Central University of Himachal Pradesh
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय
सप्त सिन्धु परिसर देहरा, ज़िला काँगड़ा, हिमाचल प्रदेश -177101 (H.P)

No: SSP/DEHRA/SW/1-2/CUHP/20/830 **Dated: 02.11.2026**

NOTICE

Subject: Interview for Admission to the Ph.D. Programme – Academic Session 2026–27 (2nd Stage)

All candidates who have qualified in the written test for admission to the Ph.D. Programme in the Department of Social Work, Himachal Pradesh Central University, are hereby informed that the interview/viva-voce for admission to the Ph.D. Programme (Second Stage) will be conducted as per the following schedule:

Date: 17th **November 2026 (Tuesday)**
Time: 11:00 AM onwards
Venue: Department of Social Work, Sapt Sindhu Parisar – II, Dehra, District Kangra, Himachal Pradesh.

Instructions for Candidates:

1. Candidates are required to appear for the interview **in person** at the above-mentioned venue and report on time.
2. Candidates must bring self-attested photocopies of all relevant academic documents, including for verification with the original:

   a) 10th class certificate
   b) 12th class certificate
   c) Graduation certificate
   d) Post Graduate Certificate (Degree and Marks Sheet)
   e) Category/Caste Certificate (if applicable) (OBC certificate not issued older than six month)
   f) Kashmiri Migrant Certificate (if applicable)
   g) Disability Certificate (if applicable)
   h) Economically Backward Class Certificate (if applicable)

3. Every candidate must bring S-16 form which is attached to this notification and also available on below given link :
   https://www.cuhimachal.ac.in/admin/assets/uploads/docs/20221230095928ddb839b954.pdf
4. Each candidate is required to prepare a **tentative Research Proposal** outlining the proposed area of research, research problem, review of literature, research gaps, objectives and proposed methodology.
5. A hard copy of the tentative Research Proposal must be submitted at the time of the interview. Additionally, the same must be sent through email to the Department on or before 13th **November 2026** to asutoshpradhan@hpcu.ac.in
6. Candidates are advised to come prepared to discuss their proposed research topic, its relevance and potential contribution to the discipline of Social Work.

Candidates are advised to take note of the above instructions and ensure their presence on the scheduled date and time.

Head
Department of Social Work
Himachal Pradesh Central University
Sapt Sindhu Parisar – II, Dehra, District Kangra, Himachal Pradesh

				CATEGORY / UNRESERVED			
105	PHD IN SOCIAL WORK	230002	NIRUPMA KUMARI	GENERAL / OPEN CATEGORY / UNRESERVED		78	Qualified
106	PHD IN SOCIAL WORK	230004	KARAN RANA	GENERAL / OPEN CATEGORY / UNRESERVED		77	Qualified
107	PHD IN SOCIAL WORK	230006	AKSHITA VERMA	SC		71	Qualified
108	PHD IN SOCIAL WORK	230007	MANISHA CHAUDHARY	OBC NON CREAMY		66	Qualified
109	PHD IN SOCIAL WORK	230008	RAJEEV KUMAR	OBC NON CREAMY		63	Qualified
110	PHD IN SOCIAL WORK	230009	NANCY ATTAL	GENERAL / OPEN CATEGORY / UNRESERVED		29	Not Qualified
111	PHD IN SOCIAL WORK	230010	SUCHITRA	GENERAL / OPEN CATEGORY / UNRESERVED		63	Qualified

112	PHD IN SOCIAL WORK	230011	SHALINI CHOUDHURY	SC		56	Qualified
113	PHD IN SOCIAL WORK	230012	SHRUTI KASHYAP	SC		84	Qualified
114	PHD IN SOCIAL WORK	230013	SANJANA THAKUR	GENERAL / OPEN CATEGORY / UNRESERVED		69	Qualified
115	PHD IN SOCIAL WORK	230014	PALLAVI	ST		62	Qualified
116	PHD IN SOCIAL WORK	230015	ABHILASHA THAKUR	GENERAL / OPEN CATEGORY / UNRESERVED		80	Qualified
117	PHD IN SOCIAL WORK	230016	HARSHITA THAKUR	GENERAL / OPEN CATEGORY / UNRESERVED		73	Qualified
118	PHD IN SOCIAL WORK	230019	NANCY SHARMA	PWD	ANY OTHER AS DEFINED BY GOVT OF INDIA	82	Qualified
119	PHD IN SOCIAL WORK	230021	MANSI TIWARY	GENERAL / OPEN CATEGORY / UNRESERVED		80	Qualified
120	PHD IN SOCIAL WORK	230022	ROSY	GENERAL / OPEN CATEGORY / UNRESERVED		45	Not Qualified

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय
Central University of Himachal Pradesh
धर्मशाला, जिला कांगड़ा, हिमाचल प्रदेश-176215
दूरभाष: 01892-229330, फैक्स: 01892-229331
www.cuhimachal.ac.in

फॉर्म कोड	P-1

पीएच.डी. अध्ययन कार्यक्रम में प्रवेश हेतु आवेदन पत्र
Application for admission to PhD programme of study

केवल वही छात्र आवेदन कर सकते हैं, जिन्होंने पीएच.डी. प्रवेश परीक्षा पास कर ली है अथवा जेआरएफ(JRF) या अन्य कोई फेलोशिप धारक हैं/Only such students shall apply, who have passed the PhD Entrance Test or who are JRF or any other fellowship holder)

यहां अद्यतन फोटो चिपकाएं और हस्ताक्षर करें ।
Affix latest photograph and sign across.

1. विभाग/केंद्र का नाम, जिसमें पीएचडी प्रोग्राम का आवेदन किया है / Name of the Department / Centre under which PhD Programme have been applied :

   _____

2. क्या आपने जेआरएफ/नेट/स्लेट/गेट/एमफिल/हि.प्र.के.वि.शो.पा.प. उत्तीर्ण किया है अथवा कोई अन्य फेलोशिप धारक हैं? / Whether qualified JRF/NET/SLET/ GATE/ M.Phil./ HPKVSPP or Any other Fellowship Holder :

   _____

3. पीएच.डी. प्रवेश परीक्षा का रोल नंबर / Roll No. of PhD Entrance Test :

   _____

4. पीएच.डी. प्रवेश परीक्षा में प्राप्त अंक / Marks obtained in the PhD Entrance Test :

   _____

खंड क/ Section A

सामान्य विवरण/ General Information

(कृपया दो शब्दों के बीच स्थान दें /Please leave some space between two words)

1. **अभ्यर्थी का नाम (स्पष्ट अक्षरों में)**

   Candidate's Name (in capital letters of English)_____

   अभ्यर्थी का नाम (हिंदी में)

   Candidate's Name (in Hindi) _____

2. **जन्म तिथि** _____ _____ _____

   Date of Birth **तिथि/Date** **माह/Month** **वर्ष/Year**

3. **जन्म स्थान** _____ _____ _____

   Place of Birth **जिला/District** **राज्य /State** **देश/Country**

4. **पिता का नाम (स्पष्ट अक्षरों में)**

   Father's Name (in block letters) _____

   पिता का नाम (हिंदी में)

   Father's Name (in Hindi) _____

5. **माता का नाम (स्पष्ट अक्षरों में)**

   Mother's Name (in block letters) _____

   माता का नाम (हिंदी में)

   Mother's Name (in Hindi) _____

6. **राष्ट्रीयता (भारतीय/एनआरआई/पीआईओ/विदेशी नागरिक-पासपोर्ट सं.)**

   Nationality (Indian / NRI / PIO / Foreign National – Mention Passport no.) _____

7. **श्रेणी (सामान्य/एससी/एसटी/ओबीसी)**

   Category (General/SC/ST/OBC)_____

8. **लिंग (पुरुष/स्त्री/ट्रांसजेंडर)**

   Sex (Male/Female/Transgender)_____

9. **वैवाहिक स्थिति (विवाहित/अविवाहित)**

   Marital Status (Married/Unmarried)_____

10. पंथ /मजहब / Religion _____

11. आधार क्रमांक/ Aadhaar No. _____

12. पत्राचार के लिए पता (स्पष्ट अक्षरों में) / Address for Correspondence (in block letters)

_____

जिला/District _____ राज्य/State _____पिन/Pin_____

फोन एसटीडी कोड सहित/Phone with STD Code _____मोब.नं./Mob. No. _____

मो.नं./Mobile No. _____(Compulsory) (Preferably with WhatsApp)

ईमेल/Email: _____(Compulsory)

13. स्थायी पता, यदि अलग है (स्पष्ट अक्षरों में) / Permanent Address if Different (in block letters)

_____

जिला/District _____ राज्य/State _____ पिन/Pin _____

फोन एसटीडी कोड सहित/Phone with STD Code (_____) _____

मो.नं./Mobile No. _____(Compulsory) (Preferably with WhatsApp)

ईमेल/Email: _____(Compulsory)

14. यदि आपका चयन होता है, तो अपनी रूचि के अनुसार दो ऐसे विषय/अध्ययन के क्षेत्र (वरीयता के क्रम में) बताएं, जिनपर आप पीएचडी शोध कार्य करना चाहते/ चाहती हैं / Mention your two Areas of Interest (in order of preference) on which you wish to pursue your PhD research work (if selected)

(i) _____

(ii) _____

15. संलग्न कंसेप्ट नोट का शीर्षक / Title of Concept Note attached :

_____

नोट: यह कंसेप्ट नोट भावी शोध क्षेत्र, जिस पर आप पीएचडी शोध कार्य करना चाहते/ चाहती हैं (यदि चयनित होते/ होती हैं), के विषय में होना चाहिए । यह कंसेप्ट नोट 300 से 500 शब्दों के बीच हो ।

Note: Concept Note should be regarding prospective area of research on which you want to carry out PhD research work (if selected). Concept Note should be between 300 to 500 words.

खंड-ख / Section B
शैक्षणिक विवरण / Academic Record

(अंक एवं प्रमाण पत्रों की प्रतियां संलग्न करें/ Attach copies of mark sheets and certificates)

उतीर्ण की गयी परीक्षा Exam Passed	बोर्ड / विश्वविद्यालय Board/ University	वर्ष जिसमें परीक्षा पास की Year of Passing	अंक / Marks		अंक%/ % of Marks	डिवीज़न/ Division	विषय जिनमें परीक्षा पास की Subjects Studied
			प्राप्तांक / Obtained Marks	कुलांक / Maximum Marks			
मैट्रिक / सेकेंडरी (दसवीं) Matriculation / Secondary (10^{th})							
हायर सेकेंडरी / इंटरमिडिएट(बारहवीं) Higher Secondary / Intermediate(10+2)							
स्नातक उपाधि(डिग्री का नाम दें) / Bachelor's Degree (Mention the name of degree) _____							
स्नातकोत्तर उपाधि (डिग्री का नाम दें) / PG Degree (Mention the name of degree) _____							
कोई अन्य परीक्षा / Any Other Examination							

_____

आवेदक के हस्ताक्षर/Signature of the Applicant
स्थान/Place: _____
दिनांक/Date: _____

नोट: कृपया सभी दस्तावेजों के साथ विधिवत् भरा हुआ और हस्ताक्षरित आवेदन फॉर्म व्यक्तिगत/ संबंधित विभाग के विभागाध्यक्ष / केंद्र के निदेशक को दस्ती/ डाक के माध्यम से (ऑनलाइन माध्यम से नहीं भेजें) दिए गए पतों पर निर्धारित तिथि तक अवश्य भेज / जमा करा दें ।

Note: Kindly send / submit the duly filled in and signed application form along with all the documents individually / to Head of the Department / Director of the Center by hand / through post (not by online mode) to the given addresses by the stipulated date.

नोट: विभिन्न विभागों/केंद्रों का डाक पता विश्वविद्यालय वेबसाइट से प्राप्त करें या विभागाध्यक्ष / केंद्र निदेशक से फ़ोन के माध्यम से प्राप्त करें ।

हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

Central University of Himachal Pradesh

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

Email ID: coe@hpcu.ac.in, website: www.cuhimachal.ac.in

File No.: COE/2-2/11/CUHP/26/10287 **Dated: 30.09.2026**

Admission Notification for Admission to Ph.D. Programme for the Academic Session 2026-27 (Second Stage)

Online applications are invited for the second stage of the admission process for admission to the Ph.D. programmes offered by the Central University of Himachal Pradesh against the seats left vacant after the first stage of the admission process and the seats in the Centre for Kashmir Studies/Centre for Deendayal Upadhyaya Studies, as detailed in Annexure 'G'.

1. General Instructions

1.1 Application forms can be submitted through the University website www.cuhimachal.ac.in from 30.09.2026 to 12.10.2026 (up to 5:00 PM).

1.2 Admission to the Ph.D. programme shall be made through an Entrance Test to be conducted by the University for all eligible applicants.

1.3 The candidates who have already applied in response to the Ph.D. Admission Notification No. COE/2-2/11/CUHP/26/9676 dated 13.07.2026, need not apply afresh. If the seat are not available in their concerned department or they do not wish to apply, they may also claim the refund of the fee deposited by them by sending an email to *coe@hpcu.ac.in* with their registration details, proof of registration, and bank account details.

1.4 The application fee once paid shall not be refunded under any circumstances.

1.5 Candidates who have applied for the First Stage pursuant to Ph.D. Admission Notification No. COE/2-2/11/CUHP/26/9802 dated 31.07.2026 and intend to apply for the same subject under the Second Stage shall be required to submit a fresh application using a different Login/User ID.

2. Minimum Eligibility Criteria:

The following candidates shall be eligible to seek admission to the Ph.D. programme:

2.1 Candidates who have completed:

A 1-year/2-semester master's degree programme after a 4-year/8-semester bachelor's degree programme or a 2-year/4-semester master's degree programme after a 3-year bachelor's degree programme or qualifications declared equivalent to the master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent grade in a point scale wherever grading system is followed or equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution.

or

A 4-year/8-semester bachelor's degree programme with a minimum of 75% marks in aggregate or its equivalent grade on a point scale wherever the grading system is followed.

A relaxation of 5% marks or its equivalent grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-Abled, Economically Weaker Section (EWS) and other categories of candidates as per the decision of the Commission from time to time.

2.2 Candidates who have completed the M.Phil. programme with at least 55% marks in aggregate or its equivalent grade in a point scale wherever grading system is followed or equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of educational institutions, shall be eligible for admission to the Ph.D. programme. A relaxation of 5% marks or its equivalent grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently Abled/Economically Weaker Section (EWS) and other categories of candidates, as per the decision of the Commission from time to time.

2.3 An employee of any University/Institution/College/Government Department/Public Sector Undertaking (PSU)/Research and Development (R&D) organisation/industry/private industry or any other organisation, fulfilling all the prescribed eligibility conditions, may apply for admission to the Ph.D. degree programme in the concerned subject.

However, a **No Objection Certificate (NOC)** issued by the employer/appointing authority shall be mandatory and shall be submitted at the time of payment of the Ph.D. admission fee. Failure to submit the NOC shall render the candidate ineligible for admission to the Ph.D. degree programme. In addition, such candidates shall be required to submit, before the commencement of the Ph.D. coursework, a sanction order granting study leave or leave of the kind due for a minimum continuous period of six months, issued by the employer/appointing authority. Failure to submit the same within the stipulated time shall result in the cancellation of the candidate's admission to the Ph.D. degree programme.

2.4 The minimum eligibility criteria for admission to the interdisciplinary Ph.D. programmes, namely (**i) Remote Sensing & GIS, (ii) Nanoscience & Materials, (iii) Kashmir Studies, and (iv) Deendyal Upadhyaya Studies (v) Geology**, shall be as per **Annexure-A**. In addition, the applicant must fulfil all the other eligibility conditions prescribed above.

3. Procedure for Admission

3.1 **Admission to the Ph.D. programme** will be made by the University, as per the procedure prescribed below: -

a. The admission will be based on a **University Level Entrance Test** followed by an Interview, as per the details given below.
b. The Entrance Test syllabus shall consist of 50% **Research Methodology** and 50% **Subject-Specific Content**.
c. Students who have secured **50% marks in the entrance test will be eligible to be called for the interview** subject to the fulfilment of the other eligibility conditions.
d. A relaxation of 5% marks will be allowed in the entrance examination for the candidates belonging to SC/ST/OBC (Non creamy layer)/Differently-abled category, Economically weaker section (EWS), and other categories of candidates as per the UGC rules notified from time to time.
e. **The Interview/Viva-Voce shall be conducted by the concerned Department/Centre**. The number of eligible students to be called for the interview shall be decided based on the number of Ph.D. seats available in the Concerned department/Centre.
f. The selection of candidates shall be made on the basis of a composite score of 100 marks obtained by adding marks in the test portion (70% weightage) and the interview (30% weightage).
g. Admission shall be offered strictly in order of merit, subject to the availability of seats, fulfilment of eligibility conditions, reservation policy of the Government of India/UGC/University, and the approval of the competent authority.
h. **Candidates having any queries or issues regarding Ph.D. admission after the Entrance Test shall contact the concerned Department/Centre directly.**

4. Number of Seats and Reservation

a) List of Department/Centre wise vacant seats and their category-wise distribution is given in **Annexure 'G'**.

b) The number of available seats may be increased or decreased as per the decision of the University. Further, the number of allotted seats may differ from the available vacant seats keeping in mind the infrastructural and other constraints of the University.

5. Syllabus of the Entrance Test

a) The syllabus of the entrance test will be as per the syllabi of UGC-NET for the concerned subject, as indicated below:

S. No.	Subject	Syllabus: Subject
1.	Management	UGC-NET: Management
2.	Commerce	UGC-NET: Commerce
3.	Hindi*	UGC-NET: Hindi
4.	English*	UGC-NET: English
5.	Sanskrit*	UGC-NET: Sanskrit
6.	Panjabi	UGC-NET: Panjabi
7.	Journalism and Mass communication	UGC NET Mass Communication and Journalism
8.	New Media	UGC NET Mass Communication and Journalism
9.	Education*	UGC-NET: Education
10.	Tourism and Travel Management	UGC-NET: Tourism Administration and Management.
11.	Centre for Promotion of Ecological, Adventure, Health and Cultural Tourism	UGC-NET: Tourism Administration and Management.
12.	Environmental Sciences	UGC-NET: Environmental Sciences
13.	Remote Sensing & GIS	**Attached Annexure 'B'**
14.	Geology	**Attached Annexure 'C'**
15.	Plant Science*	CSIR-NET: Life Sciences
16.	Animal Science	CSIR-NET: Life Sciences
17.	Computational Biology and Bioinformatics	CSIR-NET: Life Sciences
18.	History	UGC NET: History
19.	Political Science*	UGC NET: Political Science
20.	Social Work	UGC-NET: Social Work
21.	Sociology and Social Anthropology	UGC-NET: Sociology or Anthropology
22.	Kashmir Studies	**Attached Annexure 'D'**
23.	Deendyal Upadhyaya Studies	**Attached Annexure 'E'**
24.	Mathematics	CSIR-NET: Mathematics
25.	Library and Information Science	UGC-NET: Library and Information Science
26.	Computer Science & Informatics	UGC-NET: Computer Science
27.	Visual Arts	UGC NET: Visual Art (including Drawing & Painting/Sculpture Graphics/Applied Art/History of Art)
28.	Physics	CSIR-NET: Physics
29.	Nanoscience & Materials	**Attached Annexure 'F'**

Note: The Entrance Test is not being conducted in the subjects marked with an asterisk (*) as no seats remained vacant in these subjects after the first stage of the admission process, as per the vacancy data furnished by the concerned Department/Centre.

6. Application Fee:

At the time of filling out the application form, the candidate shall be required to pay the online application fee as specified below:

S. No	Category	Amount (in Rs.)
1.	General/EWS and OBC (creamy)	500/-
2.	OBC (Non-creamy layer)	400/-
3.	SC/ST/Divyang	200/-

7. Important Dates:

S.	Event	Date
1.	Opening of the online application process	30.09.2026
2.	Last Date for submitting the application	12.10.2026 (5:00 PM)
3.	Download of Admit Cards	21.10.2026
4.	Date of the Entrance Test	25.10.2026
5.	Date of declaration of result	30.10.2026
6.	Conduct of Interview	05.11.2026 & 06.11.2026
7.	Display of first selection list	10.11.2026 (11.00 AM)
8.	Last date of deposition of fee	11.11.2026 (5.00 PM)

➢ **Important Note:**

i. Students must regularly visit the University website to keep themselves informed about the status of the admission process.

ii. For any subject-related queries, the students are advised to contact the concerned Department/Centre.

❖ **Admission Helpdesk: (On all working days, 09:30 AM to 05:30 PM)**

Admission-related queries	Form related/Technical Issues
Phone No**. 01892-224377** Email: admission@hpcu.ac.in	Phone No.: **01892-238008** Email**:** technical@hpcu.ac.in

S/d
Controller of Examinations

Annexure- 'A'

The minimum eligibility criteria for admission in Kashmir Studies, Deendyal Upadhyaya Studies, Remote Sensing & GIS, Geology and Nanoscience & Material will be as per enclosed Annexure- 'A'. Besides that, the applicant must fulfil all other eligible conditions.

Deendyal Upadhyaya Studies: PG Degree in Political Science/Economics/Hindi/History/Sociology/ Education/Public Administration/Cultural Studies/Social Sciences/Any other relevant subject.

Kashmir Studies: PG Degree in Political Science/Economics/Hindi/History/Sociology/Education/Public Administration/Cultural Studies/Journalism and Mass Communication/Social Sciences/Humanities/Allied/Any other relevant subject.

Remote Sensing & GIS: M.Sc. in Remote Sensing and GIS or Geoinformatics/M.Sc. in Geology /MSc in Environment Sciences/MSc in Disaster management with experience in the field of Remote Sensing and GIS.

Geology : M.Sc. in Geology/Earth Sciences .

Nano Science & Materials : M.Sc. in Physics/ Chemistry/Nano Science and Nanotechnology/Electronic Science/Environmental Science/Material Science/Metallurgical Engineering/Chemical Engineering/Biotechnology/Computer Science/Any other relevant branch of Engineering/Technology.

Annexure- 'B'

Syllabus for the PhD Entrance Exam Remote Sensing and GIS

EARTH SYSTEM SCIENCE: Lithosphere, Biosphere, Hydrosphere & Atmosphere, Igneous, Sedimentary & Metamorphic Rocks, Mineral Deposits & Their Types, Folds, Faults, Joints And Lineaments, Geomorphic Landforms, Application of Satellite Images, Drainage Patterns & their Significance, Mineral Resources, Surface Mining & Land Degradation, Fundamental Concept of Disaster Management, Geological Hazards (Remote Sensing Perspective): Landslide, Earthquake, Glacial Hazards, Hydro-Meteorological Hazards: Flash Floods, River Floods, Cyclones, Drought.

Fundamental of Remote Sensing: Historical perspective of Remote Sensing; Physics of Remote Sensing: Electromagnetic Radiation (EMR), Characteristics; Electromagnetic Spectrum (EMS); Interactions Between Matter and Electro-Magnetic Radiation; Radiation Laws. Atmospheric Windows; Types of Remote Sensing with Respect to Wavelength Regions, Platforms. Map Projection and Co-Ordinate System; Datums; Ellipsoid and Geoid, Elements of Image Interpretation.

Fundamental of Geographic Information System (GIS) and GPS: History and Evolution of GIS; Components of GIS; Applications Areas of GIS; GIS Data Types (Raster and Vector); Spatial and Non-Spatial Data; Attributes. Thiessen Polygon; Raster Data Analysis; WEB GIS; Various Software in GIS; Introduction to Open Source GIS; Concept and History of Web GIS; Components of Web GIS; Introduction to Global Positioning System; GPS Satellite Constellations; GPS Segments: Space; Control; User; Signals & Codes; GPS Receivers.

Photogrammetry and Digital Image Processing: History of Aerial Photographs; Classification and Types; Characteristics of Aerial Photographs; Geometry of Aerial Photographs Elements of Aerial Photos, Photogrammetry and Mapping: Photogrammetry, Fundamentals of Human Stereoscopy; Methods of Stereoscopic Viewing - Lens and Mirror Stereoscopes; Unmanned Aerial Vehicle (UAV).

Introduction to Digital Image Processing (DIP); Formats of Digital Imagery. Data Analysis and Elements of Image Interpretations. Principal Component Analysis; The Fast Fourier transform; Minimum Noise Fraction (MNF) Transformation; Unsupervised classification; supervised classification.

Lithosphere origin and evolution, continental drift and plate tectonics; Atmosphere, components, structure; hydrosphere, ocean basins, evolution through time; cryosphere; ground water and global water cycle, Darcy's law, well hydraulics; surface and sub surface Geophysical and geological methods of ground water exploration; global climatic changes. Theory of climate change, Green house gases etc.

Fundamental of Thermal, Microwave and Hyperspectral Remote Sensing: Fundamentals of Thermal Remote Sensing: Thermal Radiation Principles - Kinetic Heat; Temperature; Radiant Energy and Radiant Flux. Blackbody Radiation; Thermal Radiation Laws- Stephen Boltzmann Law; Wien's Displacement Law; Emissivity; Kirchhoff's Radiation Law. Microwave Remote Sensing: Basics of Microwave Remote Sensing; Advantages; And Inconveniences; Wavelength and Frequencies; Passive and Active Systems.

Understanding Hyperspectral Imaging; Multispectral Vs Hyperspectral Remote SensingAdvantages; History and Evolution of Hyperspectral Imaging; The Physical-Chemical Interactions of The Electromagnetic Radiation with the Atmosphere and the Geosphere. Spectral Radiometry: Principles - Radiance Vs Reflectance; Spectral Angle Mapper; Spectral Feature Fitting; Sub-Pixel Analysis - Linear Spectral Unmixing; Matched Filtering.

Digital Terrain Modeling and Statistics Digital Terrain Model (DTM): Digital Elevation Model (DEM) and Digital Surface Model (DSM); Digital Elevation Data Sources and Structures; DTM/DEM Production Methods; DEM Interpolation Methods; Early DEMs; Availability of Global and Regional DEMS. Applications of DEMs Basic Concepts: Data Mining; Data and Patterns; Review of Statistical Techniques for Data Mining:

Discriminant Analysis; Cluster Analysis; Outlier Analysis. Data Mining of Spatial Data: Geospatial Grids; Data Structures for Spatial Grids.

Applications of Remote Sensing and GIS: Remote sensing and GIS Application in Urban Planning, Ecosystem Management, Agriculture, Resource Management, Forest Studies and Disaster Management. Role of Remote Sensing in Monitoring and Management of Natural Hazards

NATURAL RESOURCE MANAGEMENT: Resources Classification Systems, Crop Yield & Acreage Estimation, Disease & Stress Detection, Soil Salinity, Waterlogging & Soil Degradation, Land Capability, Land Use / Land Cover Classification, Forest Classification, Forest Density & Type, Fire Damage Assessment, Habitat Assessment, Carbon Sequestration, Primary Productivity, Sustainable Development, Ecological & Biological Aspects of Environment, Landscape Ecology, Green House Effect & Global Warming, Solid Waste Management, Environmental Impact Assessment (EIA), Non Conventional Energy Resources, Land Degradation, Desertification Assessment & Monitoring.

Annexure- 'C'

Syllabus for the PhD Entrance Exam Geology

The Earth and the Solar System: Milky Way and the solar system. Modern theories on the origin of the Earth and other planetary bodies. Earth‟s orbital parameters, Kepler‟s laws of planetary motion, Geological Time Scale; Space and time scales of processes in the solid Earth, atmosphere and oceans. Radioactive isotopes and their applications. Meteorites Chemical composition and the Primary differentiation of the earth. Basic principles of stratigraphy. Theories about the origin of life and the nature of fossil record. Earth‟s gravity and magnetic fields and its thermal structure: Concept of Geoid and, spheroid; Isostasy.

Earth Materials, Surface Features and Processes: Gross composition and physical properties of important minerals and rocks; properties and processes responsible for mineral concentrations; nature and distribution of rocks and minerals in different units of the earth and different parts of India. Physiography of the Earth; weathering, erosion, transportation and deposition of Earth‟s material; formation of soil, sediments and sedimentary rocks; energy balance of the Earth‟s surface processes; physiographic features and river basins in India

Interior of the Earth, Deformation and Tectonics Basic concepts of seismology and internal structure of the Earth. Physico-chemical and seismic properties of Earth‟s interior. Concepts of stress and strain. Behaviour of rocks under stress; Folds, joints and faults. Earthquakes – their causes and measurement. Interplate and intraplate seismicity. Paleomagnetism, sea floor spreading and plate tectonics.

Oceans and Atmosphere Hypsography of the continents and ocean floor –continental shelf, slope, rise and abyssal plains. Physical and chemical properties of sea water and their spatial variations. Residence times of elements in sea water. Ocean currents, waves and tides, important current systems, thermohaline circulation and the oceanic conveyor belt. Major water masses of the world‟s oceans. Biological productivity in the oceans. Motion of fluids, waves in atmospheric and oceanic systems. Atmospheric turbulence and boundary layer. Structure and chemical composition of the atmosphere, lapse rate and stability, scale height, geopotential, greenhouse gases and global warming. Cloud formation and precipitation processes, air- sea interactions on different space and time scales. Insolation and heat budget, radiation balance, general circulation of the atmosphere and ocean. Climatic and sea level changes on different time scales. Coupled ocean-atmosphere system, El Nino Southern Oscillation (ENSO). General weather systems of India, - Monsoon system, cyclone and jet stream, Western disturbances and severe local convective systems, distribution of precipitation over India. Marine and atmospheric pollution, ozone depletion. 5. Environmental Earth Sciences Properties of water; hydrological cycle; water resources and management. Energy resources, uses, degradation, alternatives and management; Ecology and biodiversity. Impact of use of energy and land on the environment. Exploitation and conservation of mineral and other natural resources. Natural hazards. Elements of Remote Sensing.

MINERALOGY AND PETROLOGY: Concept of point group, space group, reciprocal lattice, diffraction and imaging. Concepts of crystal field theory and mineralogical spectroscopy. Lattice defects (point, line and planar). Electrical, magnetic and optical properties of minerals. Bonding and crystal structures of common oxides, sulphides, and silicates. Transformation of minerals – polymorphism, polytypism, and polysomatism. Solid solution and exsolution. Steady-state geotherms. Genesis, properties, emplacement and crystallization of magmas. Phase equilibrium studies of simple systems, effect of volatiles on melt equilibria. Magma -mixing, -mingling and -immiscibility. Metamorphic structures and textures; isograds and facies. Mineral reactions with condensed phases, solid solutions, mixed volatile equilibria and thermobarometry. Metamorphism of pelites, mafic -ultra mafic rocks and siliceous dolomites. Material transport during metamorphism. P-T-t path in regional metamorphic terrains, plate tectonics and metamorphism. Petrogenetic aspects of important rock suites of India, such as the Deccan Traps, layered intrusive complexes, anorthosites, carbonatites, charnockites, alkaline rocks, Kimberlites, ophiolites and granitoids.

STRUCTURAL GEOLOGY AND GEOTECTONICS: Theory of stress and strain. Behaviour of rocks under stress. Mohr circle. Various states of stress and their representation by Mohr circles. Different types of

failure and sliding criteria. Geometry and mechanics of fracturing and conditions for reactivation of pre-existing discontinuities. Common types of finite strain ellipsoids. L-, L-S-, and S-tectonic fabrics. Techniques of strain analysis. Particle paths and flow patterns. Progressive strain history. Introduction to deformation mechanisms. Role of fluids in deformation processes. Geometry and analyses of brittle-ductile and ductile shear zones. Sheath folds. Geometry and mechanics of development of folds, boudins, foliations and lineations. Interference patterns of superposed fold. Fault-related folding. Gravity induced structures. Tectonic features of extensional-, compressional-, and strike-slip-terrains and relevance to plate boundaries. mantle plumes. Himalayan Orogeny; concept of super continent, their assembly and breakup.

PALEONTOLOGY AND ITS APPLICATIONS: Theories on origin of life. Organic evolution – Punctuated Equilibrium and Phyletic Gradualism models. Mass extinctions and their causes. Application of fossils in age determination and correlation. Paleoecology, Life habitats and various ecosystems, Paleobiogeography. Modes of preservation of fossils and taphonomic considerations. Types of microfossils. Environmental significance of fossils and trace fossils. Use of microfossils in interpretation of sea floor tectonism. Application of micropaleontology in hydrocarbon exploration. Oxygen and Carbon isotope studies of microfossils and their use in paleoceanographic and paleoclimatic interpretation. Important invertebrate fossils, vertebrate fossils, plant fossils and microfossils in Indian stratigraphy.

SEDIMENTOLOGY AND STRATIGRAPHY: Classification of sediments and sedimentary rocks ; elastic, volcanoclastic and chemical. Classification of elastic rocks. Flow regimes and processes of sediment transport. Sedimentary textures and structures. Sedimentary facies and environments, reconstruction of paleoenvironments. Formation and evolution of sedimentary basins. Diagenesis of siliciclastic and carbonate rocks. Recent developments in stratigraphic classification. Code of stratigraphic nomenclature – Stratotypes, Global Boundary Stratotype Sections and Points (GSSP). Lithostratigraphic, chronostratigraphic and biostratigraphic subdivisions. Methods of startigraphic correlation including Shaw‟s Graphic correlation. Concept of sequence stratigraphy. Rates of sediment accumulation, unconformities. Facies concept in Stratigraphy – Walther‟s law. Methods for paleogeographic reconstruction. Earth‟s Climatic History. Phanerozoic stratigraphy of India with reference to the type areas– their correlation with equivalent formations in other regions. Boundary problems in Indian Phanerozoic stratigraphy.

MARINE GEOLOGY AND PALEOCEANOGRAPHY: Morphologic and tectonic domains of the ocean floor. Structure, composition and mechanism of the formation of oceanic crust. hydrothermal vents-. Ocean margins and their significance. Ocean Circulation, Coriolis effect and Ekman spiral, convergence, divergence and upwelling, El Nino. Indian Ocean Dipole Thermohaline circulation and oceanic conveyor belt. Formation of Bottom waters; major water masses of the world‟s oceans. Oceanic sediments: Factors controlling the deposition and distribution of oceanic sediments; geochronology of oceanic sediments, diagenetic changes in oxic and anoxic environments. Tectonic evolution of the ocean basins. Mineral resources. Paleoceanography – Approaches to paleoceanographic reconstructions; various proxy indicators for paleoceanographic interpretation. Reconstruction of monsoon variability by using marine proxy records Opening and closing of ocean gateways and their effect on circulation and climate during the Cenozoic. Sea level processes and Sea level changes. Methods of paleo Sea Surface temperature. Quantifications.

GEOCHEMISTRY: Atomic Structure and properties of elements, the Periodic Table; ionic substitution in minerals; Phase rule and its applications in petrology, thermodynamics of reactions involving pure phases, ideal and non-ideal solutions, and fluids; equilibrium and distribution coefficients. Nucleation and diffusion processes in igneous, metamorphic and sedimentary environments, redox reactions and EhpH diagrams and their applications. Mineral/mineral assemblages as „sensors‟ of ambient environments. Geochemical studies of aerosols, surface-, marine-, and ground waters. Radioactive decay schemes and their application to geochronology and petrogenesis. Stable isotopes and their application to earth system processes; geochemical differentiation of the earth; geochemical cycles.

ECONOMIC GEOLOGY: Magmatic, hydrothermal and surface processes of ore formation. Metallogeny and its relation to crustal evolution; Active ore-forming systems, methods of mineral deposit studies including ore

microscopy, fluid inclusions and isotopic systematics; ores and metamorphism- cause and effect relationships. Geological setting, characteristics, and genesis of ferrous, base and noble metals. Origin, migration and entrapment of petroleum; properties of source and reservoir rocks; structural, stratigraphic and combination traps. Methods of petroleum exploration. Concepts of petrophysics, Petroliferous basins of India. Origin of peat, lignite, bitumen and anthracite. Classification, rank and grading of coal; coal petrography, coal resources of India. Gas hydrates and coal bed methane. Nuclear and non-conventional energy resources.

PRECAMBRIAN GEOLOGY AND CRUSTAL EVOLUTION: Evolution of lithosphere, hydrosphere, atmosphere, biosphere, and cryosphere;, lithological, geochemical and stratigraphic characteristics of granite – greenstone and granulite belts. Stratigraphy and geochronology of the cratonic nuclei, mobile belts and Proterozoic sedimentary basins of India. Life in Precambrian. Precambrian – Cambrian boundary with special reference to India. 9) QUATERNARY GEOLOGY: Definition of Quaternary. Quaternary Stratigraphy – Oxygen Isotope stratigraphy, biostratigraphy and magnetostratigraphy. Quaternary climates – glacial-interglacial cycles, eustatic changes, proxy indicators of paleoenvironmental/ paleoclimatic changes, - land, ocean and cryosphere (ice core studies). Responses of geomorphic systems to climate, sea level and tectonics on variable time scales in the Quaternary, Quaternary dating methods, –radiocarbon, Uranium series, Luminescence, Aminoacid. Quaternary stratigraphy of India– continental records (fluvial, glacial, aeolian, palaeosols and duricrust); marine records; continental-marine correlation of Quaternary record. Evolution of man and Stone Age cultures. Plant and animal life in relation to glacial and interglacial cycles during Quaternary. Tectonic geomorphology, neotectonics, active tectonics and their applications to natural hazard assessment.

APPLIED GEOLOGY:

Remote Sensing and GIS: Elements of photogrammetry, elements of photo-interpretation, electromagnetic spectrum, emission range, film and imagery, sensors, geological interpretations of air photos and imageries. Global positioning systems. GIS- data structure, attribute data, thematic layers and query analysis.

Engineering Geology: Engineering properties of rocks and physical characteristics of building stones, concretes and other aggregates. Geological investigations for construction of dams, bridges, highways and tunnels. Remedial measures. Mass movements with special emphasis on landslides and causes of hillslope instability. Seismic design of buildings.

Mineral Exploration: Geological, geophysical, geochemical and geobotanical methods of surface and sub-surface exploration on different scales. Sampling, assaying and evaluation of mineral deposits.

Hydrogeology: Groundwater, Darcy‟s law, hydrological characteristics of aquifers, hydrological cycle. Precipitation, evapotranspiration and infiltration processes. Hydrological classification of water-bearing formations. Fresh and salt-water relationships in coastal and inland areas. Groundwater exploration and water pollution. Groundwater regimes in India.

Centre for Kashmir Studies
SYLLABUS
PhD Entrance Test (Jammu and Kashmir Studies) 2026-27
PhD Entrance Test: (2026-27)

Unit-1

History and Politics of Jammu and Kashmir after 1947

- Partition and its impact on the Princely State of Jammu and Kashmir in 1947: Pakistani Invasion, Atrocities and Forced Displacement
- Process of Legal and Constitutional Integration of Jammu and Kashmir.
- Human Rights: Refugees, Displaced Persons, Migrants, and Weaker Sections–SC, ST, OBC and Women.
- Proxy warfare, Separatism and Terrorism in Jammu and Kashmir. Its impact and Terrorist Affected Persons.

प्रस्तावित पुस्तकें

- Jawahar Lal Kaul, *Article 35A: Face the facts.* Jammu and Kashmir Studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- Daya Sagar, *The Real Face of Article 370,* Jammu and Kashmir Studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- Anirudh Rajput, *Legal Documents of Jammu and Kashmir***,** Publisher: Jammu and Kashmir Studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- Ashutosh Bhatnagar, *J&K: An Analysis of Facts***. (**Hindi and English), Jammu and Kashmir Studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- Daya Sagar, *J&K 1947 Accession and Events Thereafter*, (Publisher: Jammu and Kashmir studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- K.N. Pandita and Jawahar Lal Kaul, *Displaced Kashmiri Hindus: Dialogue Initiative*, Publisher: Jammu and Kashmir studies Centre, Pravasi Bhawan, Deendayal Upadhayay Marg, New Delhi.
- Devesh Khandelwal, "Pledge for an Integrated India", in Dr. Mookerjee, *In Throes of Jammu and Kashmir 1951 to 1954.*
- M K Teng, *Kashmir Myth of Autonomy*, Anmol Publications, Delhi.
- Devesh Khandelwal, *An Untold Story – The Maharaja of Jammu Kashmir*, MCN University of Journalism and Communication, Bhopal.
- Legal Documents.

Unit-2

Understanding Jammu and Kashmir through Neelmat Purana and Kalhana's Rajatarangini

- Nilamatapurana: An introduction, Analyzing the text and context of Nilamatapurana,

- Nilamatpurana: Geo-cultural and geo-historical description, Nilamatapurana: Socio-cultural and religious trends, Contemporary relevance of Nilamatapurana
- Gonanda Dynasty

- Introduction to Kalhana's Rajatarangini, Khalana's Rajatarangini: Political Study

- Kalhana's Rajatarangini: Socio-cultural Analysis

- Karkota Dynasty - Samrat Lalitaditya, Utpala Dynasty, Lohara Dynasty

प्रस्तावितपुस्तकें

- महाकवि कल्हणकृत, *राजतरंगिणी* ,भाग एक और दो, सम्पादक श्रुतदेवशास्त्री, प्रकाशक: बिहार राष्ट्रभाषा परिषद्, पटना I
    - जोनराजकृत, *राजतरंगिणी,* सम्पादकडा०रघुनाथसिंह , प्रकाशक: चौखम्बा संस्कृतसीरीज़,वाराणसीI
- Kalhan's Rajtarangini, *Translator Ranjit Sitaram Pandit***,** Publisher Sahitya Academy Delhi.
- *Rajatarangini of Jonraja*, edited by Srikanth Kaul, Publisher: Vishveshvaranand Institute, Hoshiarpur, Punjab.
- Rajatarangini, Ramtej Shastri Pandey, Chuakhamba Sanskrit Pratishthan, Varansi.
- Tejram Sharma, *Historiography*, Publisher: Concept Publishing Company, Delhi.
- Sir Aurel Stein, *Kalhana's Rajatarangini: A Chronicle of the Kings of Kashmir.*
- *राजतरंगिनी और कश्मीर के राजा,* प्रकाशक हिंदुस्तानी एकेडमी**,** प्रयागराज **I**

Unit-3
Understanding Jammu and Kashmir through Jonaraja's Rajatarangini.

- **Political dynamics of Kashmir (1150-1320), Last phase of Hindu rule in Kashmir, Life and struggle of Kota Rani-The last Hindu ruler of Kashmir.**

- **The changing political and socio-cultural conditions of Kashmir after Kota Rani.**

- **Noted Personalities of Jammu and Kashmir (**Maharishi Kashyap, Acharya Abhinavagupta, Guru Padmasambhava, Swami Laxman Zoo, Kshemendra Lalleshwari, Nund Rishi**,** Banda Singh Bahadur,General Zorawar Singh, Brigadier Rajendra Singh, Colonel Chhewang Rinchen

- **Eminent Scholars of Kashmir (Sharada Script) -** Kshemendra, Bilhana, Nityanand Shastri, Mahamahopadhyaya Pandit Mukund Ram Shastri, Pandit Harabhatta Shastri, Pandit Anand Kaul, Master Zinda Kaul, Pandit Prem Nath Shastri, Pandit Govind Kaul, Master Sansar Chand Kaul, Krishnajoo Razdan, Rupa Bawani, Pandit Kirpa Ram, Birbal Dhar, Swami Laxman Joo

प्रस्तावित पुस्तकें

- Kalhan's Rajtarangini, *Translator Ranjit Sitaram Pandit*, Publisher Sahitya Academy, Delhi.
- *Rajatarangini of Jonraja*, edited by Srikanth Kaul, Publisher: Vishveshvaranand Institute, Hoshiarpur, Punjab.
- Srivara and Suka's,*Rajtarangini*, Edited by Srikanth Kaul, Vishveshvaranand Institute, Hoshiarpur, Punjab.
- Abbasi, Reema, 2014, *Historic Temples in Pakistan-A call to Conscience*, Niyogi Books.
- Bhattacharya, N.N., 1991, *The Geographical Dictionary. Ancient and Medieval India*, Delhi.
- Chattopadhyay, B.D., *A Survey of Historical Geography of Ancient India*, New Delhi

- Cunningham, A., 1979, "The Ancient Geography of India", Vol. I *The Buddhist Period.* Repr., Varanasi.
- Day,N.L., *Geographical Dictionary of Ancient and Medieval* India, Luzacc, London.
- Frawley, David, 2014, *Gods, Sages and Kings: Vedic Secrets of Ancient Civilization*, Motilal Banarasidas.
- *राजतरंगिनी और कश्मीर के राजा,* प्रकाशक हिंदुस्तानी एकेडमी**,** प्रयागराज **I**
- Sir Aurel Stein, *Kalhana's Rajatarangini: A Chronicle of the Kings of Kashmir.*

Unit-4

Arab, Turk and Mughal Invasions in Jammu and Kashmir

- Foreign Invasions in Jammu and Kashmir: Resistance and Response
- **Fugitive to Ruler:** Rinchan, Shahmirand Descendants
- **Political Turmoil in Central Asia and Arrival of Muslim Missionaries and Sufis in Kashmir:** Bulbul Shah, Sayyid Ali Hamadani, Mir Muhammed Hamadani and Mir Shamsuddin Araki
- Kashmir under Mughal and Afghan Rule, Impact of Islamic Rule in Jammu and Kashmir: Iconoclasm, Religious Massacres, Forced Conversion, Exodus of Hindusand Islamisation .

प्रस्तावित पुस्तकें

- Jain, N.K., 1979, *Muslims in India. A Biographical Dictionary*, 2 vol., New Delhi.
- *Ashutosh , Jammu-Kashmir : An Analysis of Facts*
- Day, N. L., *Geographical Dictionary of Ancient and Medieval* India, Luzacc, London.
- Abbasi, Reema, 2014, *Historic Temples in Pakistan-A call to Conscience*, Niyogi Books.
- अग्निहोत्री, कुलदीपचंद , 2109 , *जम्मू कश्मीर की अनकही-कहानी,* परभातपेपरबैक, नईदिल्ली।
- *सिंह, जगमोहन, 2018, अशांतकश्मीर-चुनौततयां और समाधान, एलायड प्रकाशन* I

Unit-5

Formation of Princely State of Jammu and Kashmir

- Decline of Afghan Rule and Emergence of Maharaja Ranjit Singh
- Integration of Jammu and Ladakh
- Anglo-Punjab War, Treaty of Lahore and Amritsar.
- Princely State of Jammu and Kashmir and its Military Campaigns

प्रस्तावितपुस्तकें

- डा०कुलदीपचन्द अग्निहोत्री, *जम्मू कश्मीर का विस्त्मतृ अध्याय- कुशकबकुलारिनपोछे,* प्रकाशक: प्रभातप्रकाशन, नईदिल्ली I
- डा०कुलदीपचन्द अग्निहोत्री , *उन्नीशकुशकबकुलारिनपोछे,* प्रकाशकजम्मू-कश्मीरअध्ययनकेंद्र, नईदिल्ली I
- Nayar, Baldev Raj, 2005, *Geopolitics of Globalization,* Oxford University Press, New Delhi
- Paret, Peter (ed.), 1986, *Makers of Modern Strategy: from Machiavelli to the Nuclear Age*, Princeton University Press, and Princeton.
- J.R.V., 1987, *Political Frontiers and Boundaries,* Allen and Unwin: London.

- Sharma, Hassan and Behuria, (ed.), 2019, Pakistan Occupied Kashmir- Politics, Parties and Personalities, Pentagon Press, New Delhi
- Stobham, Chandran (ed.), 2008, *The Lost Colony: Muzzaffarabad-Gilgit-Baltistan*, Indian Research Press, New Delhi.
- Ganguly, Sumit, 1994, *The Origins of War in South Asia: Indo-Pakistan Conflicts Since 1947*, Westview Press, Boulder.
- Menon, V. P., 1956, *The Story of the Integration of the Indian States*, Longmans Green, London.
- Fisher, Rose and Robert. A. Huttenback, (ed.), 1963, *Himalayan Battleground: Sino-Indian Rivalry in Ladakh, Prager*, New York.
- Dixit, J. N., 2002, *India-Pakistan in War & Peace*, Routledge, London.
- Tellis, Fair and Jamison Jo Medby, (ed.), 2001, *Limited Conflicts under the Nuclear Umbrella: Indian and Pakistani Lessons from the Kargil Crisis*, Rand, Santa Monica, CA.
- Lyon, Peter, 2008, *Conflict between India and Pakistan: An Encyclopedia***,** ABC-Clio, Santa Barbara, CA.
- Wiggon, Thakur, (ed.), 2004, *South Asia in the World: Problem Solving Perspectives on Security, Sustainable Development, and Good Governance***,** United Nations University Press, New York.

Unit-6

Socio-cultural Formation of Greater Ladakh Region

- The Geo-political situation of Ladakh Wazarat, Gilgit and Baltistan
- Gilgit Wazarat and Pamiri Areas, capturing Gilgit by Pakistan
- Languages and Dialects of the Greater Ladakh Region
- Life, Society, and Economy of the People in the Ladakh Region
- History of Ladakh Buddhist Association Movement, Kushok Bakula Rinpoche, and other modern Reformists.

प्रस्तावित पुस्तकें

- Bansal, Alok, 2018, *Gilgit-Baltistan and Its Saga of Unending Human Rights Violations*, Pentagon Press, New Delhi
- Dewan, Parvez, 2007, *A History of Ladakh, Gilgit, Baltistan*, Manas Publications, New Delhi.
- Dewan, Parvez, 2010, *The Other Kashmir: Almost Everything About Aksai Chin, Baltistan,*Manas Publications, New Delhi.
- *Gilgit, Hunza, Mirpur, Muzaffarabad*, Manas Publications, New Delhi.
- Sharma, Hassan and Behuria, (ed.), 2019, *Pakistan Occupied Kashmir- Politics, Parties and Personalities*, Pentagon Press, New Delhi
- Stobham, Chandran, (ed.), 2008, *The Lost Colony: Muzzaffarabad-Gilgit-Baltistan, Indian Research Press*, New Delhi
- Ganguly, Sumit, 1994, *The Origins of War in South Asia: Indo-Pakistan Conflicts Since 1947*, Westview Press, Boulder.
- Lawrence, Walter R., 2012, *An Account of Kashmir, Ladakh, Baltistan, Gilgit& Jammu*, Jay Kay Books, Srinagar
- Menon, V. P., 1956, *The Story of the Integration of the Indian States*, Longmans Green, London
- Murphy, Dervla, 2018, *where the Indus is Young: A Winter in Baltistan*, Speaking Tiger Publishing Private Limited, New Delhi
- Fisher, Rose and Robert. A. Huttenback, (ed.), 1963, *Himalayan Battleground: Sino-Indian Rivalry in Ladakh*, Prager, New York

- Dixit, J. N., 2002, *India-Pakistan in War & Peace*, Routledge, London
- Tellis, Fair and Jamison Jo Medby (ed.), 2001, *Limited Conflicts under the Nuclear Umbrella: Indian and Pakistani Lessons from the Kargil Crisis*, Rand, Santa Monica, CA
- Lyon, Peter (2008), *Conflict between India and Pakistan: An Encyclopedia***,** ABC-Clio, Santa Barbara, CA
- Khan, I. K, 2018, *Geopolitics of Gilgit-Baltistan*, Sumit Enterprises, New Delhi
- Swamy, A. N., 2017, *Balochistan, Pok and Gilgit Baltistan: Factfile*, Surendra Publications, 2017
- Wiggon, Thakur (ed.), 2004, *South Asia in the World: Problem Solving Perspectives on Security, Sustainable Development, and Good Governance***,** United Nations University Press, New York

Unit-7

Occupied Territories of India with special reference to Jammu and Kashmir, and Ladakh

- Brief Description of Areas occupied by Pakistan & China, Status of PoJK and Gilgit, Baltistan in the constitution of Pakistan.
- Geo-strategic importance of Gilgit-Baltistan, Aksai Chin and Trans-Karakoram regions.
- Nature of public protests in PoJK and Gilgit, Baltistan. Gilgit Manuscripts.
- Demographic changes in these areas and causes of Demographic change
- Important tourist and religious places with special reference to Sharda Peth and Mangla Mata.

प्रस्तावित पुस्तकें

- Jain, N.K., 1979, *Muslims in India. A Biographical Dictionary*, 2 vol., New Delhi.
- Ashutosh*, Jammu-Kashmir: An Analysis of Facts*
- Day,N.L., *Geographical Dictionary of Ancient and Medieval* India, Luzacc, London.
- Abbasi, Reema, 2014, *Historic Temples in Pakistan-A call to Conscience*, Niyogi Books.
- Virender Gupta & Alok Bansal, *Pakistan Occupied Kashmir*,
- अग्निहोत्री, कुलदीपचंद , 2109 , *जम्मूकश्मीर की अनकही-कहानी*, परभात पेपरबैक, नईदिल्ली।
- सिंह, जगमोहन, 2018,अशांत कश्मीर-चुनौततयां और समाधान, एलायडप्रकाशन।
- जम्मू-कश्मीर : तथ्यपरकविश्लेषण
- *P. N. Chopra, Smt. Prabha Chopra, सरदारपटेल: कश्मीर और हैदराबाद*
- *Devesh Khandelwal, Pledge for an Integrated India: Dr. Mookerjee In Throes of Jammu And Kashmir 1951 To 1953.*

Unit-8

History and Geography of Ancient Jammu Region

- Jambu Lochan, the founder of Jammu, Hindushahi rule in Jammu hills.
- Jammu under Mughal occupation, Decline of Mughal power in Jammu region and Reign of Raja Dhruv Dev and Raja Ranjit Dev.
- Jammu became part of Lahore Darbar.
- Gulab Singh dynasty and its administration.,Impact of Islam in Jammu region.
- Critical analysis of Praja Parishad Andolan & Nationalist Movements.

प्रस्तावित पुस्तकें

- Jain, N.K., 1979, *Muslims in India. A Biographical Dictionary*, 2 vol., New Delhi.
- *Ashutosh , Jammu-Kashmir : An Analysis of Facts*
- Day,N.L., *Geographical Dictionary of Ancient and Medieval* India, Luzacc, London.
- Abbasi, Reema, 2014, *Historic Temples in Pakistan-A call to Conscience,* Niyogi Books.
- अग्निहोत्री, कुलदीपचंद , 2109 , *जम्मूकश्मीर की अनकही-कहानी,* परभातपेपरबैक, नईदिल्ली।
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Unit-9

The Issues and Challenges of Jammu Region after Independence

- Partition and its impact on the Princely State of Jammu and Kashmir in 1947: Pakistani Invasion, Atrocities and Forced Displacement
- Praja Parishad Movement for complete integration of Jammu and Kashmir with the Union of India.
- Causes and Results of Students' Agitation in 1966-67
- **Social and Political Movements -** Redressal and Response and Recommendations of Gajender Gadkar Commission in 1967 and Qadri Commission in 1972, Kashmir Accord of 1975 and the demand for the trifurcation of the State into Jammu, Ladakh, and Kashmir, Poonch Agitation in 1978-79, Sikri Commission (1979) and Wazir Commission (1981). Causes and Results of Amarnath Agitation in 2008

Unit-10

Socio-cultural Landscapes of Jammu & Kashmir

- Groups and Communities: Dogras, Kashmiris, Ladakhis, Pahadis, Gujjars, Gaddis, Baltis and Dards,
- Socio-cultural Significance of rivers: Vitasta, Askini, Devika, Suryaputri, Kishanganga,
- Culture, Language, Folk, Customs & Traditions in different regions of J&K, Arts and Crafts,
- Festivals of Jammu Kashmir and Ladakh, Mountains and Ranges: Shivalik Range, Panchal Deva, Krishangiri,

प्रस्तावित पुस्तकें

- अग्निहोत्री, कुलदीपचंद , 2109 , *जम्मूकश्मीरकीअनकही-कहानी,* परभातपेपरबैक, नईदिल्ली I
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- C. L. Gadoo, *Kashmir Hindu Shrines: Heritage & History.*
- _____, *Kashmir Hindu Religious Culture*.
- Prof. Rajaneesh Shukla, *Dr. Mayank Shekhar Acharya Abhinavgupta: Literature, Culture & Philosophy.*

Annexure- 'E'

Centre for Deen Dayal Upadhyay Studies
Ph.D. Entrance Test Syllabus
Section-B: Subject Specific (50–100 Marks)

Unit-I

Life and Works of Pandit Deendayal Upadhyaya, Life and personality, Political journey, Role in Bharatiya Jana Sangh, Nation building, Important writings, Contemporary relevance

Unit-II

Integral Humanism (एकात्म मानववाद), Origin and evolution, Philosophical foundations, Individual, Society and Nation, Chiti and Virat, Dharma and State, Integral Humanism versus Western Ideologies

Unit-III

Political Thought, Democracy, Nationalism, Cultural Nationalism, Good Governance, Decentralization, Indian Polity, Constitutional Values, Panchayati Raj, Federalism

Unit-IV

Economic Thought, Swadeshi, Antyodaya, Rural Economy, Self-reliance, Sustainable Development, Labour and Capital, Employment, Cooperative Economy, Indian Model of Development

Unit-V

Indian Knowledge System, Indian Philosophy, Vedas and Upanishads, Dharma, Purushartha, Indian Cultural Heritage, Education in Indian Tradition, Ethics and Values

Unit-VI

Comparative Political Thought, Comparative study of Deendayal Upadhyaya with Mahatma Gandhi, Swami Vivekananda, Sri Aurobindo, Dr. B.R. Ambedkar, Dr. Ram Manohar Lohia, Jawaharlal Nehru, M.S. Golwalkar, Syama Prasad Mookerjee

Unit-VII

Contemporary India, Good Governance, National Education Policy, Atmanirbhar Bharat, Sustainable Development Goals, Social Justice, Rural Development, Inclusive Growth, Cooperative Federalism, Digital India

Unit-VIII

Current Issues, Indian Society, Public Policy, National Security, International Relations, Environment, Culture, Education, Economy, Contemporary Political Issues

Centre for Deen Dayal Upadhyay Studies
Ph.D. Entrance Test Syllabus
Section-B: Subject Specific (50–100 Marks)

Unit-I: Life and Works of Pandit Deendayal Upadhyaya

- Life, personality and intellectual development of Pandit Deendayal Upadhyaya.
- Socio-political and ideological background.
- Role in the Bharatiya Jana Sangh and contribution to Indian politics.
- Concept of nation-building and national integration.
- Major writings and speeches.
- Relevance of Deendayal Upadhyaya's thought in contemporary India.

Unit-II: Integral Humanism (Ekatma Manav Darshan)

- Origin, evolution and philosophical foundations of Integral Humanism.
- Concepts of Individual, Family, Society and Nation.
- Chiti, Virat and the Organic Theory of Society.
- Dharma, State and Social Order.
- Purusharthas and holistic development.
- Integral Humanism in comparison with Capitalism, Socialism and Communism.

Unit-III: Political Thought of Pandit Deendayal Upadhyaya

- Concept of Democracy and Democratic Values.
- Cultural Nationalism and National Integration.
- Good Governance and Ethical Politics.
- Decentralization and Grassroots Democracy.
- Indian Polity and Constitutional Values.
- Panchayati Raj, Federalism and Participatory Governance.

Unit-IV: Economic Thought

- Swadeshi and Self-Reliance.
- Antyodaya and Inclusive Development.
- Rural Economy and Village-Centred Development.
- Labour, Capital and Employment.
- Cooperative Economy and Sustainable Development.
- Indian Model of Economic Development and Economic Democracy.

Unit-V: Indian Knowledge System

- Foundations of Indian Knowledge System.
- Indian Philosophy: Orthodox and Heterodox Traditions.
- Vedas, Upanishads and Indian Intellectual Heritage.
- Concepts of Dharma and Purusharthas.
- Indian Cultural Heritage and Civilizational Values.
- Education in Indian Tradition.
- Ethics, Values and Human Excellence.

Unit-VI: Comparative Political and Philosophical Thought

Comparative study of the ideas and contributions of Pandit Deendayal Upadhyaya with:

- Mahatma Gandhi.
- Swami Vivekananda.
- Sri Aurobindo.
- Dr. B. R. Ambedkar.
- Dr. Ram Manohar Lohia.
- Jawaharlal Nehru.
- M. S. Golwalkar.

- Dr. Syama Prasad Mookerjee.

Unit-VII: Contemporary India

- Good Governance and Public Administration.
- National Education Policy (NEP).
- Atmanirbhar Bharat.
- Sustainable Development Goals (SDGs).
- Social Justice and Inclusive Growth.
- Rural Development and Community Participation.
- Cooperative Federalism.
- Digital India and Digital Governance.

Unit-VIII: Current Issues

- Contemporary Issues in Indian Society.
- Public Policy and Governance.
- National Security and Strategic Affairs.
- India's Foreign Policy and International Relations.
- Environment and Sustainable Development.
- Culture, Education and National Development.
- Indian Economy: Emerging Challenges and Opportunities.
- Contemporary Political, Social and Economic Issues.

Annexure- 'F'
Department of Nano Science and Materials
Syllabus for Ph.D. Entrance Examination

Total marks: 100

1. Fundamentals of Nanoscience and Nanotechnology 10

Fundamental concepts of nanoscience and nanotechnology: nanoscale dimensions and dimensionality (0D, 1D, 2D and 3D), surface-to-volume ratio and surface energy, size-dependent physical, chemical, optical, electrical and magnetic properties.

2. Synthesis and Fabrication of Nanomaterials 10

Principles governing nanomaterial synthesis: nucleation and crystal growth, thermodynamics; kinetics of synthesis: physical, chemical and biological synthesis routes, ball milling, sol-gel processing, hydrothermal and solvothermal synthesis.

3. Characterization Techniques for Nanomaterials 15

Fundamental principles, working and applications: X-ray diffraction (XRD), scanning electron microscopy (SEM), atomic force microscopy (AFM), Fourier transform infrared spectroscopy (FTIR), Raman spectroscopy, UV-Visible spectroscopy, photoluminescence spectroscopy.

4. Nanomaterials and Low-Dimensional Systems 10

Carbon-based nanomaterials: graphene, carbon nanotubes and fullerenes; quantum dots, metal and alloy nanoparticles, metal oxide nanomaterials, magnetic nanomaterials, semiconductor nanostructures.

5. Materials Science 20

Classification of materials: metals, alloys and ceramics; structure-property relationship, mechanical properties, electrical properties, optical properties, thermal properties, magnetic properties. Crystal systems: bravais lattices, unit cell, miller indices, packing fraction, coordination number, crystal planes and directions.

6. Atomic and Quantum Physics 10

Wave-particle duality, De Broglie wavelength, Heisenberg, uncertainty principle, Schrödinger equation (basic), hydrogen atom, harmonic oscillators and quantum numbers.

7. Chemical Bonding & Thermodynamics 15

Ionic bond, covalent bond, metallic bond, hydrogen bonding, van der Waals interactions, first law, second law, Gibbs free energy, enthalpy, entropy, chemical equilibrium.

8. Surface and Polymer Chemistry 10

Classification of polymers: conducting polymers, biopolymers, nanocomposites polymers; corrosion, adsorption, absorption, catalysis, surface energy, colloids, micelles, polymerization.

Annexure- 'G'

	Ph.D. Vacant Seats for the Academic Session 2026-27							
S.No.	**Name of Department**	**GENERAL**	**OBC**	**SC**	**ST**	**EWS**	**PwD**	**Total**
1	Himachal Pradesh Kendriya Vishwavidhalya Business School (HPKVBS)	0	4	0	0	1	0	5
2	Department of Commerce	0	1	0	0	0	0	1
3	Department of Hindi	0	0	0	0	0	0	0
4	Department of English	0	0	0	0	0	0	0
5	Department of Sanskrit	0	0	0	0	0	0	0
6	Department of Punjabi & Dogri	1	1	1	0	0	0	3
7	Department of Journalism & Mass Communication	3	1	2	0	1	1#	7
8	Department of New Media	0	1	0	1	1	1#	3
9	Department of Education	0	0	0	0	0	0	0
10	Department of Tourism & Travel Management	0	2	1	0	0	0	3
11	Centre for Promotion of Ecological, Adventure, Health & Cultural Tourism	3	1	0	0	0	0	4
12	Department of Environmental Sciences	0	2	1	0	0	0	3
13	Centre of Remote Sensing and GIS	1	1	1	1	1	1#	5
14	Department of Geology	2	1	1	0	0	0	4
15	Department of Plant Science	0	0	0	0	0	0	0
16	Department of Animal Sciences	0	1	0	1	0	0	2
17	Centre for Computational Biology & Bioinformatics	9	6	2	1	1	1	19
18	Department of History	1	0	0	0	0	0	1
19	Department of Political Sciences	0	0	0	0	0	0	0
20	Department of Social Work	2	3	1	1	0	1#	7
21	Department of Sociology	0	1	0	0	0	0	1
22	Centre for Kashmir Studies	2	1	1	0	0	0	4
23	Centre for Deen Dayal Upadhyay Studies	2	1	1	0	0	0	4
24	Srinivasa Ramanujan Department of Mathematics	2	2	1	1	1	0	7
25	Department of Library and Information Science	0	0	1	0	0	0	1
26	Department of Computer Science and Informatics	1	1	1	0	0	0	3
27	Dept. of Visual Arts	0	2	0	0	0	1#	3
28	Department of Physics and Astronomical Science	13	9	5	3	2	2#	32
29	Department of Nano Science and Materials	8	6	3	2	1	1#	20
	Total Ph.D. Vacant Seats for the Academic Session 2026-27							**142**