

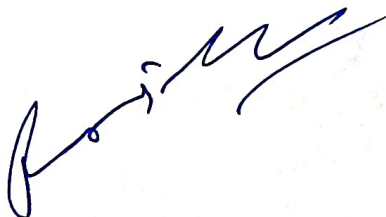
Minu

148

**Minutes of the Fourth Board of Studies Meeting**

**Held online via google meet on 28<sup>th</sup> December, 2020 from 11:00 AM  
onwards**

**Department of Chemistry and Chemical Science  
School of Physical and Material Sciences**



The fourth Board of Studies ( BOS) Meeting of the Department of Chemistry and Chemical Science, SoPMS was held via Google Meet ( Online Medium) on 28<sup>th</sup> December, 2020 at TAB Shahpur campus.

Professor Devinder Kumar Sharma, Professor Department of Chemistry, H.P University Shimla, Professor Hum Chand ,Dean SOPMS and Head Department of Physics and Astronomical Sciences, CUHP, Professor Bhag Chand Chauhan, Professor Department of Physics and Astronomical Science, CUHP, Dr. Sunil Thakur, Associate Professor, Department of Animal Science, School of Life Sciences, CUHP Dr. Neeraj Gupta, Assistant Professor Department of Chemistry and Chemical Science, CUHP and Dr. Rajender Kumar, Associate Professor and Head, Department of Chemistry and Chemical Science, CUHP were present in the Meeting.

Dr. Shashi Kant Sharma Couldn't attend the meeting due to prior commitment.

The Chairman started the meeting with introduction of Honorable Members of BOS and Following Business was transacted.

**1. Agenda Item No. CCS-BOS-4/20-1: Confirmation of Minutes of 3<sup>rd</sup> BOS meeting held on 23<sup>rd</sup> May 2019.**

**Resolution No. 1 :** The Minutes of 3<sup>rd</sup> BOS meeting held on 23<sup>rd</sup> May 2019 is given in Annexure I and are approved.

**2. Agenda Item No. CCS-BOS-4/20-2: Approval of Supervisor of PhD students Admitted in Session 2020-21 in Department of Chemistry and Chemical Sciences as tabulated below.**

The List of Students with Allotted supervisors is given below:

Sr. No.	Student Name	Student Enrollment No.	Supervisor
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1.	Ishani Saini	CUHP20 RD CHEM 01	Dr. Rajender Kumar
2.	Kirna Devi	CUHP20 RD CHEM 02	Dr. Rajender Kumar
3.	Manisha Chadha	CUHP20 RD CHEM 03	Dr. Shivani Berry
4.	Pooja Kumari	CUHP20 RD CHEM 04	Dr. Manish Kumar
5.	Purnima Justa	CUHP20 RD CHEM 05	Dr. Pramod Gangwar

**Resolution No. 2 : Approved**

3. **Agenda Item No. CCS-BOS-4/20-3: Approval of Dr. Rajender Kumar as Co-Supervisor and Supervisor in his parent Institute (Department of Applied Chemistry, SVNIT Surat) from where Dr. Rajender Kumar is on Lien.**

List of PhD students at SVNIT Surat with Dr. Rajender Kumar is given below:

Student Name	Registration No.	Status of PhD Degree	Supervisor /Co-Supervisor
Mrs. Khushbu Patel	D14CY003	PhD Viva Voce held in Feburary 2020	Supervisor ( Dr. Rajender Kumar)
Ms. Jyotsna M Nayak	DS17CY003	In Progress	Supervisor ( Dr. Rajender Kumar)
Mr. Anuj K Saini	D18CY006	In Progress	Co-Supervisor ( Dr. Rajender Kumar)
Mr. Seshu Vardhan	D19CY007	In Progress	Co-Supervisor ( Dr. Rajender Kumar)

**Resolution No. 3: Approved**

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**Agenda Item No. CCS-BOS-4/20-4: Approval of Dr. Neeraj Gupta as Supervisor/Co-Supervisor for Students in his previous Institute, Shoolini University, Solan, Himachal Pradesh.**

List of PhD students is Given below:

Name of Student	Registration No./Enrollment No.	Status of PhD Degree	Supervisor/Co-SUpervisor
Kshipra Sen	1734701006	Viva Voce held on 9 <sup>th</sup> October 2020	Dr Neeraj Gupta (Supervisor)
Deepika Sharma	1734701002	Thesis submitted on 30 <sup>th</sup> Sept 2020	Dr Neeraj Gupta (Supervisor)
Ashima Dogra	1734701008	Thesis submitted on 28 <sup>th</sup> Nov 2020	Dr Neeraj Gupta (Supervisor)
Tokuma Getahun	1834701013	Pre-thesis presentation completed on 14 <sup>th</sup> Oct 2020	Dr Neeraj Gupta (Supervisor)
Shalini Arora*	16301001	Pre-Thesis presentation done in 30 <sup>th</sup> Sept 2020	Dr Neeraj Gupta (Co-supervisor)
Vinit Sharma	1834701003	In Progress	Dr Neeraj Gupta (Supervisor)
Minal Verma (M.Phil student)	1934701002	In progress	Dr Neeraj Gupta (Cosupervisor) for MPhil
*Student registered in PEC University of Technology Chandigarh			

**Resolution No. 4 : Approved**

**5. Agenda Item No. CCS-BOS-4/20-5: Approval of the Course work for PhD students in Department of Chemistry and Chemical Sciences.**

Course Code CCS-700 is given in Annexure II, CCS 701 is given in Annexure III and RPE as recommended by UGC and Adopted by CUHP is given below

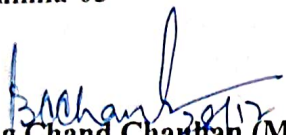
Sr No	Course Code	Name of the Course	Credits	Level	Name of the Course Instructor
1.	RPE	Research and Publication Ethics	02	06	--

Resolution No. 5: Approved

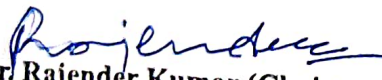
6. Agenda Item No. CCS-BOS-4/20-6: Item from Chair

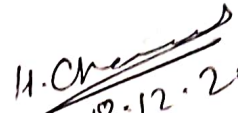
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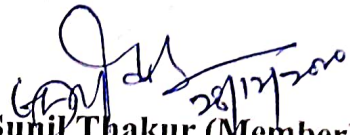
Dr. Devinder Kumar Sharma (Member)  
 Professor, Department of Chemistry  
 HPU Shimla-05

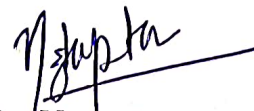
  
 Dr. Bhag Chand Chauhan (Member)  
 Professor, Department of Physics and Astronomical Science  
 CUHP-176206

Dr. Shashi Kant Sharma (Member)  
 Professor, Department of Chemistry  
 HPU Shimla-05

  
 Dr. Rajender Kumar (Chairman) 28.12.2020  
 Department of Chemistry and Chemical Science  
 CUHP-176206

  
 28.12.2020  
 Dr. Hum Chand (Member)  
 Professor and Dean, SOPMS  
 CUHP-176206

  
 28/12/2020  
 Dr. Sunil Thakur (Member)  
 Department of Animal Sciences  
 CUHP-176206

  
 Dr. Neeraj Gupta (Member)  
 Department of Chemistry and Chemical Science  
 CUHP-176206

Rajender Kumar <rajender.cuhp@gmail.com>

mail

## Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

13 messages

Rajender Kumar <rajender.cuhp@gmail.com>

Tue, Jan 19, 2021 at 12:18 PM

To: dksharma\_dk@rediffmail.com, "Dr. Sunil Kumar" <sunilibes@gmail.com>, gupta\_nrj@hpcu.ac.in, neeraj gupta <gupta\_nrj@yahoo.co.in>, Hum Chand <humchand@hpcu.ac.in>, Hum Chand <humchand@gmail.com>, drsklomesh@gmail.com, bcawake@hpcu.ac.in

Respected BOS Member

First of all I apologise for delay in sending BOS minutes for Approval. Please find attached the BOS minutes for your kind approval. The 4th BOS was held on 28 December 2020 via Google Meet.

I shall be highly obliged to receive the approval of the Minutes of the 4th BOS of the Department of Chemistry and Chemical Science, CUHP-176206 by email.

Thank you  
with regards

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

### 5 attachments

 4th BOS agenda.pdf  
73K

 Annexure-I.pdf  
353K

 Annexure II.pdf  
28K

 4th BOS Minutes.pdf  
157K

 Annexure III.pdf  
38K

Tue, Jan 19, 2021 at 4:08 PM

Dr. Shashi Kant Sharma <drsklomesh@gmail.com>  
To: Rajender Kumar <rajender.cuhp@gmail.com>

Approved

On Tue, Jan 19, 2021, 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member

First of all I apologise for delay in sending BOS minutes for Approval. Please find attached the BOS minutes for your kind approval. The 4th BOS was held on 28 December 2020 via Google Meet.

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Thank you  
with regards

26/03/2021

Gmail - Minutes of 4th BOS meeting

--  
**Dr.Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh ,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob:+917018623845

Rajender Kumar <rajender.cuhp@gmail.com>  
To: "Dr. Shashi Kant Sharma" <drsklomesh@gmail.com>

Tue, Jan 19, 2021 at 4:11

Thank you very much sir  
with regards  
rajender

On Tue, Jan 19, 2021 at 4:08 PM Dr. Shashi Kant Sharma <drsklomesh@gmail.com> wrote:  
Approved

On Tue, Jan 19, 2021, 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member  
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Thank you  
with regards

--  
**Dr.Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh ,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob:+917018623845

--  
**Dr.Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh ,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob:+917018623845

**Prof. B. C. Chauhan** <bcawake@hpcu.ac.in>  
To: Rajender Kumar <rajender.cuhp@gmail.com>

Tue, Jan 19, 2021 at 9:01 PM

Approved.  
Prof. B. C. Chauhan

On Tue, Jan 19, 2021 at 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member  
First of all I apologise for delay in sending BOS minutes for Approval. Please find attached the BOS minutes for your kind approval. The 4th BOS was held on 28 December 2020 via Google Meet.

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I shall be highly obliged to receive the approval of the Minutes of the 4th BOS of the Department of Chemistry and Chemical Science, CUHP-176206 by email.

Thank you  
with regards

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

--  
प्रो० भागचन्द चौहान  
भौतिकी एवं खगोल विज्ञान विभाग  
हि० प्र० के० विश्वविद्यालय, धर्मशाला (हि० प्र०)

---  
Provost, CUHP  
Planning and Development Officer, CUHP  
Nodal Officer, Int. Yoga Day Celebration  
Chairman, Yogdhara Club, CUHP  
Visiting Associate, IUCAA, Pune.

Wed, Jan 20, 2021 at 9:56 AM

Rajender Kumar <rajender.cuhp@gmail.com>  
To: "Prof. B. C. Chauhan" <bcawake@hpcu.ac.in>

Thank you very much sir  
regards  
rajender

On Tue, Jan 19, 2021 at 9:01 PM Prof. B. C. Chauhan <bcawake@hpcu.ac.in> wrote:  
Approved.

Prof. B. C. Chauhan

On Tue, Jan 19, 2021 at 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member  
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Thank you  
with regards

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

--  
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भौतिकी एवं खगोल विज्ञान विभाग  
हि० प्र० के० विश्वविद्यालय, धर्मशाला (हि० प्र०)

<https://mail.google.com/mail/u/1?ik=e5f0d0af22&view=pt&search=all&permthid=thread-a%3Ar-3416032001935314850&dsqt=1...> 3/11



26/03/2021

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---  
Provost, CUHP  
Planning and Development Officer, CUHP  
Nodal Officer, Int. Yoga Day Celebration  
Chairman, Yogdhara Club, CUHP  
Visiting Associate, IUCAA, Pune.

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

Hum Chand <humchand@hpcu.ac.in>  
To: Rajender Kumar <rajender.cuhp@gmail.com>  
Cc: Hum Chand <humchand@hpcu.ac.in>

Wed, Jan 20, 2021 at 2:56 PM

Dear Rajender,

I approve the Minutes of BoS meeting dated 28 December 2020 in the present form as attached with your email dated 19th January 2021.

Thank you  
with regards  
humchand

On Tue, Jan 19, 2021 at 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member  
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Thank you  
with regards

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

--  
Hum Chand  
Dean, School of Physical and Material Sciences  
Head, Professor, Department of Physics and Astronomical Sciences,

Central University of Himachal Pradesh (CUHP),  
Temporary Academic Block, Shahpur,  
Kangra, Himachal Pradesh, India. Pin-176206.  
Mobile: 6396937743 / 9760154111  
email: humchand@hpcu.ac.in & humchand@gmail.com  
webpage: <http://old.aries.res.in/~hum/> or at this  
skype: hum\_aries

Gmail - Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

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Wed, Jan 20, 2021 at 4:01 PM

Rajender Kumar <rajender.cuhp@gmail.com>  
Hum Chand <humchand@hpcu.ac.in>

Thank you very much sir  
Regards  
Rajender

On Wednesday, January 20, 2021, Hum Chand <humchand@hpcu.ac.in> wrote:  
Dear Rajender,

I approve the Minutes of BoS meeting dated 28 December 2020 in the present form as attached with your email dated 19th January 2021.

Thank you  
with regards  
humchand

On Tue, Jan 19, 2021 at 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

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Thank you  
with regards

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**Dr.Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh ,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob:+917018623845

--

Hum Chand  
Dean, School of Physical and Material Sciences  
Head, Professor, Department of Physics and Astronomical Sciences,

Central University of Himachal Pradesh (CUHP),  
Temporary Academic Block, Shahpur,  
Kangra, Himachal Pradesh, India. Pin-176206.  
Mobile: 6396937743 / 9760154111  
email: humchand@hpcu.ac.in & humchand@gmail.com  
webpage: <http://old.aries.res.in/~hum/> or at this  
skype: hum\_aries

--

**Dr.Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh ,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob:+917018623845

Dr Sunil Kumar Thakur <sunilibes@gmail.com>

Fri, Jan 22, 2021 at 12:46 PM

<https://mail.google.com/mail/u/1?ik=e5f0d0af22&view=pt&search=all&permthid=thread-a%3Ar-3416032001935314850&dsqt=1...> 5/11

26/03/2021

Gmail - Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

To: Rajender Kumar <rajender.cuhp@gmail.com>

Sir

I hereby approve the Minutes of the 4th BOS of the Department of Chemistry and Chemical Science, CUHP-176206

Thanks & regards

**डॉ सुनील कुमार/ Dr Sunil Kumar**

सह-प्रोफेसर और विभागाध्यक्ष / Assoc. Prof. & Head

जंतु विज्ञान विभाग / Department of Animal Sciences

जैविक विज्ञान स्कूल / School of Life Sciences

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय / Central University of Himachal Pradesh

अस्थायी शैक्षणिक खण्ड, शाहपुर / TAB Shahapur, Kangra HP - 176206

Mob. 9418050067, 7018445774, website: www.cuhimachal.ac.in

On Tue, Jan 19, 2021 at 12:18 PM Rajender Kumar <rajender.cuhp@gmail.com> wrote:

Respected BOS Member

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Thank you  
with regards

--

**Dr. Rajender Kumar**

Associate Professor & Head

Department of Chemistry and Chemical Sciences

School of Physical and Material Sciences

Central University of Himachal Pradesh,

District Kangra, Himachal Pradesh 176206

Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com

Mob: +917018623845

Rajender Kumar <rajender.cuhp@gmail.com>

To: Dr Sunil Kumar Thakur <sunilibes@gmail.com>

Thank you very much sir  
with regards  
rajender

Fri, Jan 22, 2021 at 12:58 PM

On Fri, Jan 22, 2021 at 12:46 PM Dr Sunil Kumar Thakur <sunilibes@gmail.com> wrote:

Sir

I hereby approve the Minutes of the 4th BOS of the Department of Chemistry and Chemical Science, CUHP-176206.

Thanks & regards

**डॉ सुनील कुमार/ Dr Sunil Kumar**

सह-प्रोफेसर और विभागाध्यक्ष / Assoc. Prof. & Head

जंतु विज्ञान विभाग / Department of Animal Sciences

जैविक विज्ञान स्कूल / School of Life Sciences

हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय / Central University of Himachal Pradesh

अस्थायी शैक्षणिक खण्ड, शाहपुर / TAB Shahapur, Kangra HP - 176206

Mob. 9418050067, 7018445774, website: www.cuhimachal.ac.in

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Thank you

<https://mail.google.com/mail/u/1?ik=e5f0d0af22&view=pt&search=all&permthid=thread-a%3Ar-3416032001935314850&dsqt=1...> 6/11

P-176206

with regards

Dr. Rajender Kumar  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

Dr. Rajender Kumar  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

Sat, Jan 23, 2021 at 11:14 AM

davinder sharma <dksharma\_dk@rediffmail.com>  
To: rajender.cuhp@gmail.com

Dear Sir  
Kindly refer to your mail dated 19/01/2021 regarding approval of the minutes of the 4th BOS meeting held on 28 December 2020 via Google Meet. After going through the proceedings of the meeting incorporating the suggestions made on the day of meeting I as member of the said BOS meeting approve the minutes of the meeting.  
With kind regards

Prof D.K.Sharma  
Department of Chemistry  
Himachal Pradesh University, Summer Hill  
SHIMLA-171005

On Tue, 19 Jan 2021 12:18:24 +0530 Rajender Kumar wrote  
>Respected BOS Member First of all I apologise for delay in sending BOS minutes for Approval. Please find attached the BOS minutes for your kind approval. The 4th BOS was held on 28 December 2020 via Google Meet. I shall be highly obliged to receive the approval of the Minutes of the 4th BOS of the Department of Chemistry and Chemical Science, CUHP-176206 by email. Thank you with regards

--  
Dr. Rajender Kumar Associate Professor & Head Department of Chemistry and Chemical Sciences School of Physical and Material Sciences Central University of Himachal Pradesh, District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

Sun, Jan 24, 2021 at 7:01 PM

Rajender Kumar <rajender.cuhp@gmail.com>  
To: davinder sharma <dksharma\_dk@rediffmail.com>

Dear Sir  
Thank you very much for your support and guidance.  
With warm regards  
Sincerely yours  
Rajender

26/03/2021

Gmail - Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

On Saturday, January 23, 2021, davinder sharma <dksharma\_dk@rediffmail.com> wrote:

Dear Sir

Kindly refer to your mail dated 19/01/2021 regarding approval of the minutes of the 4th BOS meeting held on 28 December 2020 via Google Meet. After going through the proceedings of the meeting incorporating the suggestions made on the day of meeting I as member of the said BOS meeting approve the minutes of the meeting.

With kind regards

Prof D.K.Sharma  
Department of Chemistry  
Himachal Pradesh University, Summer Hill  
SHIMLA-171005

On Tue, 19 Jan 2021 12:18:24 +0530 Rajender Kumar wrote

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--  
Dr. Rajender Kumar Associate Professor & Head Department of Chemistry and Chemical Sciences School of Physical and Material Sciences Central University of Himachal Pradesh, District Kangra, Himachal Pradesh 176206 Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

--  
**Dr. Rajender Kumar**  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
Email; rajender@cuhimachal.ac.in, rajender.cuhp@gmail.com  
Mob: +917018623845

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**Rajender Kumar** <rajender.cuhp@gmail.com>

To: Chemistry Chemical Science <deptchemicalchemistry20@gmail.com>, deepak.cuhp@hpcu.ac.in, smritichaudhary61 <smritichaudhary61@gmail.com>

Fri, Feb 5, 2021 at 12:39

These are confirmed 4th BOS minutes. Please include them in NIRF detail (Tier 1) as required by prof. Mahajan  
thanks  
thanks  
rajender

----- Forwarded message -----

From: **Rajender Kumar** <rajender.cuhp@gmail.com>

Date: Tue, Jan 19, 2021 at 12:18 PM

Subject: Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

To: <dksharma\_dk@rediffmail.com>, 'Dr. Sunil Kumar' <sunilibes@gmail.com>, <gupta\_nrj@hpcu.ac.in>, neeraj gupta <gupta\_nrj@yahoo.co.in>, Hum Chand <humchand@hpcu.ac.in>, Hum Chand <humchand@gmail.com>, <drsklomesh@gmail.com>, <bcawake@hpcu.ac.in>

Respected BOS Member

First of all I apologise for delay in sending BOS minutes for Approval. Please find attached the BOS minutes for your kind approval. The 4th BOS was held on 28 December 2020 via Google Meet.

<https://mail.google.com/mail/u/1?ik=e5f0d0af22&view=pt&search=all&permthid=thread-a%3Ar-3416032001935314850&dsqt=1...> 8/


Department of Chemistry and Chemical Sciences  
I > >  
I shall be highly obliged to receive the approval of the Minutes of the 4th BOS of the Department of Chemistry and  
Chemical Science, CUHP-176206 by email.  
Thank you  
with regards

Dr. Rajender Kumar  
Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
Central University of Himachal Pradesh,  
District Kangra, Himachal Pradesh 176206  
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Dr. Rajender Kumar  
Associate Professor & Head  
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5 attachments

 4th BOS agenda.pdf  
73K

 Annexure-I.pdf  
353K

 Annexure II.pdf  
28K

 4th BOS Minutes.pdf  
157K

 Annexure III.pdf  
38K

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Rajender Kumar <rajender.cuhp@gmail.com>  
To: deepak.cuhp@hpcu.ac.in

Fri, Mar 26, 2021 at 12:48 PM

Deepak please take print of all attached documents of BOS and also print of confirmation received by email. We have to give it to Prof. Hum Chand for conducting School BOS.

Thanks  
rajender

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From: Rajender Kumar <rajender.cuhp@gmail.com>

Date: Fri, Feb 5, 2021 at 12:39 PM

Subject: Fwd: Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

To: Chemistry Chemical Science <deptchemicalchemistry20@gmail.com>, <deepak.cuhp@hpcu.ac.in>, smritichaudhary61 <smritichaudhary61@gmail.com>

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Minutes of 4th BOS meeting of Department of Chemistry and Chemical Sciences

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Associate Professor & Head  
Department of Chemistry and Chemical Sciences  
School of Physical and Material Sciences  
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**UNIT I: UV-visible Spectroscopy**

Electronic transitions (185-800 nm), Theory – Beer Lambert's law, Design and working of single beam and double beam spectrophotometry. Effect of solvent on electronic transitions. Fieser-Woodward rules for conjugated dienes and carbonyl compounds. Applications of UV absorption spectroscopy in qualitative analysis and quantitative analysis.

**UNIT II: IR- Spectroscopy**

Theory- Molecular vibration, instrumentation and mechanics of measurement – sample preparation –IR Spectroscopy, Characteristic vibrational frequencies of common organic compounds, Effect of hydrogen bonding and solvent effect on vibrational frequencies, overtones, combination bands and Fermi resonance, FTIR and use in structural elucidation.

**UNIT III: NMR Spectroscopy**

Theory, instrumentation, spin-spin coupling, chemical shift, magnetic equivalence – spin-spin decoupling, shift reagents. Applications of NMR spectrometry in characterization of chemical structure using spectra of simple organic compound as examples. Principle, Instrument and applications of  $C^{13}$  NMR.

**UNIT IV: Mass Spectrometry**

Theory, fragmentation pattern, ionization techniques; electron bombardment, chemical ionization, field desorption, fast atom bombardment. Different analysers, Interpretation of mass spectra, Molecular ion peak, Metastable peak, McLafferty rearrangement, Nitrogen Rule. Determination of molecular weight and molecular formula and applications of mass spectrometry.



Amalendu  
Bos Yu



UNIT I: *Fundamental reaction steps of transition metal catalysed reaction.* Coordinative unsaturation, oxidative-addition, reductive elimination reactions, migratory insertion and abstraction reactions. Cleavage of C-H bonds, nucleophilic and electrophilic addition and abstraction.

UNIT II: *Catalysis using transition metal complexes.* Catalysis by organometallic compounds Hydrogenation, Wilkinson Catalyst, Tolman Catalytic loop, Phase transfer catalyst, Hydroformylation (Oxo process), Monsanto Acetic Acid process, Syntehsis gas-Water gas shift reaction, Walcker process, Synthetic gasoline – Fischer Tropsch process and mobile process. Polymerization, oligomerization, and metatheses reaction of alkenes and alkynes, Ziegler Natta catalysis.

Unit-III: Introduction to nanoscience, nanostructure and nanotechnology (basic idea), Overview of nanostructures and nano-materials, classification, (cluster, colloid, nanoparticles, and nanostructures -Spheroid, Calculation of percentage of surface atom and surface to volume ratio of spherical, wire, rod, and disc shapes nanoparticles. Size dependent properties of nanomaterials (basic idea with few examples only): Quantum confinement, Electrical, Optical (Surface Plasmon resonance), variation in colors (Blue shift & Red shift), Magnetic, thermal.

UNIT IV: Top-down and Bottom-up approaches & self-assembly techniques of nanoparticles synthesis, Solvothermal process, self-assembled nanostructures-control of nanoarchitecture-one dimensional control. Carbon nanotubes and inorganic nanowires. Thermodynamics and kinetics of nucleation; Growth of polyhedral particles by surface reaction. Properties of nanostructured materials: Optical properties; magnetic properties; chemical properties. Overview of applied chemistry of Nanomaterials. Microporous materials, microgels, bioconjugate polymers, Nanoencapsulation

#### Recommended Books/References books:

1. C. N. R. Rao, A. Muller, A. K. Cheetam, The Chemistry of Nanomaterials: Synthesis, Properties and Applications, Willey-VCH Verlag, Germany, 2005.
2. G. Cao, Nanostructures and Nanomaterials: Synthesis, Properties and Appications, Imperial College Press, London, 2004.
3. R. W. Kelsall, I. W. Hameley, M. Geoghegan, Nanoscale Science and Technology, John Wiley & Sons, England, 2005.
4. Charles P. Poole and Frank J Owens, Introduction to nano technology, Wiley Interscience, 2003.
5. Pradeep, T., A text of book of nanoscience and nanotechnology, Tata McGraw Hill Education Pvt. Ltd., New Delhi, 2012.
6. J. E Huheey, E. A. Keiter, R. L. Keiter, O.K. Medhi. Inorganic Chemistry: Principles of structure and reactivity, Pearson Education.

