population value. The probability that the interval actually contains the population value is what we call the confidence level. In this module we'll show you how you can estimate for means and proportions and how you should interpret them. We'll also pay attention to how you can decide how large your sample size should be.

Module 7: Significance tests (4 classes)

In this module we'll talk about statistical hypotheses. They form the main ingredients of the method of significance testing. An hypothesis is nothing more than an expectation about a population. When we conduct a significance test, we use (just like when we construct a confidence interval) sample data to draw inferences about population parameters. The significance test is, therefore, also a method of inferential statistics. We'll show that each significance test is based on two hypotheses: the null hypothesis and the alternative hypothesis. When you do a significance test, you assume that the null hypothesis is true unless your data provide strong evidence against it. We'll show you how you can conduct a significance test about a mean and how you can conduct a test about a proportion. We'll also demonstrate that significance tests and confidence intervals are closely related. We conclude the module by arguing that you can make right and wrong decisions while doing a test. Wrong decisions are referred to as Type I and Type II errors.

About Course Instructor:

Mr. Kuntal Bakuli joined Banwarilal Bhalotia College in 2016, as an assistant professor of Statistics. He is a research scholar (PhD student) in the Department of Statistics of University of Calcutta. Mr. Bakuli has research interest in Queuing theory and Bio-statistics. He has few published papers in national and international journals.

Link of online tests

Test I - <https://docs.google.com/forms/d/1tbnXcWN9DyTvAqbGpf3VJ6fMveunx4-COIYWQQkq3yU/edit?usp=sharing>

Test II - https://docs.google.com/forms/d/1nao_5ZRHQNI0zG_0d9a68emQK9h3IfC-CCXHcXfhJM/edit?usp=sharing

Test III - <https://docs.google.com/forms/d/1UXlAtCgrSXWpFbySL59-F2kL9jzkqyi6NugZE0bGNGc/edit?usp=sharing>

Test IV - <https://docs.google.com/forms/d/1UXlAtCgrSXWpFbySL59-F2kL9jzkqyi6NugZE0bGNGc/edit?usp=sharing>

Test V - https://docs.google.com/forms/d/14_hU034gXrdX5e-A4-gmCII1fQFES7f0TEKzw0PWeAI/edit?usp=sharing

Sample Certificates



Online Certificate Course on
Basic Statistics

Organized by
Department of Statistics, Banwarilal Bhalotia College

Under the aegis of
IQAC, Banwarilal Bhalotia College, Asansol, West Bengal, India

Certificate

This is to certify that **MR. Abhijeet Laha** has **successfully completed** the **Eight-Week Online Certificate Course** on **"Basic Statistics"**, organized by the Department of Statistics, Banwarilal Bhalotia College, Asansol, West Bengal, India.

Kuntal Bakuli

Mr Kuntal Bakuli
Course Coordinator & Assistant
Professor in Statistics
Banwarilal Bhalotia College,
Asansol

Sudipta Das

Dr. Sudipta Das
IQAC Coordinator
Banwarilal Bhalotia College, Asansol

A Basu

Prof. Amitava Basu
Principal & Ex-Officio Secretary of
Governing Body
Banwarilal Bhalotia College, Asansol



Online Certificate Course on
Basic Statistics

Organized by
Department of Statistics, Banwarilal Bhalotia College

Under the aegis of
IQAC, Banwarilal Bhalotia College, Asansol, West Bengal, India

Certificate

This is to certify that **MR. Samrat Bose** has **successfully completed** the **Eight-Week Online Certificate Course** on **"Basic Statistics"**, organized by the Department of Statistics, Banwarilal Bhalotia College, Asansol, West Bengal, India.

Kuntal Bakuli

Mr Kuntal Bakuli
Course Coordinator & Assistant
Professor in Statistics
Banwarilal Bhalotia College,
Asansol

Sudipta Das

Dr. Sudipta Das
IQAC Coordinator
Banwarilal Bhalotia College, Asansol

A Basu

Prof. Amitava Basu
Principal & Ex-Officio Secretary of
Governing Body
Banwarilal Bhalotia College, Asansol

P.G. Department of

Zoology



Banwarilal Bhalotia College

Asansol, West Bengal, India

(Affiliated to Kazi Nazrul University, Asansol)

The Post Graduate Department of Zoology of our College is going to organize a 40 hours long certificate course on 'Fundamentals of Cell Culture and Cell Culture Techniques'. The interested candidates are requested to register their names at the earliest.



Capacity-40

Registration open till 10.10.2021



Estd. -1944

Banwarilal Bhalotia College

Constituent College of the Kazi Nazrul University

Govt. Sponsored (U.G & P.G.)

COLLEGES WITH POTENTIAL FOR EXCELLENCE

Asansol-713303, West Bengal (India)

☎(0341) 2274842, 2275414

☎IGNOU - 2274563,

☎NSOU - 227

Post Graduate Department of Zoology

To,
The Principal through IQAC
Banwarilal Bhalotia College
Asansol-713303, WB, India

Date: 01.10.2021

Subject: Departmental meeting regarding framing of the detailed Syllabus, Schedule and Board of Studies (BoS) for the Certificate Course on Fundamentals of Cell Culture and Cell Culture Techniques to be held by the Post Graduate Department of Zoology.

Respected Sir,

In the meeting held by the IQAC, Banwarilal Bhalotia College, with all the HODs of all the departments on 28.09.2021 regarding the introduction of Certificate Course in academic session 2020-2021, it was decided after discussion that our P.G. Department of Zoology will introduce a Certificate Course entitled 'Fundamentals of Cell Culture and Cell Culture Techniques' for this session. In this connection, the P.G. Department of Zoology held a meeting with all faculties of the department to frame detailed Modules, Syllabus & schedule of the said Certificate Course. Following resolutions are made in the meeting -

- I. The course will comprise of 16 days or 40 hours with 24 hours of Theory and 16 hours of Practical.
- II. The detailed syllabus with modules for this course was chalked out in this meeting.
- III. There will be the first 12 days of continuous Theory classes during which the students will be introduced to the subject matter and make their concept about the topic.
- IV. The Remaining 4 days will be their Practical classes and full demonstration about the techniques.
- V. A Board of Studies (BoS) for this purpose was also constructed for the smooth running of the program. This Board included faculty members of our Department with Coordinators. The structure of the BoS is as follows:

- Dr. Arnab Ganguli (Head of the Department).
- Dr. Sangita Lahiry (Course Coordinator).
- Dr. Arayee Dey.
- Dr. Rajrupa Ghosh.
- Smt. Saswati Chakraborty.
- Smt. Zarqua Jamal.
- Sri Pankaj Dutta
- Sri Raja Mukherjee.
- Smt. Sananda Chandra.

- VI. The course is scheduled to start on 23.10.2021 and to end on 25.11.2021 with the valedictory session and certificate distribution.

There on behalf of all the faculty members of the department I request you to give us permission for the above mentioned course with its given syllabus and modules.

Thanking you,


Dr. Arnab Ganguli,
Head of the Department
Assistant Professor
P.G. Department of Zoology
Banwarilal Bhalotia College, Asansol-03



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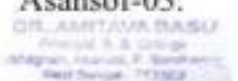
☎NSOU - 227

Date: 01.10.2021

NOTICE

The Department of Zoology of our College is going to organize a Certificate Course on Fundamentals of Cell Culture and Cell Culture Techniques from 23.10.2021 to 25.11.2021. The interested candidates are requested to register their names before 12.10.2021.


.....
Signature
Dr. Arnab Ganguli
Head of the Department
P.G. Zoology
B.B. College,
Asansol-03.


.....
Signature
Dr. Amitava Basu
Principal
B.B. College,
Asansol-03.




Banwarilal Bhalotia College

Asansol, West Bengal, India
(Affiliated to Kazi Nazrul University, Asansol)

Certificate Course on

'Fundamentals of Cell Culture and Cell Culture Techniques'

Organized By

Post Graduate Department of Zoology, Banwarilal Bhalotia College, Asansol



Chairperson: Dr. Amitava Basu
Principal, B. B. College, Asansol

Course Coordinator: Dr. Sangita Lahiry
Assistant Professor, PG Dept. Of Zoology, B. B.
College, Asansol

Joint Course Coordinator: Sri Raja Mukherjee, SACT-
II, PG Dept. Of Zoology, B. B. College, Asansol

Objective of the Course:

This course will be a short primer to understand different aspects of cell culture technique and its application in research area. Cell culture techniques have fortified the bio-medical research from basic research to the modern drug discovery. The lecture will cover fundamentals of different cell culture techniques and practical classes will elaborate each step of Cell culture techniques with live parasite culture.

Invited Speakers

Dr. Sayan Chowdhury
Post Doctoral Research Scientist
Solomon Snyder Laboratory of Neuroscience
Department of Neuroscience
Johns Hopkins Medical Institute
Baltimore, USA



Dr. Sanchita Datta
Research Associate
ICMR (Indian Council of Medical Research)
Jadavpur University
Department of Pharmaceutical Technology
Jadavpur, West Bengal, Kolkata



Important Notes:

- ✓ Course Type: Interdisciplinary Certificate Course
- ✓ Target Group: UG/PG Level students of Science (Specially Zoology, Botany & Microbiology)
- ✓ Course Opening date: 23rd October, 2021
- ✓ Course mode: Blended Mode (Online & Offline both)
- ✓ Class timing: 5-7PM (IST)
- ✓ Course duration: 5 weeks (Approx.)
- ✓ Exam: MCQ test

For registration [CLICK HERE](#) (Registration open till 12.10.2021)

Certificate will be awarded on completion of the course



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Asansol-713303, West Bengal (India)

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☎ KNOU : 2274563,

☎ NSOU : 227

Post Graduate Department of Zoology

Title of the Certificate Course: Fundamentals of Cell Culture and Cell Culture Techniques

Target Group: Students from UG & PG level of Zoology, Banwarilal Bhalotia College, Asansol.

Duration of the course: 40 hours.

Session: 2020-2021

Date: 18.10.2021 to 20.11.2021 (Tentative)

Timing: 5:00p.m.-7 p.m. (Approx. 8 classes/week)

Objective of the Course: This course will be a short primer to understand different aspects of cell culture technique and its application in the research field. Cell culture techniques have fortified the bio-medical research from basic research to the modern drug discovery. The lecture will cover fundamentals of different cell culture techniques and practical classes will provide a clear application of cell culture techniques along with live cell demonstration.

Content of the course:

Module 1: Theoretical concepts on Cell Culture & Cell Culture Techniques.

Unit 1: Basics of Cell Culture (3L)

- ❖ Cell lines.....1L
- ❖ Culture environment.....1L
- ❖ Cell morphology.....1L

Unit 2: Safety Aspects of Cell Culture laboratory (5L)

- ❖ Bio-safety levels.....1L
- ❖ Safety equipments.....1L
- ❖ Biohazards.....1L
- ❖ Disinfection.....1L
- ❖ Safe laboratory practices.....1L

Unit 3: Cell Types & Culture Characteristics (4L)

❖ Primary Cultures.....	1L
❖ Continuous Cultures.....	1L
❖ Culture Morphology.....	1L
❖ Phases of Cell Growth.....	1L

Unit 4: Biological contaminations (3L)

❖ Types of contaminations.....	2L
❖ Fumigation.....	1L

Unit 5: Different cell culture techniques (9L)

❖ Guidelines for maintaining cultured cells.....	1L
❖ Sub culturing adherent cells.....	2L
❖ Sub culturing suspension cells.....	2L
❖ Freezing of cultured cells.....	2L
❖ Thawing of frozen cells.....	2L

Module 2: Practical knowledge on Different Cell Culture Techniques.

- ❖ **Unit 1:** Demonstration of Cell Culture Laboratory (2P)
- ❖ **Unit 2:** Demonstration the working principle of Cell Culture hood (2P)
- ❖ **Unit 3:** Function of Laminar Air Flow (2P)
- ❖ **Unit 4:** Demonstration the Fumigation process (2P)
- ❖ **Unit 5:** Elaboration of each step of Cell culture techniques with live parasite culture (8P)

Number of Classes: Theoretical = 24; Practical = 16; Total= 40 classes (40hours.)

Course Coordinator: Dr. Sangita Lahiry, Assistant Professor, P.G. Department of Zoology, Banwarilal Bhalotia College, Asansol.

**Schedule of the Certificate Course on
“Fundamentals of Cell Culture and Cell Culture Techniques”
Organized by Post Graduate Department of Zoology
Banwarilal Bhalotia College, Asansol, West Bengal, India
Course Mode: Blended mode (Both Offline and Online mode)**

Day	Date	Time	Topic	Speaker
01	23.10.2021	5p.m.-5.30p.m.	Inauguration Speech	Dr. Amitava Basu Principal, BB College Asansol
			Introduction about the Course	Dr. Sangita Lahiry Assistant Professor BB College, Asansol
		5.30 p.m.-6 p.m.	Primary Cell Culture	Dr. Sayan Chowdhury, Post-Doctoral Research Scientist, Johns Hopkins Medical Institute, Baltimore, USA
		6p.m.-7p.m.	Continuous Cell Culture	Continued by Dr. Sayan Chowdhury
02	24.10.2021	5p.m.-5.50 p.m.	Cell line	Dr. Sangita Lahiry Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.	Culture Environment	Continued by Dr. Sangita Lahiry
03	25.10.2021	5p.m.-7p.m.	Cell Morphology	Smt. Sananda Chandra SACT-II BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.	Cell Morphology (Cont.)	Continued by Smt. Sananda Chandra
04	26.10.2021	5p.m.-5.50 p.m.	Biosafety Levels	Dr. Atrayee Dey Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.	Safety Environment	Continued by Dr. Atrayee Dey

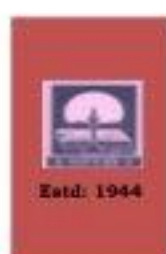
9 of 30

Day	Date	Time	Topic	Speaker
05	01.11.2021	5p.m.-5.50 p.m.	Biohazards	Dr. Atrayee Dey Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.	Disinfection and Safe laboratory Practices	Continued by Dr. Atrayee Dey
06	02.11.2021	5p.m.-5.50 p.m.	Types of Contamination	Dr. Sanchita Datta Department of Pharmaceutical Technology Jadavpur University Jadavpur, West Bengal
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.	Types of Contamination (Cont.)	Continued by Dr. Sanchita Datta
07	08.11.2021	5p.m.-5.50 p.m.	Guidelines for maintaining cultured cells	Smt. Zarqua Jamal Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m...	Guidelines for maintaining cultured cells (Cont.)	Continued by Smt. Zarqua Jamal
08	09.11.2021	5p.m.-5.50 p.m.	Sub culturing suspension cells	Smt. Saswati Chakraborty Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m...	Sub culturing suspension cells (Conti.)	Continued by Smt. Saswati Chakraborty
09	12.11.2021	5p.m.-5.50 p.m.	Sub culturing adherent cells	Dr. Sangita Lahiry Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	

Day	Date	Time	Topic	Speaker
10	13.11.2021	5p.m.-5.50 p.m.	Fumigation	Dr. Arnab Ganguli (HOD) Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m.m	Fumigation (Cont.)	Continued by Dr. Arnab Ganguli
11	15.11.2021	5p.m.-5.50 p.m.	Freezing of cultured cells	Dr. Rajrupa Ghosh Assistant Professor BB College, Asansol
		5.50p.m.-6 p.m.	BREAK	
		6p.m.-7 p.m	Thawing of frozen cells	Continued by Dr. Rajrupa Ghosh
12	16.11.2021	5pm.-7pm	Evaluation (Via Google form)	Dr. Sangita Lahiry Assistant Professor BB College, Asansol Sri Raja Mukherjee SACT-II BB College, Asansol
13	22.11.2021	College hours/ 5pm.-9pm	Demonstration of Cell Culture Laboratory Demonstration the working principle of Cell Culture hood	Dr. Sangita Lahiry Assistant Professor BB College, Asansol Sri Pankaj Dutta SACT-II BB College, Asansol Sri Raja Mukherjee SACT-II BB College, Asansol
14	23.11.2021	College hours/ 5pm.-9pm	Function of Laminar Air Flow Demonstration the Fumigation process	Dr. Sangita Lahiry Assistant Professor BB College, Asansol Sri Pankaj Dutta SACT-II BB College, Asansol Sri Raja Mukherjee SACT-II BB College, Asansol



Day	Date	Time	Topic	Speaker
15	24.11.2021	College hours/ 5pm.-9pm	Function of Laminar Air Flow	Dr. Sangita Lahiry Assistant Professor BB College, Asansol Sri Pankaj Dutta SACT-II BB College, Asansol Sri Raja Mukherjee SACT-II BB College, Asansol
16	25.11.2021	College hours/ 5pm.-7pm	Elaboration of each step of Cell Culture Techniques with live parasite culture	Dr. Sangita Lahiry Assistant Professor BB College, Asansol Sri Raja Mukherjee SACT-II BB College, Asansol



Banwarilal Bhalotia College

Constituent college of the **KAZI NAZRUL UNIVERSITY**, Asansol
(GOVT. SPONSORED **U G & P G** College)
ASANSOL - 713303, WEST BENGAL
(INDIA)

Dr. Amitava Basu, M Com, Ph D
Principal

Date: 15.10.2021

To
Dr. Sayan Chowdhury
Post Doctoral Research Scientist
Solomon Snyder Laboratory of Neuroscience
Department of neuroscience
Johns Hopkins medical Institute
Baltimore, USA

Subject: Invitation as a Resource Person for Certificate Course on 23rd October, 2021

Sir,

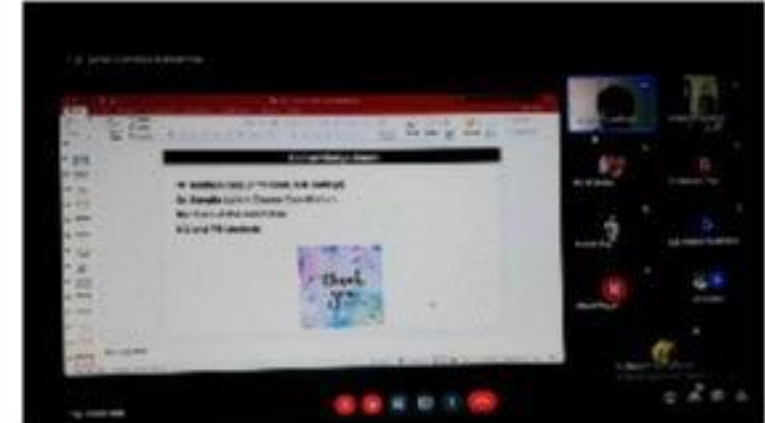
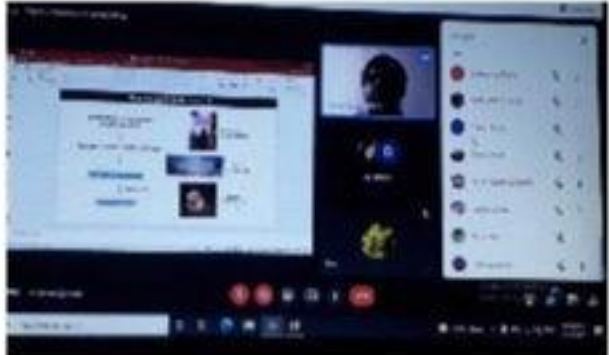
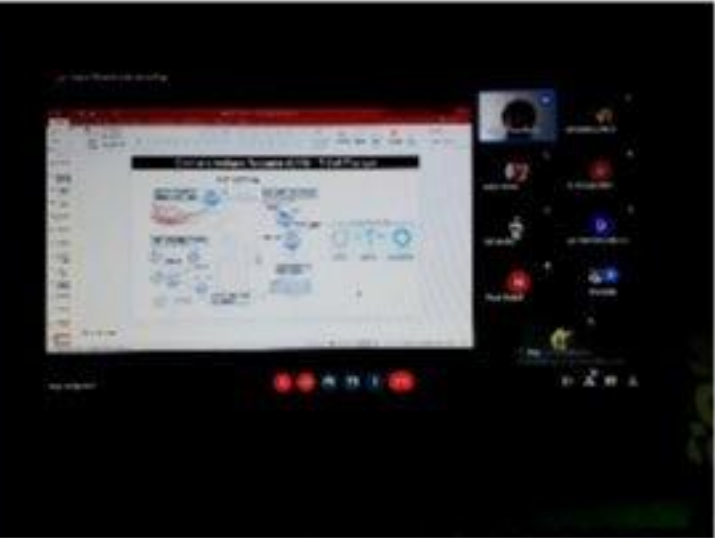
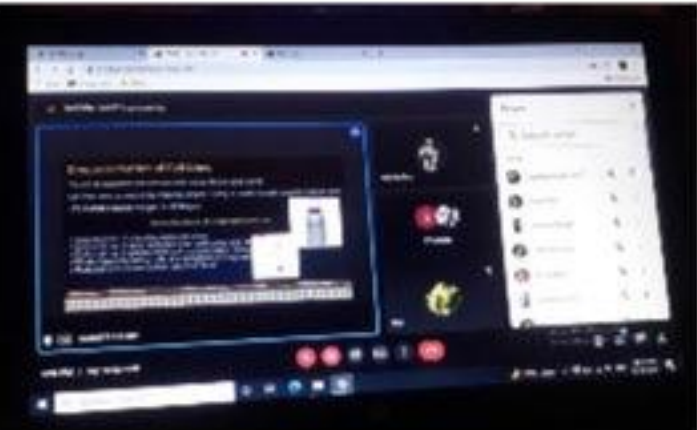
With immense pleasure, we would like to inform you that the Post Graduate Department of Zoology, Banwarilal Bhalotia College, Asansol, India, is going to organize a **Certificate Course on "Fundamentals of Cell Culture and Cell culture Techniques"** from **23.10.2021 to 25.11.2021**. This course will be a short primer to understand different accepts of cell culture technique and its application in research area. We shall be honoured to have you with us as an **Invited Speaker** on **23rd October, 2021** and grant us the opportunity to be enriched by your eloquence and profundity.

Thanking you in anticipation of an affirmative.

Yours Sincerely

DR. AMITAVA BASU
Principal, B. B. College
Ushagram, Asansol, P. Bardhaman,
West Bengal - 713303

Online Theory Class



Offline Practical Class



Offline Practical Class



Google Meet Attendance Tracking Report

Meeting Name: ruy-vvdp-odr

Date: 24-Oct-2021



Attendance Tracking Started At : 4:57:05 PM
Attendance Tracking Stopped At : 5:49:22 PM
Total Number of people Attended : 33
Total Meeting Duration : 52 min 16s

Detailed Attendance Report

Apply Filter

Number Of People Attended More Than 65% Of Meeting: 31

Number Of People Attended Less Than 65% Of Meeting: 2

S.No	Participant Name	Attended Duration	Attended Percentage
1	ADRISH ROY	49 min 18s	95%
2	AMISHA BHAGAT	48 min 46s	94%
3	ANKITA KUMARI	51 min 52s	100%
4	ARPITA MAJI	51 min 25s	99%
5	ASHOKE MAHATO	48 min 24s	93%
6	DEBLEENA ROY	52 min 16s	100%
7	DEBOBRATA DAS	46 min 36s	90%
8	DR ARNAB GANGULI	52 min 16s	100%
9	DR ATRAYEE DEY	52 min 16s	100%
10	HEENA KHATUN	24 min 56s	48%
11	HEMANSHU SINGH	44 min 36s	86%
12	JYOTIRMOY MUKHERJEE	44 min 48s	86%
13	KESAR KUMARI	7 min 9s	14%
14	KUSHAL MUKHERJEE	52 min 16s	100%
15	MANISHA KUMARI	52 min 16s	100%
16	NINAD BAGAIT	52 min 16s	100%
17	RAJA MUKHERJEE	52 min 16s	100%



S.No	Participant Name	Attended Duration	Attended Percentage
18	ROHIT YADAV	45 min 5s	87%
19	SABARNA BHOWMICK	52 min 0s	100%
20	SAGARIKA MUKHERJEE	47 min 54s	92%
21	SAMBHAVI MUKHERJEE	50 min 10s	96%
22	SANANDA CHANDRA	49 min 42s	96%
23	SANCHARI MAJI	52 min 16s	100%
24	SANGITA LAHIRY	52 min 16s	100%
25	SARIA AMRIN	52 min 16s	100%
26	SAYANTA BANERJEE	48 min 17s	93%
27	SHAFQUAT PERVEEN	48 min 6s	93%
28	SOMA GHOSH	50 min 10s	96%
29	SUBHASIS GHOSH	45 min 35s	88%
30	SULTAN ANSARI	51 min 29s	99%
31	SWETA SHAW	47 min 49s	92%
32	TAPAN RUIDAS	51 min 46s	100%
33	UMA MAJI	51 min 57s	100%

Banwarilal Bhalotia College

Post Graduate Department of Zoology

Certificate of Appreciation

This is to certify that

Mr./Ms./Mrs./Dr. _____

has successfully arranged & completed a 40 hours long certificate course as a **Co - Course Co-ordinator** entitled 'Fundamentals of Cell Culture and Cell Culture Techniques' organized by the Post Graduate Department of Zoology under the aegis IQAC of Banwarilal Bhalotia College, Asansol -713303, West Bengal, India, and held during October 2021 to November 2021.

SIGNATURE OF COORDINATOR
IQAC
Dr. Sudipta Das
B.B.College, Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
B.B.College, Asansol



Banwarilal Bhalotia College

Post Graduate Department of Zoology

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B.B.College, Asansol

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu
B.B.College, Asansol



Banwarilal Bhalotia College



Post Graduate Department of Zoology

Certificate of Participation

On successful completion of Certificate Course entitled 'Fundamentals of Cell Culture and Cell Culture Techniques'

Acceded to

Mr./Ms./Mrs. _____ son/daughter of _____ of a student of Banwarilal Bhalotia College (Course _____ Session _____).

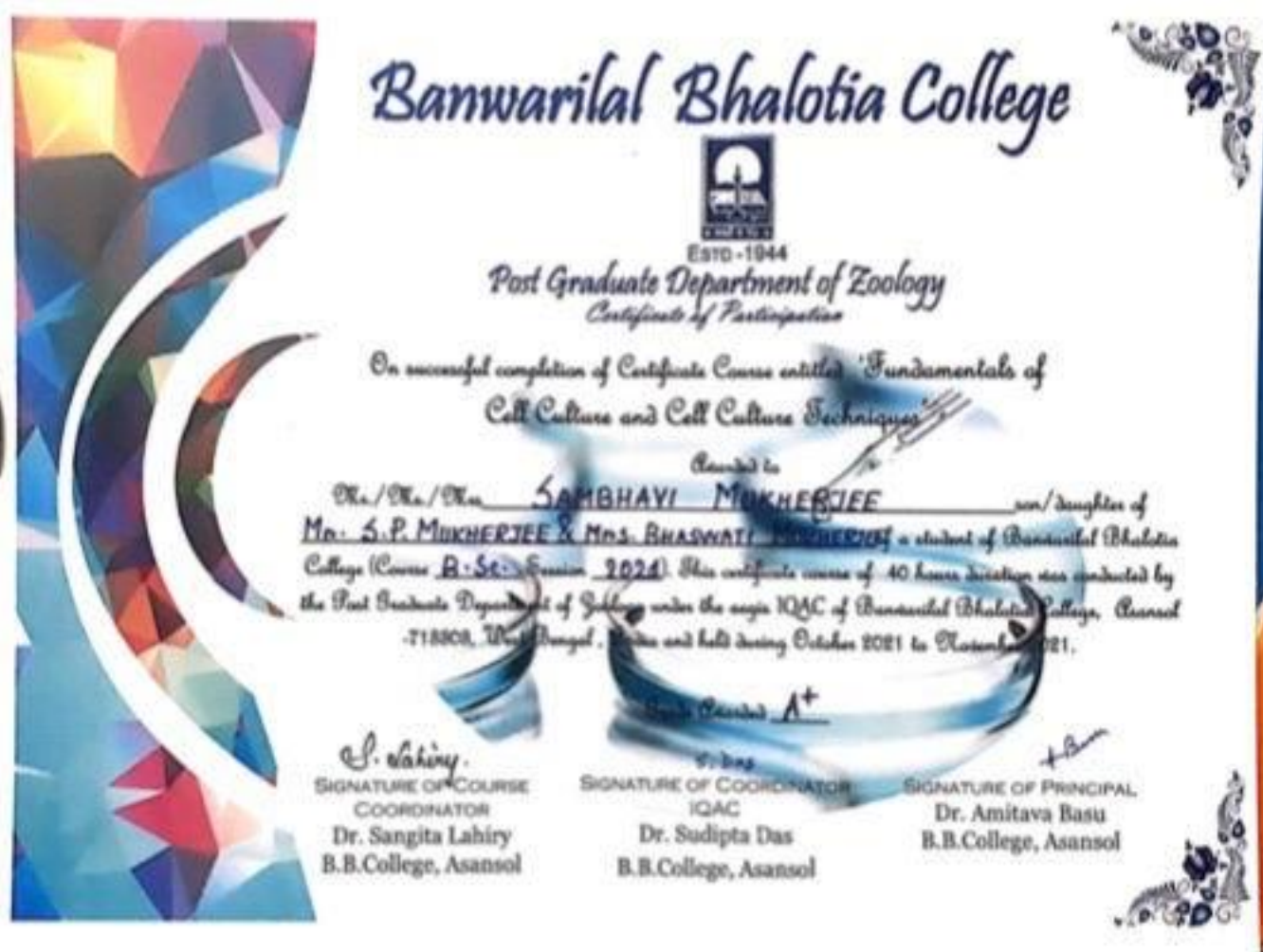
This certificate course of 40 hours duration was conducted by the Post Graduate Department of Zoology under the aegis IQAC of Banwarilal Bhalotia College, Asansol -713303, West Bengal, India and held during October 2021 to November 2021.

Grade Acceded _____

SIGNATURE OF COURSE
COORDINATOR

SIGNATURE OF COORDINATOR
IQAC

SIGNATURE OF PRINCIPAL
Dr. Amitava Basu



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Constituent College of the Kazi Nazimuddin University

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☎ IGNOU : 2274563

☎ NSOU : 227

Post Graduate Department of Zoology

To,
The Principal
Banwarilal Bhalotia College
Asansol-713303,
WB, India

Date: 15.12.2021

Subject: Report for the Certificate Course on Fundamentals of Cell Culture and Cell Culture Techniques to be held by the Post Graduate Department of Zoology from October 2021 to November 2021 (for the Session of 2020-21)

Respected Sir,

With respect to above mentioned subject, I am feeling glad to report you that the certificate course entitled 'Fundamentals of Cell Culture and Cell Culture Techniques' that we undertook from our department this year has been successfully completed. Out of 36 students who took admission, 31 could finally complete the course and receive the certificates in the valedictory session.

As mentioned in our schedule, the course was 40 hours duration with 24 hours of theory and 16 hours of practical with hands on training. This course started with the inaugural lecture of Dr. Sayan Chowdhury, Post-Doctoral Research Scientist, Solomon Snyder Laboratory of Neuroscience, Department of Neuroscience, Johns Hopkins medical Institute, Baltimore, USA and in another day by Dr. Sanchita Datta, Research Associate, ICMR (Indian Council of Medical Research), Jadavpur University, Department of Pharmaceutical Technology, Jadavpur, West Bengal, Kolkata. Rest of the lectures and practical classes were taken by the Departmental Faculties. I, as a course coordinator, extend my sincere thanks to all of them.

The feedback of the students is enthusiastic demanding more similar courses in the near future. All the documents of the course are attached herewith in sequential order for your pursue.

Thanking you,

Yours truly
Dr. Sangita Lahiry,
Course Coordinator
Assistant Professor
P.G. Department of Zoology
Banwarilal Bhalotia College, Asansol -713303
WB, India.