Central University of Himachal Pradesh

[Established under Central Universities Act, 2009]

Minutes
OF

14th BOARD OF STUDIES MEETING OF THE School of Physical & Material Science, Department of Physics & Astronomical Science HELD ON 26th OF December, 2023 AT 2:30PM

VENUE: Room No: 304, Central University of Himachal Pradesh, Campus Shahpur, District - Kangra, Himachal Pradesh - 176206

Central University of Himachal Pradesh

Department of Physics and Astronomical Science
School of Physical and Material Sciences

Minutes of the 14th meeting of the Board of Studies of Department of Physics and Astronomical Science

Date and Time: 26th December 2023 at 2:30 PM
Venue: Room No. 304, Shahpur Parisar, CUHP.

The meeting of the 14th Board of Studies (BOS) of Department of Physics and Astronomical Science (DPAS) held on 26th December 2023 at 2:30 PM at Shahpur Parisar, CUHP. Following members attended the meeting:

1. **Prof. Rajesh Kumar**
   Chairman, BOS
   Head
   Department of Physics and Astronomical Science, CUHP.

2. **Prof. OSKS Sastri**
   Member
   Department of Physics and Astronomical Science, CUHP.

3. **Prof. Hum Chand**
   Member
   Department of Physics and Astronomical Science, CUHP.

4. **Prof. B. C. Chauhan (Online)**
   Member
   Department of Physics and Astronomical Science, CUHP.

5. **Prof. Pankaj Sharma**
   External member
   NITTTR Chandigarh.

6. **Prof. D. N. Gupta (Online)**
   External member
   Deptt. of Physics and Astrophysics, University of Delhi.

7. **Dr. Mahesh Kulharia (Online)**
   Vc-Nominee
   Centre for Computational Biology and Bioinformatics, CUHP.

8. **Dr. Pradeep Chouksey**
   Vc-Nominee
   Department of Computer Science & Informatics, CUHP

9. **Dr. Dalip Singh Verma**
   Member
   Department of Physics and Astronomical Science, CUHP

10. **Dr. Jagdish Kumar (Online)**
    Member
    Department of Physics and Astronomical Science, CUHP

The Chairman, Prof. Rajesh Kumar, welcomed and thanked the BOS members for sparing their valuable time for the meeting. He briefed the members about the activities and progress made by the department since last meeting and outlined the plan of the meeting. Thereafter, agenda items were taken up, sequentially, to place before the BOS members. The members held comprehensive deliberations on all the agenda items and following decisions were unanimously taken:

Item PAS-BOS-14.1:
The BOS confirmed the minutes of the 13th BOS meeting held on 15-12-2022 at Shahpur Parisar **(Annexure-I).**

Item PAS-BOS-14.2:
The BOS approved the minutes of Research Degree Committee (RDC) meeting held on 26-12-2023 at 11:30 AM **(Annexure-II).**

Item PAS-BOS-14.3:
The BOS approved the list of new courses introduced and course revision at Ph. D. and PG level.

New Courses Introduced:			
S. No.	**Name (Credits)**	**Code**	**Programme**
1.	Computational Nuclear Physics (4 Credits)	PAS1021	RD
2.	Advanced topics in Condensed Matter Physics (4 Credits)	PAS1022	RD
3.	Advanced Quantum Mechanics (2 Credits)	PAS8202A	PG
4.	Advanced Computational Methods in Physics (4 Credits)	PAS1005A	RD
5.	Astronomy and Astrophysics (4 Credits)	PAS9106D	PG
6.	Material Science-I (4 Credits)	PAS9106E	PG
7.			
Course Revisions			
1.	Condensed Matter Physics (4 Credits)	PAS8203	PG

Item PAS-BOS-14.4: The BOS approved the list of courses for B. Sc. Programme for Fourth, Fifth and Sixth Semesters as per CUHP NEP2020 guidelines **(Annexure-III).**

Item PAS-BOS-14.5: The BOS approved the evaluation guidelines for the following courses:

a) Review of Literature and Research Proposal (RLRP) Course Guidelines M. Sc. III Semester.
b) Paper publication/presentation course guidelines-M. Sc. IV Semester.
c) Subject Internship/Innovation course guidelines-B. Sc. (Hon.) Physics V Semester.
d) Lok Vidya (B. Sc. V Semester) course guidelines..
e) Swachh Bharat (B. Sc. IV Semester) course guidelines.

The approved guidelines are detailed in **Annexure-IV.**

The meeting ended with vote thanks to all the board members by the Chairman.

Signatures:

1. **Prof. Rajesh Kumar**
Chairman, BOS
Head
Department of Physics and Astronomical Science, CUHP.

26/12/2023

2. **Prof. OSKS Sastri**
Member
Department of Physics and Astronomical Science, CUHP.

3. **Prof. Hum Chand**
Member
Department of Physics and Astronomical Science, CUHP.

4. **Prof. B. C. Chauhan (Online)**
Member
Department of Physics and Astronomical Science, CUHP.

5. **Prof. Pankaj Sharma**
External member
NITTTR Chandigarh.

26/12/2023.

6. **Prof. D. N. Gupta (Online)**
External member
Deptt. of Physics and Astrophysics, University of Delhi.

7. **Dr. Mahesh Kulharia (Online)**
Member VC nominee
Centre for Computational Biology and Bioinformatics, CUHP.

8. **Dr. Pradeep Chouksey**
Member
Department of Computer Science & Informatics, CUHP

26/12/23

9. **Dr. Dalip Singh Verma**
Member
Department of Physics and Astronomical Science, CUHP

26/14/2023

10. **Dr. Jagdish Kumar (Online)**
Member
Department of Physics and Astronomical Science, CUHP

Online

Central University of Himachal Pradesh

Department of Physics and Astronomical Science
School of Physical and Material Sciences

Agenda of 14th Board of Studies Meeting

Date and Time: 26th December, 2023, 2:00PM.
Venue: Seminar Hall, Shahpur Parisar.

- **PAS-BOS-14.1:** To confirm the minutes of the 13th BOS meeting held on 15-12-2022 at Shahpur Parisar **(Annexure-I).**
- **PAS-BOS-14.2:** To approve the minutes of Research Degree Committee (RDC) meeting held on ---------- **(Annexure-II)**
- **PAS-BOS-14.2:** To approve new courses introduced:

New Courses Introduced:			
S. No.	**Name (Credits)**	**Code**	**Programme**
1.	Computational Nuclear Physics (4 Credits)	PAS1021	RD
2.	Advanced topics in Condensed Matter Physics (4 Credits)	PAS1022	RD
3.	Advanced Quantum Mechanics (2 Credits)	PAS8202A	PG
4.	Advanced Computational Methods in Physics (4 Credits)	PAS1005A	RD
5.	Astronomy and Astrophysics (4 Credits)	PAS9106D	PG
6.	Material Science-I (4 Credits)	PAS9106E	PG
7.			
Course Revisions			
1.	Condensed Matter Physics (4 Credits)	PAS8203	PG

- **PAS-BOS-14.3:** To approve the list of courses for B. Sc. Programme for Fourth, Fifth and Sixth Semesters as per CUHP NEP2020 guidelines **(Annexure-III).**

- **PAS-BOS-14.4: To approve:**

a) Review of Literature and Research Proposal (RLRP) Course Guidelines M. Sc. III Semester.
b) Paper publication/presentation course guidelines-M. Sc. IV Semester.
c) Subject Internship/Innovation course guidelines-B. Sc. (Hon.) Physics V Semester.
d) Lok Vidya (B. Sc. V Semester) course guidelines..
e) Swachh Bharat (B. Sc. IV Semester) course guidelines.

The proposed guidelines are detailed in **Annexure-IV.**

- **Any other agenda item with the permission of the Chair.**

26.12.2023

Prof. Rajesh Kumar
Head
Department of Physics and Astronomical Science
Central University of Himachal Pradesh, Shahpur Parisar.

Annexure-I

Central University of Himachal Pradesh

[Established under Central Universities Act, 2009]

Minutes
OF

13th BOARD OF STUDIES MEETING OF THE School of Physical & Material Science, Department of Physics & Astronomical Science HELD ON 15th OF December, 2022 AT 2:00PM

VENUE: Seminar hall, Central University of Himachal Pradesh, Campus Shahpur, District - Kangra, Himachal Pradesh - 176206

Central University of Himachal Pradesh

Department of Physics and Astronomical Science
School of Physical and Material Sciences

Minutes of the 13th meeting of the Board of Studies of Department of Physics and Astronomical Science

Date and Time: 15th December 2022 at 2:00 PM
Venue: Shahpur Parisar, CUHP

The meeting of the 13th Board of Studies (BOS) of Department of Physics and Astronomical Science (DPAS) held on 13th December 2022 at 2.00 PM at Shahpur Parisar, CUHP. Following members attended the meeting:

1. **Prof. Rajesh Kumar**
   Chairman, BOS
   Head
   Department of Physics and Astronomical Science, CUHP
2. **Prof. Hum Chand**
   Dean
   School of Physical and Material Science, CUHP
3. **Prof. B. C. Chauhan**
   Member
   Department of Physics and Astronomical Science, CUHP
4. **Prof. Raman Sharma**
   External member
   Department of Physics, HPU Shimla
5. **Dr. Vimal Sharma**
   External member
   NIT Hamirpur
6. **Dr. Mahesh Kulharia**
   Member
   Director, Centre for Computational Biology and Bioinformatics, CUHP
7. **Dr. Rajender Kumar**
   Member
   Department of Chemistry and Chemical Science, CUHP
8. **Dr. Dalip Singh Verma**
   Member
   Associate Professor, Department of Physics and Astronomical Science, CUHP

The Chairman, Prof. Rajesh Kumar, welcomed and thanked the BOS members for sparing their valuable time for the meeting. He briefed the members about the activities and progress made by the department since last meeting and outlined the plan of the meeting. Thereafter, agenda items were taken up, sequentially, to place before the BOS members. The members held comprehensive deliberations on all the agenda items and following decisions were unanimously taken:

Item PAS-BOS-13.1:
The BOS, unanimously, confirmed the minutes of the 12th BOS meeting held on 24.09.2021 at Shahpur Parisar (Online Mode) **(Annexure-12th BOS)**.

Item PAS-BOS-13.2:
The BOS approved the list of courses for M. Sc. Programme under NEP2020 for the session 2021-23 **(Annexure-I)**.

Item PAS-BOS-13.3:
The BOS approved the list of courses for M. Sc. Programme under NEP2020 for the session 2022 onwards **(Annexure-II)**.

Item PAS-BOS-13.4:
The BOS approved the list of courses (Vocational/Skill/Ability ...
Programme under NEP 2020 for the session '20-'21 onwards **(Annexure-III)**

Item PAS-BOS-13.5:
The BOS approved the list of courses for B. Sc. Programme under NEP2020 up to third semester **(Annexure-IV)**.

Item PAS-BOS-13.6:
The BOS approved the revised Research Degree (RD) programme course structure in consonance with NEP 2020 **(Annexure-V)**.

Item PAS-BOS-13.7:
The BOS approved the change of Ph.D. supervisor/Co-supervisor and Synopsis of Ph.D. students

S. No.	Name Roll No	Earlier Supervisor/ Co-supervisor	New Supervisor/ Co-supervisor	Title
1.	Aditi Sharma CUHP17RDPHY01	**Supervisor-** Prof. OSKS Sastri **Co-Supervisors-** Dr. Padmnabh Rai Dr. Ambuj Tripathi	**Supervisor-** Prof. OSKS Sastri	**Old**- Indigenous design & development of Nuclear particle detector using diamonds **New**- Physics Education Research Based Simulation Activities for Solving Quantum Mechanical Problems
2.	Shivani Kalia CUHP15RDPHY03	**Supervisor-** Dr. Rajesh Kumar Singh, **Co-Supervisor-** Dr. Rajnish Dhiman	**No change**	**Old**- Light Detection by Graphene and Carbon Nanotube Field Effect Transistors **New**- Two dimensional nanomaterial composites with metal/metal oxide nanoparticles for integrated applications

Item PAS-BOS-13.8: The BOS approved the proposed certificate courses **(Annexure-VI)**.

Item PAS-BOS-13.9: The BOS ratified the minutes of the first RDC meeting **(Annexure-VII)**.

Item PAS-BOS-13.10: The BOS approved the revisions in syllabi of the following courses

S. No.	Programme	Course Name and Code	Remarks
1.	M. Sc. Physics	Quantum Field Theory, PAS9106A (effective from July 2022)	**Annexure VIII**
2.	M. Sc. Physics	Quantum Mechanics, PAS8104 (effective from July 2022)	

Item PAS-BOS-13.11:
The BOS approved the guidelines and course contents of Community connect course **(Annexure IX)**

Item PAS-BOS-13.12:
The BOS approved the following list of examiners

S. No.	Name of the Examiner	Institute
1.	Prof. Anand Narayanan	IIST, Trivendram
2.	Prof. Biman Mahdi	Guwahati University
3.	Dr. Ravi Joshi	IIA, Bangalore
4.	Dr. Vivek M.	IIA, Bangalore
5.	Dr. Lakshmi Kant Chaware	Raipur University
6.	Prof. Shantnu Rastogi	Gorakhpur University
7.	Prof. Ramesh	Kumaun University
8.	Dr. Amitesh Omar	IIT Kanpur
9.	Prof. Somnath Bhardwaj	IIT Kharagpur
10.	Prof. Jasjeet Bagla	IISER Mohali
11.	Dr. Harvinder Kaur	IISER Mohali
12.	Dr. Pankaj Kumar	IISER Mohali
13.	Prof. Vir Singh Rangra	HPU Shimla
14.	Prof. Manish Kumar	JNU, New Delhi
15.	Dr. Kuldeep Sharma	NIT Hamirpur
16.	Prof. R. K. Moudgil	Kurukshetra University
17.	Prof. Ram Nath Jha	JNU, New Delhi
18.	Dr. Suram Singh	CU Jammu
19.	Dr. Nirmalya Kajuri	IIT Mandi
20.	Prof. Rajnikant	University of Jammu
21.	Prof. K. B. Joshi	MLS University Udaipur
22.	Dr. Raj Kumar	HPU Shimla
23.	Dr. Balbir Singh Patial	HPU Shimla
24.	Prof. Narinder Singh	PRL Ahmedabad
25.	Dr. Akshay Kumar	SPU Mandi
26.	Dr. Arvind Kumar	NIT Hamirpur

The meeting ended with vote thanks to all the board members by the Chairman.

Signatures:

1. **Prof. Rajesh Kumar**
   Chairman, BOS
   Head
   Department of Physics and Astronomical Science, CUHP

2. **Prof. Hum Chand**
   Dean
   School of Physical and Material Science, CUHP

3. **Prof. B. C. Chauhan**
   Member
   Department of Physics and Astronomical Science, CUHP

4. **Prof. Raman Sharma**
   External member
   Department of Physics, HPU Shimla

5. **Dr. Vimal Sharma**
   External member
   NIT Hamirpur

6. **Dr. Mahesh Kulharia**
   Member
   Director, Centre for Computational Biology and Bioinformatics, CUHP

7. **Dr. Rajender Kumar**
   Member
   Department of Chemistry and Chemical Science, CUHP

8. **Dr. Dalip Singh Verma**
   Member
   Associate Professor, Department of Physics and Astronomical Science, CUHP

Annexure – B

Central University of Himachal Pradesh

Department of Physics and Astronomical Science
School of Physical and Material Sciences

Minute of the 2nd RDC meeting

2nd RESEARCH DEGREE COMMITTEE (DRC) MEETING
HELD ON **26th December, 2023**

Venue: Room No: 304, Central University of Himachal Pradesh, Shahpur Parisar, Shahpur, Distt. Kangra (HP)

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

Accredited by NAAC with 'A+' Grade with CGPA of 3.42

भौतिकी एवम् खगोल विज्ञान विभाग

Department of Physics and Astronomical Science

Minutes of the RDC meeting held on 26.12.2023

The meeting of the Research Degree Committee (RDC) of the Department of Physics and Astronomical Science, School of Physical and Material Sciences, Central University of Himachal Pradesh, was held on 26.12.203, in the Room No. 304, Shahpur Parisar, from 11:30 AM in the morning.

The members discussed the agenda items placed before them in the following order.

1. Agenda item number PAS-RDC-2/23-1:

RDC approved (i) PhD Co Supervisor of Mr. Surykanta Swain CUHP21RDPHY18 allotted to Dr. Bibekananda (F.M. University, Balasore), (ii) PhD Co Supervisor of Mr. Dharmender CUHP21RDPHY06, allotted to Dr. Ravi Joshi (IIT Bengaluru), (iii) PhD Co Supervisor of Mrs. Pooja Chahuhan CUHP21RDPHY10 allotted to Dr. Samarjit Sihotra (Punjab University Chandigarh), (iv) Change PhD Supervisor to Ph.D. Students Mrs. Shruti Rialch, from Dr. Gourishankar Sahoo to Dr. Surinder Paul. and (v) RDC approved PhD Supervisors to the newly admitted Ph.D. Students of 2022 batch.

The RDC noted the allotment placed in the Annexure-I-A, and approved all the Supervisors & Co Supervisors.

2. Agenda item number PAS-RDC-2/23-2:

RDC Approved the Synopsis of (i) Mr. Lalit Kumar CUHP20RDPHY, (ii) Mr. Labh Singh CUHP20RDPHY01, (iii) Mr. Sandeep Kumar CUHP20RDPHY05, and (iv) Ms. Simran Arora CUHP20RDPHY06.

The following members were present in the RDC meeting.

External Experts:

1. Prof. Nagesh Thakur
2. Prof. Naresh Padha
3. Prof. R.K. Moudgil

Internal Members:

1. Prof. Rajesh Kumar 26/12/2023
2. Prof. Hum Chand
3. Prof. O.S.K.S. Sastri 26/12/2023
4. Prof. Bhag Chand Chauhan
5. Dr. Dalip Singh Verma 26/12/2023

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
(Established under Central Universities Act 2009)
शाहपुर परिसर, शाहपुर, ज़िला काँगड़ा (हि.प्र.) - 176206
ShahpurParisar, Shahpur, Distt. Kangra (HP) - 176206
Website: www.cuhimachal.ac.in

AGENDA-INDEX

Agenda Item No.	PARTICULARS	Information
PAS-RDC-2/23-1	To approve the Research Co Supervisor Mr. Surykanta Swain CUHP21RDPHY18 allotted the Dr. Bibekananda (F.M. University, Balasore). To approve the Research Co Supervisor Mr. Dharmender CUHP21RDPHY06 allotted the Dr. Ravi Joshi (IIT Bengaluru). To approve the Research Co Supervisor Mrs. Pooja Chahuhan CUHP21RDPHY10 allotted the Dr. Samarjit Sihotra (IIT Punjab University Chandigarh). To approve the Change Research Supervisor to Ph.D. Students Mrs. Shruti Rialch. To approve the Research Supervisors to the newly admitted Ph.D. Students of 2022. **The above allotment has been approved by the Departmental Standing Committee (DSC).**	Annexure -IA
PAS-RDC-2/23-2	To Approve the Synopsis Mr. Lalit Kumar CUHP20RDPHY, Mr. Labh Singh CUHP20RDPHY01, Mr. Sandeep Kumar CUHP20RDPHY05, Ms. Simran Arora CUHP20RDPHY06	Synopsis
PAS-RDC-2/23-3	Any other item with the permission of the Chair.	

29/12/2023

Prof. Rajesh Kumar
Head,
Department of Physics and Astronomical Science

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
|Established under Central Universities Act 2009|
Department of Physics & Astronomical Science
School of Physical & Material Sciences

पत्र संख्या: PAS/1-2/ (DSC)/CUHP/21/1224 दिनांक: 30-12-2022

अधिसूचना

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय के अध्यादेश **42**, धारा **5 .2(iv)**, और अध्यादेश **42**, धारा **7.2** के अनुसार भौतिक एवं खगोल विज्ञान विभाग, भौतिकी एवं पदार्थ विज्ञान स्कूल में पीएच.डी. अध्ययन कार्यक्रम के शोधार्थियों के पर्यवेक्षण के लिए निम्नलिखित संकाय सदस्य और बाहरी सदस्य को अनुसंधान पर्यवेक्षक और सह-पर्यवेक्षक के रूप में नियुक्त किया जाता है।

पर्यवेक्षकों का आवंटन बैच 2022

क्र.सं.	शोधार्थी का नाम	विश्वविद्यालय रोल. न.	पर्यवेक्षक का नाम
1	AKRITI GARG	CUHP22RDPHY01	डॉ. अयन चटर्जी
2	AMAN SEN	CUHP22RDPHY02	डॉ. सुरेन्दर पॉल
3	ISHWAR KANT	CUHP22RDPHY03	प्रो. ओ.एम.के.एम. साह्यो
4	MUKESH KUMAR	CUHP22RDPHY04	डॉ. विकास आनंद
5	PARYAG SHARMA	CUHP22RDPHY05	प्रो. हुम चंद
6	SANJEEV KUMAR	CUHP22RDPHY06	प्रो. राजेश कुमार
7	YOJANA SHARMA	CUHP22RDPHY07	डॉ. पवन कुमार

सह- पर्यवेक्षक का आवंटन बैच 2021

क्र.सं.	शोधार्थी का नाम	विश्वविद्यालय रोल. न.	सह- पर्यवेक्षक का नाम
1	SHRUTI RIALCH	CUHP21RDPHY16	डॉ. दुर्गामाधव मिश्रा (IIT Jodhpur)
2	SURYAKANTA SWAIN	CUHP21RDPHY18	डॉ. विवेकानंद नायक (FMU, Balas

यह अधिसूचना अनुसंधान डिग्री समिति के अनुमोदन के अधीन है।

Prof. Hem Chand
Professor, Member

Prof. O.S.K.S. Sastri
Professor, Member

Prof. Bhag Chand Chauhan
Professor, Member

30-12-22
Dr. Shiwani Berry
Assistant Professor, and,
ST Cat. & Women Representative

Dr. Dalip Singh Verma,
Associate, and,
OBC Cat. Representative

Dr. Jagdish Kumar
Associate, and
SC Category Representative

Dr. Ayan Chatterjee
Assistant Professor
Senior Most Assistant Professor

Prof. Rajesh Kumar
Professor, &
HoD, DoPAS

फ़ाइल सं.: PAS/1-2(DSC)/CUHP/21/1995

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

Accredited by NAAC with 'A+' Grade with CGPA of 3.42

भौतिकी एवम् खगोल विज्ञान विभाग

Department of Physics and Astronomical Science

दिनांक:29-11-2023

अधिसूचना

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय के अध्यादेश **42,** धारा **5 .2(iv)**, और अध्यादेश**42,**धारा **7.2** के अनुसार , भौतिक एवं खगोल विज्ञान विभाग, भौतिकी एवं पदार्थ विज्ञान स्कूल में पीएच.डी. अध्ययन कार्यक्रम के शोधार्थियों के पर्यवेक्षण के लिए निम्नलिखित संकाय सदस्य और बाहरी सदस्य को अनुसंधान पर्यवेक्षक और सह-पर्यवेक्षक के रूप में नियुक्त किया जाता है।

पर्यवेक्षकों का आवंटन बैच 2021			
क्र.सं.	**शोधार्थी का नाम**	**विश्वविद्यालय रोल. न.**	**पर्यवेक्षक का नाम**
1	Shruti Rialch	CUHP21RDPHY16	डॉ. सुरेंदर पॉल
सह- पर्यवेक्षक का आवंटन बैच 2021			
क्र.सं.	**शोधार्थी का नाम**	**विश्वविद्यालय रोल. न.**	**सह- पर्यवेक्षक का नाम**
3.	Dharmender	CUHP21RDPHY06	डॉ. रवि जोशी (IIA Bangalore)
4.	Pooja Chauhan	CUHP21RDPHY10	डॉ. समरजीत मिहोत्रा (PU, Chd)

यह अधिसूचना अनुसंधान डिग्री समिति के अनुमोदन के अधीन है।

Prof. Hum Chand
Professor, Member

Prof. O.S.K.S. Sastri
Professor, Member

Prof. Bhag Chand Chauhan
Professor, Member
29/11/2023

Dr. Shiwani Berry
Assistant Professor, and,
ST Cat. & Women Representative

Dr. Dalip Singh Verma 29/11/2023
Associate Professor, and,
OBC Cat. Representative

Online
Dr. Jagdish. Kumar
Associate Professor, and
SC Category Representative

Dr. AyanChattrjee
Assistant Professor
Senior Most Assistant Professor

29.11.2023
Prof. Rajesh Kumar
Professor, &
HoD, DoPAS

Condensed Matter Physics

Course Code: PAS8203 **Course Type: Major**
Credit: 4
Course Objectives:

This course is designed to teach students the relation between the structure and properties of exhibited by the crystalline solids. The details of band theory and effect of periodic potential on energy dispersions of electron. Role of lattice dynamics in thermal properties of solids. This course also aim to introduce the students to various types of properties of materials such as dielecirics, magnetic and superconducting properties.

Course Outcomes:

CO1: *After reading this course, the students will be able to understand how the energy dispersions of the electron are affected when large number of atoms come together to form crystalline materials.*

CO2: *What is the impact of periodic potential on electronic energy states in a crystal?*

CO3: *What causes the magnetism in any material and how one can explain various type of magnetic behaviours exhibited different materials.*

C43: *The students will also be able to understand the dielectric and superconducting materials and underlying mechanisms to explain their properties.*

Course Contents

Unit 1: Structure of solids **(9 hours)**

Bravais lattice, primitive vectors, primitive unit cell, conventional unit cell, Wigner-Seitz cell; Symmetry operations and classification of 2- and 3-dimensional Bravais lattices; point group and space group (information only); Common crystal structures: NaCl and CsCl structure, close-packed structure, Zinc blende and Wurtzite structure, tetrahedral and octahedral interstitial sites, Spinel structure; Intensity of scattered X-ray, Friedel's law, Anomalous scattering; Atomic and geometric structure factors; systematic absences; Reciprocal lattice and Brillouin zone; Ewald construction; Explanation of experimental methods on the basis of Ewald construction; Electron and neutron scattering by crystals (qualitative discussion); Surface crystallography; Graphene; Real space analysis — HRTEM, STM, FIM. Non crystalline solids-Monatomic amorphous materials; Radial distribution function; Structureof vitreous silica.

Unit 2: Band theory of solids **(6 hours)**

Bloch equation; Empty lattice band; Number of states in a band; Effective mass of an electron in a band: concept of holes; Classification of metal, semiconductor and insulator; Electronic band structures in solids - Nearly free electron bands; Tight binding method - application to a simple cubic lattice; Band structures in copper, GaAs and silicon; Topology of Fermi-surface; Quantization of orbits in a magnetic field, cyclotron resonance — de Haas-van Alphen effect; Boltzmann transport equation - relaxation time approximation, Sommerfeld theory of electrical conductivity.

Unit 3: Lattice dynamics and Specific heat **(6 hours)**

Classical theory of lattice vibration under harmonic approximation; Dispersion relations of one dimension lattices: monatomic and diatomic cases, Characteristics of different modes, long wavelength limit, Optical properties of ionic crystal in the infrared region; Inelastic scattering of neutron by phonon; Lattice heat capacity, models of Debye and Einstein, comparison with electronic heat capacity; Anharmonic effects in crystals - thermal expansion.

(6 hours)

Unit 4: Dielectric properties of solids

Electronic, ionic, and orientational polarization; static dielectric constant of gases and solids; Complex dielectric constant and dielectric losses, relaxation time, Debye equations; Cases of distribution of relaxation time, Cole - Cole distribution parameter, Dielectric modulus; Ferroelectricity, displacive phase transition, Landau Theory of Phase Transition.

(9 hours)

Unit 5: Magnetic properties of solids

Origin of magnetism; Diamagnetism: quantum theory of atomic diamagnetism; Landau diamagnetism (qualitative discussion); Paramagnetism: classical and quantum theory of paramagnetism; case of rareearth and iron-group ions; quenching of orbital angular momentum; Van-Vleck paramagnetism and Pauli paramagnetism; Ferromagnetism: Curie-Weiss law, temperature dependence of saturated magnetisation, Heisenberg's exchange interaction, Ferromagnetic domains - calculation of wall thickness and energy; Ferrimagnetism and antiferromagnetism.

(4 hours)

Unit 6: Magnetic resonances

Nuclear magnetic resonances, paramagnetic resonance, Bloch equation, longitudinal and transverse relaxation time; spin echo; motional narrowing in line width; absorption and dispersion; Hyperfine field; Electron-spin resonance.

(6 hours)

Unit 7: Imperfections in solids

Frenkel and Schottky defects, defects by non stoichiometry; electrical conductivity of ionic crystals; classifications of dislocations; role of dislocations in plastic deformation and crystal growth; Colour centers and photoconductivity; Luminescence and phosphors; Alloys, Hume-Rothery rules; electron compounds; Bragg - Williams theory, order-disorder phenomena, superstructure lines; Extra specific heat in alloys.

(6 hours)

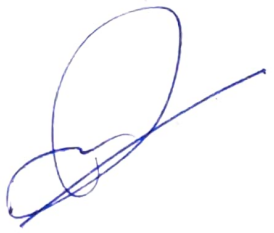
Unit 8: Superconductivity

Phenomenological description of superconductivity - occurrence of superconductivity, destruction of superconductivity by magnetic field, Meissner effect; Type-I and type-II superconductors; Heat capacity, energy gap and isotope effect; Outlines of the BCS theory; Giaver tunnelling; Flux quantisation; a.c. and d.c. Josephson effect; Vortex state (qualitative discussions); High Tc superconductors (information only).

Reference Books:

- Solid State Physics by Neil W. Ashcroft and N. David Mermin
- Introduction to Solid State Physics by C. Kittle
- Introduction to Solids by Azaroff

- Crystallography Applied to Solid State Physics by A. R. Verma and O. N. Srivastava
- Principles of Condensed Mater Physics by P. M. Chaikin and C. Lubensky
- Solid State Physics: A. J. Dekker



Annexure-III, Course structure

B. Sc. (Honours) Physics

I-Semester

S. No.	Name of the Course	CourseCode	Course Type	Course Credit
1	Mechanics	PAS5101	Major	4
2	Mathematical Physics-I	PAS5102	Major	4
3	Organic Stereochemistry and Spectroscopy	CCS5101	IDC Minor	4
4	Lab Skills in Chemical Sciences-I	CCS5101L	Lab/Field	2
5	Mechanics Lab Skills	PAS5105L	V/S	2
6	Indian KnowledgeSystem	PAS5106	IKS	4
	Total			**20**
	IDC Courses offered by the Department			
1	Nanomaterials	PAS5111	IDC Minor	2
2	Heat and Thermodynamics	PAS5112	IDC Minor	2

II-Semester

1	Electricity and Magnetism	PAS5201	Major	4
2	Mathematical Physics-II	PAS5202	Major	4
3	Electrochemistry	CCS5201	IDC Minor	4
4	Lab Skills in Chemical Sciences-II	CCS5201L	Lab	2
5	Nuclear Radiation and Safety	PAS5203	V/S	2
6	Electrical Circuits and Network Skills	PAS5204	V/S	2
7	Sanskrit Sambhashna	SKT201	Indian Language	2
	Total			**20**
	IDC Courses offered by the Department			
1	Waves and Optics	PAS5113	IDC Minor	2
2	Heat and Thermodynamics	PAS5112	IDC Minor	2

III-Semester

1	Thermal and Statistical Physics	PAS6101	Major	4
2	Solid State Physics	PAS6102	Major	4
3	Linear Algebra and Tensors	MTH351	IDC Minor	4
4	Linear Algebra and Tensors Tutorial	MTH351T	Lab/Field	2
5	Digital Systems and Applications	PAS6104L	V/S	2

6	Community Connect	PAS6105	Community Connect	4
IDC Courses offered by the Department				
1	Numerical Methods	PAS6110	IDC Minor	2
2	A Course on Scientific Programming using FORTRAN	PAS6112	IDC Minor	2
Note: The courses up to Third Semester have been approved in the 13th BOS.				
IV Semester				
1	Waves and Optics	PAS6201	Major	4
2	Analog Electronics and Applications	PAS6202	Major	4
3	Atomic Structure, Bonding and General Organic Chemistry	CCS6201	Minor	4
4	Analog Electronics and Applications Lab	PAS6206L	V/S	2
5	Swachh Bharat	PAS6203	Swachh Bharat	2
6	Environmental Studies	ENV123	Environmental Studies	4
V Semester				
1	Quantum Physics and Applications	PAS7101	Major	4
2	Nuclear and Particle Physics	PAS7102	Major	4
3	Astronomy and Astrophysics	PAS7103	Minor	2
4	Numerical Techniques	PAS7104	V/S	2
5	General Physics Lab	PAS7105L	Lab/Field	2
6	Lok Vidya	PAS7106	Lok Vidya	2
7	Subject Internship/Innovation	PAS7107	Subject Internship/innovation	4
VI Semester				
1	Electromagnetic Theory	PAS7201	Major	4
2	Mathematical Physics-III	PAS7202	Major	4
3	Computational Physics	PAS7203	Minor	2
4	IDC		Minor	2
5	Subject Specific IKS	PAS7204	IKS	2
6	Yoga Studies	PAS7205	IKS	2
7	Cultural Exchange	PAS7206	Cultural Exchange (National Integration)	4

Annx- IV

Course: BSc Vth-Semester
Course code: PAS7101
Credit: 4
Course Name: Internship/Innovation

Evaluation Scheme as proposed in the departmental meeting is as follows:

Mid term (20%, maximum 40 out of total 200 marks): Internal
Innovative/field work: 25 Marks
Presentation: 10 Marks
Viva: 5 Marks

Internal (20% maximum 40 out of total 200 marks): Entirely based on instructor assessment.

End Term (60% maximum 120 out of a total of 200 marks): External

Innovative Project Demonstration:	50 Marks
Project Report:	40 Marks
Presentation:	20 Marks
Viva:	10 Marks

Innovative/field work assessed through a viva-vova board including the external expert and instructor.

Central University of Himachal Pradesh

Swachh Bharat Internship

Swachh Bharat internship is an extension of the Swachh Bharat Mission.The clean India Mission is a country-wide campaign initiated by the Government of India to improve solid waste management. It was launched as a national movement on the birth anniversary of Mahatma Gandhion 2nd October 2014. The internship will accelerate the efforts to achieve universal sanitation coverage and make the Swachh Bharat Mission successful.

The University to implement the above offers an internship programme and a curriculum for classroom interaction. (02 credits)

Objectives

To help in magnifying the mass awareness on the issue of cleanliness, public hygiene and community development

To engage students across the country to develop their skills and orientation for sanitation related work.

To aware the students as well as the community people about the importance of Swachh Bharat.

To provide learning experiences to the students in makingIndia healthy and clean.

Guidelines for Swachh Bharat Internship

It will be a mix of practicum and theoretical learning (30 hours practicum and 10 hours classroom interaction).

As a part of the Internship, the activitiesparticipants may involve - Cleaning, Spreading Awareness, Street plays, Poster making, Painting Competition, Documentary making, Workshops, Movie screenings, Waste collection drive, etc. that must associate with *swacch bharat* spirit

The participants have to produce documentary evidence to the University to claim Academic Credit after the completion of the work.

Swachh Bharat Internship must be at the departmental level.

No Examination will be held so as not to hurt the spirit of intrinsic values of the work.

All participants will be given a Swachh Bharat Internship Certificate on earning of the credits.

Course Contents

Unit-1 (4 hours)

Public health and Hygiene.
Concept, Meaning, Nature and Function.
Environmental Sanitation and Sanitary Engineering.
Solid and Liquid Waste Management

Unit-II (3 hours)

Lessons from History
Total Sanitation Campaign (1999), Nirmal Bharat Abhiyan (2012), Swachh Bharat Abhiyan (2014), The Central Rural Sanitation Programme (1986).

Unit-III (3 hours)

Public Awareness through Media - An Introduction to Mobile Apps of Government of India: NHP, Swasth Bharat, etc.
Building of Roadmaps, Blueprints, Awareness, Bulletins.

Annexure-IV

Guidelines to evaluate course "Review of Literature and Research Proposal"

Programme of Study:	M. Sc. Physics
Course Name:	Review of Literature and Research Proposal
Course code:	PAS9106
Course Credits:	4

1. **Attendance requirement:**

   Students are required to have minimum of 75% attendance failing which student will not be allowed to appear in the examination.

2. **Evaluation Criteria:**

   Student will be evaluated for a total of **200 marks** which include continuous evaluation over the duration of the course and MID-TERM, END-TERM examinations.

   (i) Mid-Term Examination:

   - **Maximum Marks:** 40 Marks
   - **Components for evaluation:**
     - ✓ **Presentation and Viva:**
       - Briefly describe respective literature review.
       - Specific need addressed by the review.

   (ii) End-Term Examination:

   - **Maximum Marks:** 120 Marks
   - **Components for evaluation:**
     - ✓ Structure and content of the oral presentation.
     - ✓ Viva-voce.
     - ✓ Understanding of the basics/Clarity in the area.
     - ✓ Detailed report of the review carried out during the course. The report must include a research proposal.

   Note: The report of the course should be submitted to the department 05 days before commencement of the end term examination, failing which student will not be allowed for the END-TERM evaluation.

   (iii) Continuous Internal Assessment: CIA shall be based on Total Student Effort during the execution of Review of Literature and Research Proposal.

- **Maximum Marks:** 40 Marks
- **Components for evaluation:**
  - ✓ Attendance (05 marks)
    - For attendance between 76-80%- 1 mark, 81-85%-2 marks, 86-90%-3 marks, 91-95%-4 marks, 96-100%-5 marks.
  - ✓ Assignment/Literature review
    - Periodical presentations
    - Laboratory/field work

Guidelines to evaluate course "Paper Publication/Seminar/Conference presentation"

Course Code: PAS9203
Course Name: Paper Publication/Seminar/Conference presentation
Faculty Coordinator: Faculty Mentor
Year of Introduction/Revision of Course Contents: 2022

Credits Equivalent: 2 Credits (One credit is equivalent to 10 hours of lectures / organised classroom activity / contact hours; 5 hours of laboratory work / practical / field work / Tutorial / teacher-led activity and 15 hours of other workload such as independent individual/ group work; obligatory/ optional work placement; literature survey/ library work; data collection/ field work; writing of papers/ projects/dissertation/thesis; seminars, etc.)

In accordance with the National Education Policy-2020 guidelines, a student has to complete the course entitled "Paper Publication/Seminar/Conference presentation" to successfully earn the 02 credits. Hence, the students of M Sc Physics programme are required to complete this course.
The detailed structure, evaluation criteria, and guidelines of the course are as follow:

Course Code	**PAS9203**
Course Name	**Paper Publication/Seminar/Conference presentation**
Course Coordinator	Faculty Mentor
Credits Equivalent	2 Credits: (One credit is equivalent to 10 hours of lectures / organized classroom activity/contact hours; 5 hours of fieldwork / Tutorial / teacher-led activity and 15 hours of other workloads such as independent individual/ group assignments, presentations, panel discussion, quizzes, local survey, etc.)
Course Objectives	The course is designed to: • Enable students to develop a research paper from the study undertaken fordissertation work. • Encourage students to publish the research paper in a reputed research.

	journal of the area • Enhance the presentation skills of the students and provide opportunity to present the research work at global level.
Course Outcome (Cos)	1. Knowledge of writing the research paper. 2. Application of the theoretical and experimental tools & techniques of research learned during the M Sc Physics programme. 3. Develop skills to present the work at various platforms of academics and industry 4. Understanding the relevance of research.
Attendance	The course is divided in the following parts: (1) Identification of a research topic, (2) Development of a research article, and (3) Publication/Presentation of the same. At each step, the students will be assigned the workload to be completed in the specified time period. Since each step is required to be completed to reach the next stage, each student is required to participate in all the activities and complete the assigned work within the stipulated time. Students, who are not able to complete the work at each stage on time, would not be allowed to take part in the Mid-term and End-term evaluations.
Evaluation Criteria	1. **Mid-Term Evaluation:** 20% (A student has to participate in the activities as mentioned in the guidelines) 2. **Continuous Internal Assessment:** 20% (A student has to participate in the activities as mentioned in the guidelines) 3. **End-Term Evaluation**: 60% (A student has to submit the evidence of publication/presentation)

GUIDELINES FOR THE COURSE "Paper Publication/Seminar/Conference presentation"

1. The students will undertake the course under the guidance of the allotted faculty mentor.
2. The Head of the Department in consultation with all the faculty members shall notify the allotment of mentors.
3. The students have to complete each stage of progress in a stipulated time to take part inthe mid-term and end-term evaluation process.
4. The end-term evaluation shall be done by the committee under the Chairmanship of theHead of Department (HoD).
5. In case of research paper publication; publication in peer-reviewed/refereed/UGC CARE listed journals/conference proceedings/book with ISBN number shall be considered for end-term evaluation.

6. In case of research paper presentation; the paper must be presented in a seminar/workshop/conference/webinar etc. A duly verified certificate of the paper presentation shall be mandatory to submit to the department for end-term evaluation.

7. Evaluation Criteria:

Mid-Term Evaluation: 20% weightage

- Extended abstract submission (Duly signed by the mentor): 50%
- Presentation: 50%

End-Term Evaluation: 60% weightage

- Submission of the documentary evidence of publication/presentation along with the copy of the research paper duly signed by the students and verified by the mentor.

Continuous Internal Assessment: 20% weightage

8. It is recommended to submit the research paper with a Similarity Report of Plagiarism Detection Software generated using reliable software approved by the University.

9. Tentative structure to develop the draft of the research paper is given below and students may redesign the research paper as per the publication template of the publisher:

- Title of the research paper including author(s) name and affiliation
- Introduction/Conceptual Overview
- Formalism/Methods
- Analysis and Discussion
- Conclusions
- Acknowledgements
- References

TABLE-A

Course Code	**PAS9203**		
Course Name	Paper Publication/Seminar/Conference presentation		
Maximum Marks	100		
Evaluation Criteria	**Internal Assessment**	20 Marks	
	End-Term Examination	60 Marks (Based on Paper Publication/Seminar/Conference presentation)	
		a) Paper publication in Peer-reviewed, UGC-CARE listed journals, SCOPUS indexed OR	60
		b) Paper presented in National/International Seminar/Conference/Work shop and full paper published in proceedings OR	55
		c) Paper presented in National/International Seminar/Conference/Work shop	40
	Mid-Term Examination	20 Marks	

Note:

The student has to substantiate their claim with proof of journal publication/presentation/conference publication etc. as the case may be.

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

पाठ्यक्रम शीर्षक- लोकविद्या

श्रेयतुल्यमान: 2 क्रेडिट

एक क्रेडिट के अंतर्गत व्याख्यान, संगठित कक्षा गतिविधि और व्यक्तिगत संपर्क के 10 घंटे; प्रयोगशाला या व्यावहारिक कार्य,ट्यूटोरियल,शिक्षक नियंत्रित गतिविधियों/कार्य के 5 घंटे, और अन्य कार्य जैसे स्वतंत्र व्यक्ति पर कार्य, सामूहिक कार्य, निर्धारित अनिवार्य/वैकल्पिक कार्य, पुस्तकालय कार्य, तथ्यसंग्रह, प्रोजेक्टकार्य, सेमिनार, प्रबंधलेखन, इत्यादिके 15 घंटेमाने जायेंगे। संबंधित विभाग विद्यार्थियों को गाँव क्षेत्र में जाने के लिए वाहन, बैनर, जलपान इत्यादि के लिए उचित सहयोग राशि भी उपलब्ध करवाएगा।

पाठ्यक्रम का उद्देश्य

- छात्रों को लोकविद्या का परिचय देना तथा विभिन्न ज्ञान अनुशासनों में लोकविद्या की प्रक्रिया का विकास करना।
- छात्रों में सृजनधर्मिता उत्पन्न करना।
- भारतीय परिदृश्य में लोकविद्या के माध्यम से कौशल विकास करना।
- यह पाठ्यक्रम लोक जीवन से जुड़ा हुआ है जिससे स्नातक के छात्रों को नई दिशा मिलेगी।

पाठ्यक्रम परिणाम

- लोकविद्या पाठ्यक्रम द्वारा छात्रों के स्वयं का आत्मनिर्माण और कौशल विकास होगा।
- परंपरागत लोककलाओं से जुड़कर स्वानुभूति, रागात्मकता आदि से निर्दिष्ट अंतर्दृष्टि प्राप्त होगी।
- इस पाठ्यक्रम द्वारा छात्र लोकविद्या की समझ अर्जित कर वर्तमान स्थिति में परिवर्तन के संवाहक होंगे।

उपस्थितिअनिवार्यता:पूर्ण एवं सुनिश्चित लाभ हेतु विद्यार्थी का सभी कक्षाओं में भागीदार होना अनिवार्य है। न्यूनतम 75% कक्षाओं में उपस्थिति दर्जा न होने पर विद्यार्थी को परीक्षा में बैठने से वंचित किया जा सकता है।

मूल्यांकन मापदंड

1. मध्यावधि परीक्षा सैद्धांतिक ज्ञान (Theory based)- 20 %
2. सत्रांत परीक्षा परियोजना कार्य होगा- 60 %
3. सतत आतंरिक मूल्यांकन (असाइनमेंट)- एकक (इकाई)-3 से 20%

पाठ्यक्रम शीर्षक- लोकविद्या

श्रेय तुल्यमान: 2 क्रेडिट

इकाई-1लोकविद्या की अवधारणा

1) लोकविद्या: सामान्य परिचय
2) लोकविद्या: प्रासंगिकता एवं उपादेयता
3) लोकविद्या को जाननेकी विधियां (साक्षात्कार विधि, प्रयोगविधि आदि)
4)

इकाई-2लोकविद्या: पारंपरिककलाएँ

1) काष्ठ शिल्पी एवं पत्थर शिल्पी- नाहस, कड़ियाँ, स्तंभ (थम) आदि,पत्थर की ईंट, पनचक्की आदि
2) हस्तकलाएँ- चित्रकला, बाँस की वस्तुएँ,धातु औज़ार एवं बर्तन,आभूषण, बुनाई, मिट्टी के बर्तन, बढ़ईगिरी आदि।
3) काँगड़ी, चंबियाली, मंडियालीधाम (सामग्री एवं विधि);क्षेत्रीय खाद्य: पतरोड़ू, चुख, पिंदड़ी,जरीस आदि।

इकाई-3 चित्रकारों/कारीगरों से साक्षात्कार

1) साक्षात्कार- काँगड़ा पेंटिंग की निर्माण प्रक्रिया
2) साक्षात्कार- चंबा रूमाल की निर्माण प्रक्रिया
3) साक्षात्कार- कुम्हार, बुनकर, रसोईया,लोहार, सुनार,शिल्पकार, चर्मकार एवं मिस्त्री (किसी एक चित्रकार / कारीगर से साक्षात्कार)

इकाई-4 परियोजना की कार्य योजना एवं क्रियान्वयन (विधि एवं सामग्री)

टोकरी छड़, किल्ट, झोला (बैग), अनाज तथा रोटी रखने का पात्र आदि। लोहे के औज़ार-कुल्हाड़ी, दराती आदि। मिट्टी के बर्तन-घड़ा, सुराही आदि। भेड़ों की ऊन से बने वस्त्र आदि। चरखा, खड्डी, तकली, बुनाई-जुराबें दस्ताने, आदि। इसके अतिरिक्त कढ़ाई, दस्तकारी, क्षेत्रीय आभूषण, क्षेत्रीय वेश भूषा, रुमाल, रस्सी बनाना, पत्तल-डूने, पर्णकुटी, मिट्टी की दीवार, चित्रकारी, चर्मकारी, काँगड़ा पेंटिंग, क्षेत्रीय खाद्य तथा लोक वाद्य बजाने वाले आदि।(उपरोक्त के आर्थिक,सामाजिक, पर्यावरण आदि लाभ)

इकाई-5परियोजनाकार्य (प्रोजेक्ट)

(इकाई-4 में लिखित किसी भी विषय पर प्रोजेक्ट तैयार करना है।)

आधारग्रन्थ

1) चंबा-अचंभा, डी. एस. देवल, देवल साहित्य एवं शोध केंद्र, भँजराड़ू, तीसा
2) गद्दी भरमौर की लोकसंस्कृति एवं कलाएँ, अमरसिंह, रणपतिया, हिमाचल कला संस्कृति भाषा अकादमी, शिमला
3) पांगी भरमौर, संपादक- डॉ. तुलसीरमण, हिमाचल कला संस्कृति भाषा अकादमी, शिमला

4) हिमाचल प्रदेश पर्यटन संपदा और सांस्कृतिक अस्मिता, डॉ. कमलाकौशिक, अभिनव प्रकाशन, नई दिल्ली
5) अनुपम हिमाचल, संपादक सुशील कुमार फुल्ल, साहित्य भारती, दिल्ली-110051
6) हिमाचल की लोक कलाएँ और आस्थाएँ, मौलू राम ठाकुर, राष्ट्रीय पुस्तक न्याम, दिल्ली, भारत
7) हिमाचल प्रदेश: लोक-संस्कृति और साहित्य, गौतमशर्मा 'व्यथित' राष्ट्रीय पुस्तक न्यास, दिल्ली, भारत
8) Himachal Pradesh, B. R. Sharma, Ministry of Information & Broadcasting Government of India.

Gmail

Rohit Dhiman <rohitdhiman422@hpcu.ac.in>

Agenda points for forthcoming 14th BOS meeting and related annexures

Jagdish Kumar <jagdishphysicist@gmail.com> Wed, Dec 27, 2023 at 10:16 PM
To: Rohit Dhiman <rohitdhiman422@hpcu.ac.in>
Cc: Jagdish Kumar <jagdishphysicist@hpcu.ac.in>, "Prof. B. C. Chauhan" <bcawake@hpcu.ac.in>

Dear All,

I approve all the agenda items as per discussion in the BoS meeting.

With regards

Jagdish
[Quoted text hidden]

Gmail

Rohit Dhiman <rohitdhiman422@hpcu.ac.in>

Agenda points for forthcoming 14th BOS meeting and related annexures

3 messages

Rohit Dhiman <rohitdhiman422@hpcu.ac.in> Tue, Dec 26, 2023 at 1:16 AM
To: dngupta2001@gmail.com, डॉ पंकज शर्मा <pankaj@nitttrchd.ac.in>

Respected All,
PFA the agenda points and related annexures for 14th BOS meeting your perusal.

सादर सहित

रोहित धीमान
भौतिकी एवं खगोल विज्ञान विभाग
भौतिक एवं पदार्थ विज्ञान स्कूल
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शाहपुर,परिसर शाहपुर
हिमाचल प्रदेश 176206
मोबाइल . : +91- 9418411007, 8219600441

8 attachments

5_Ann-IV_d_Lok-Vidya- Syllabus.docx
31K

4_Ann-IV_a_b_Evaluation Guidelines.docx
35K

2_Ann-I_Minutes_13th BOS.docx
43K

3_Ann-III_UG Course Structure-July 2021 Onwards.docx
23K

6_Ann-IV_e_Swachh Bharat Guideline.pdf
946K

7_Ann-IV_c_PAS7101_InternshipInnovation evaluation_guidlines.pdf
45K

1_Agenda 14th BOS.docx
42K

Course Revision_Condensed Matter Physics.docx
16K

Rohit Dhiman <rohitdhiman422@hpcu.ac.in> Tue, Dec 26, 2023 at 1:19 AM

To: Jagdish Kumar <jagdishphysicist@hpcu.ac.in>, Jagdish Kumar <jagdishphysicist@gmail.com>, "Prof. B. C. Chauhan" <bcawake@hpcu.ac.in>

सादर सहित

रोहित धीमान
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- **Course Revision_Condensed Matter Physics.docx**
  16K

DN Gupta <dngupta2001@gmail.com> Tue, Dec 26, 2023 at 1:26 AM
To: Rohit Dhiman <rohitdhiman422@hpcu.ac.in>

Dear Sir,
This is my approval for the attached agenda of 14th BOS meeting held on 26 Dec. 2022 (online mode).

Best Regards,
DN Gupta