

**PANCHAKOT MAHAVIDYALAYA**

**SARBARI, NETURIA, PURULIA**

Affiliated to Sidho Kanho Birsha University, Purulia



**Department of Chemistry**

**Add-on/ Certificate Course**

**Indian Chemistry: A Journey to the  
Ancient Age**

**Session: 2022-23**



# Brochure



## Panchakot Mahavidyalaya

SARBARI, NETURIA, PURULIA, WEST BENGAL

### Indian Chemistry: A Journey to the Ancient Age

Add On Course, Dept. of Chemistry

Duration: 30 hrs.

Course Coordinator: Dr. S M Wahidur Rahaman, HOD, Dept. of Chemistry

For detailed schedule log-on to: [www.panchakotmv.ac.in](http://www.panchakotmv.ac.in)

#### Course Content:

**Module I:** A Chemist's view to the Alchemy and Ayurveda of ancient India, Indus valley civilization, Pottery of Mahenjodaro and Harappa, Bricks, Cement and Minerals (5 hrs.)

**Module II:** Vedic Age, 1200-700 BC: Tanning of leather, Dyeing of cotton, Information from Rgveda, Brahmana, Upanishadas, Puranas. (5 hrs.)

**Module III:** Kautilya Arthashastra - a scientific landmark, Collection of salt from sea, Collection of shell, diamond, pearl and corals, Charaka samhita, Susruta samhita – treatises of Indian ayurveda (5 hrs.)

**Module IV:** Chemical arts and crafts of later period, Glass making, Paper and Soap production, Dyeing, Information from Atharvaveda, Production of Cosmetics and Perfumes, Ink, Alcoholic liquors, (5 hrs.)

**Module V:** Pharmaceuticals: Collection of ingredients from plants and animals, Processes of dissolution, distillation, sublimation, precipitation, combustion, dilution etc. Saltpetre and Gunpowder: firearms, Use of sulphur, charcoal, mercury, arsenic, camphor. (5 hrs.)

**Module VI:** Medieval alchemy, Gold making, Elixer synthesis, Alchemical texts of 9<sup>th</sup> and 14<sup>th</sup> centuries, Nagarjuna and his works (5 hrs.)

**Course Objective:** Participants will learn about the heritage of the Indian chemistry, its evolution and success.

**Course Outcome:** This add-on course will gain knowledge about the evolution and progress of the cultivation of chemistry in ancient India.

#### Who can participate?

Students from any stream.



To  
The Principal  
Panchakot Mahavidyalaya  
Sarbari, Neturia, Purulia

Applicant: Dr. S. M. Wahidur Rahaman, Department of Chemistry

Subject: Proposal for certificate course in 'Indian Chemistry: A Journey to the Ancient Age' for the session 2022-2023

Respected Sir,

The above mentioned subject, I am submitting herewith the proposal to conduct the certificate course in 'Indian Chemistry: A Journey to the Ancient Age' the department of Chemistry of our college. This course will discuss about the evolution and progress of the cultivation of chemistry in ancient India.

Hope you will consider my application and I kindly request you to sanction the same.

Date: 19.04.2023

Place: Sarbari



Your sincerely,  
HOD, Chemistry

Enclosure: (1) Proposal  
(2) Curriculum of the course



# PANCHAKOT MAHAVIDYALAYA

## SARBARI, NETURIA, PURULIA

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### Proposal for conducting Short Term Certificate Courses Session: (2022-2023)

#### 1. Details of the applicant department:

- I. Name of the college: Panchakot Mahavidyalaya,
- II. Address of the college: Sarbari, PO: Neturia, District: Purulia, Pin: 723121
- III. Name of the applicant department: Chemistry

#### 2. Details of the course proposed:

- I. Name of the course: Indian Chemistry: A Journey to the Ancient Age
- II. Target participants: Undergraduate students from any stream
- III. Duration of the course: 30 hrs.
- IV. Medium of instruction: English

#### 3. Details of the faculty:

- I. Whether the college provides degree related to the proposed course: No
- II. Whether the course is prepared by experts from related field: yes (by departmental faculty)
- III. Information of course coordinator:

Name	Department	Qualification
Dr. S. M. Wahidur Rahaman	Chemistry	Ph. D. (Chemistry)

#### IV. Details of faculty members to be appointed for this course:

Sr. No.	Name	Department	Qualification
1	Dr. S. M. Wahidur Rahaman	Chemistry	Ph. D. in Chemistry
2	Dr. Sourav Chatterjee	Chemistry	Ph.D. in Chemistry

#### 4. Details of the infrastructure needed/available for this course:

- I. Classroom: Available
- II. Books: Available in central library
- III. Computer facility: Computer lab and departmental computer facility



Signature of Course coordinator



# PANCHAKOT MAHAVIDYALAYA

## SARBARI, NETURIA, PURULIA

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### Department of Chemistry

#### Certificate course in Indian Chemistry: A Journey to the Ancient Age Syllabus (2022-2023)

**Duration: 30 hrs**

**Module (5 hrs):** A Chemist's view to the Alchemy and Ayurveda of ancient India (1.5 hrs),

Indus valley civilization, Pottery of Mahenjodaro and Harappa (2 hrs),  
Bricks, Cement and Minerals (1.5 hrs).

**Module II (5 hrs):** Vedic Age, 1200-700 BC: Tanning of leather, Dyeing of cotton (2.5 hrs),

Information from Rgveda, Brahmana, Upanishadas, Puranas. (2.5 hrs.),

**Module III (5 hrs):** Kautilya Arthashastra - a scientific landmark (1 hr).

Collection of salt from sea, Collection of shell, diamond, pearl and corals (1.5 hrs),  
Charaka samhita, Susrutasamhita – treatises of Indian ayurveda (1.5 hrs).

**Module IV (5 hrs):** Chemical arts and crafts of later period (1.5 hrs)

Glass making, Paper and Soap production, Dyeing, Information from Atharvaveda (2 hrs),

Production of Cosmetics and Perfumes, Ink, Alcoholic liquors (1.5 hrs)

**Module V (5 hrs) :** Pharmaceuticals: Collection of ingredients from plants and animals (1 hr),

Processes of dissolution, distillation, sublimation, precipitation, combustion, dilution etc. (2 hrs),

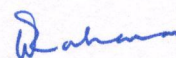
Saltpetre and Gunpowder : firearms, Use of sulphur, charcoal, mercury, arsenic, camphor (2 hrs).

**Module VI (5 hrs):** Medieval alchemy, Gold making (1.5 hrs),

Elixir synthesis, Alchemical texts of 9th and 14th centuries (2.5 hrs),

Nagarjuna and his works (1 hr).

**Assessment:** Written Test and/or Viva-Voce



Signature  
Course Coordinator



# PANCHAKOT MAHAVIDYALAYA

## SARBARI, NETURIA, PURULIA

Affiliated to Sidho Kanho Birsha University, Purulia

### Department of Chemistry

Certificate course in Indian Chemistry: A Journey to the Ancient Age  
Session: (2022-2023)

**Course coordinator:** Dr. S. M. Wahidur Rahaman, HOD, Chemistry

#### Details of the Course

**Course Objective:** The objective of the course is to explore the scientific insights within Kautilya Arthashastra, methods for collecting valuable resources like salt and minerals, and the foundational texts of Indian ayurveda. The course aims to deliver into later period chemical arts, including glassmaking, paper production, and cosmetics manufacturing, drawing insights from ancient texts.

#### Schedule

Day	Hours	Timing/Duration	Resource Person	Venue	Topic
1	02	4:00-6:00 PM	Dr. S. M. Wahidur Rahaman (WR)	Dept of Chemistry	Module-I
2	02	4:00-6:00 PM	Dr. Sourav Chatterjee (SC)	Dept of Chemistry	Module-I
3	01	4:00-5:00 PM	WR	Dept of Chemistry	Module-I
4	02:30	4:00-6:30 PM	SC	Dept of Chemistry	Module-II
5	02:30	4:00-6:30 PM	WR	Dept of Chemistry	Module-II
6	02	4:00-6:00 PM	SC	Dept of Chemistry	Module-III
7	02	4:00-6:00 PM	WR	Dept of Chemistry	Module-III
8	01	4:00-5:00 PM	SC	Dept of Chemistry	Module-III
9	02:30	4:00-6:30 PM	WR	Dept of	Module-IV



				Chemistry	
10	02:30	4:00-6:30 PM	SC	Dept of Chemistry	Module-IV
11	02:30	4:00-6:30 PM	WR	Dept of Chemistry	Module-V
12	02:30	4:00-6:30 PM	SC	Dept of Chemistry	Module-V
13	02	4:00-6:00 PM	WR	Dept of Chemistry	Module-VI
14	02	4:00-6:00 PM	SC	Dept of Chemistry	Module-VI
15	01	4:00-6:00 PM	WR	Dept of Chemistry	Module-VI

**Expected Outcome:** The course aims to provide a comprehensive understanding of ancient Indian chemistry, alchemy, and ayurveda. Participants will gain insights into the chemical practices of different historical periods, including the Vedic age and medieval alchemy. By exploring texts such as the Arthashastra and ancient treatises on ayurveda, participants will develop an appreciation for the scientific advancements and cultural significance of chemical arts and crafts in ancient India.



Signature  
Course Coordinator



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SARBARI, NETURIA, PURULIA

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Department of Chemistry

Certificate course in Indian Chemistry: A Journey to the Ancient Age

Session: (2022-2023)

Ref No:

Date: 24.6.2023

## Notice

The Department of Chemistry at Panchakot Mahavidyalaya is pleased to announce upcoming Add On/Certificate course under the title as stated above. The course will be conducted from 2/5/2023 to 27/6/2023 in offline mode.

If you're interested in enhancing your skills and knowledge, we encourage you to pursue the course. Don't miss out on this opportunity to expand your academic horizons!

Interested students are requested to contact the concerned teacher(s) of the department/course coordinator for further course details (such as course duration, schedule, module etc.) as well as enrollment in the course.



HOD, Department of Chemistry



Principal

PANCHAKOT MAHAVIDYALAYA  
Sarbari • Neturia • Purulia  
Principal,

Panchakot Mahavidyalaya

Sarbari, Neturia, Purulia



# PANCHAKOT MAHAVIDYALAYA

SARBARI, NETURIA, PURULIA


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Department of Chemistry.....

Certificate Course Name Indian Chemistry: A Journey to the Ancient Age  
Session: (20.22.-20.23....)

## List of Enrolled Students

Sr. No.	Students Name	Roll Number	Semester	Student Signature
1	SUJAL RAJAK	220000608	2	Sujal Rajak
2	SACHIN GORAI	220000426	2	Sachin Gorai
3	RAMANANDA BAURI	220001700	2	Ramanande Bauri
4	BUBAI BAURI	220001014	2	Bubai Bauri
5	SUDESHNA PAL	210000120	4	S. Pal
6	APARNA GORAI	210000464	4	Aparna Gorai
7	PIOUSH CHAKRABORTY	210000577	4	Piush Chakraborty
8	SONIYA MAJEE	210001223	4	Sonika Majee

  
Principal  
PANCHAKOT MAHAVIDYALAYA  
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Signature  
Course Coordinator



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Department of Chemistry


Certificate Course : Indian Chemistry: A Journey to the Ancient Age

Session: (20.22-20.23.....)

Attendance Sheet

Sr. No.	Name of Student	Day and Month															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	SUSAL RAJAK	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
2.	SACHIN GORAI	P	P	P	P	.	P	P	P	P	P	P	P	P	P	P	
3.	RAMANADA BAURI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4.	BUBAI BAURI	P	P	P	P	P	P	P	.	P	P	P	P	P	P	P	
5.	SUDESHNA PAL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
6.	APARNA GORAI	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
7.	PIJUSH CHAKRABORTY	P	.	P	P	P	P	P	P	P	P	P	P	P	P	P	
8.	SONIYA MAJEE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

  
Principal  
PANCHAKOT MAHAVIDYALAYA  
Sarbari-Neturia-Purulia

  
Course Coordinator



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SARBARI, NETURIA, PURULIA

Affiliated to Sidho Kanho Birsha University, Purulia

Department of ...*Chemistry*.....

Certificate Course:

*Indian Chemistry: A Journey to the Ancient Age*.....

Session: (20.22...-20.23..)

## Result

Full Marks:

Sr. No.	Name of Student	Marks Obtained
1.	SUJAL RAJAK	A
2.	SACHIN GORAI	A
3.	RAMANANDA BAURI	A
4.	BUBAI BAURI	B
5.	SUDESHNA PAL	A
6.	APARNA GORAI	A
7.	PIJUSH CHAKRABORTY	B
8.	SONIYA MAJEE	A

*Self*  
Principal  
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*Deban*  
Signature  
Course Coordinator





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**PANCHAKOT MAHAVIDYALAYA**  
**SARBARI, NETURIA, PURULIA**  
Add On/ Certificate Course

Organized by: Department of *Chemistry*.....

### **CERTIFICATE OF COMPLETION**

Session: (20.22.-20.23.)

This is to certify that Mr./Ms *SUJAL RAJAK*.....

of *Bengali (Program)*..... Department has successfully completed Add

On/Certificate course entitled:

*Indian Chemistry: A Journey to the Ancient Age*.....

for session *2022-2023*.....

*Wahman*

Course Coordinator

*Wahman*

HOD (Organizing Dept)

*Wahman*

Principal

Principal

**PANCHAKOT MAHAVIDYALAYA**  
Sarbari-Neturia, Purulia