


Biodata

	Name		DR. MEENAL MISHRA
	Designation		Professor of Geology Director, School of Sciences
	Contact Address		School of Sciences, Raman Bhawan Indira Gandhi National Open University, Maidan Garhi New Delhi-110068
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EDUCATIONAL QUALIFICATIONS			
Degree	Year	Institute/University	
B.Sc.	1984	DBS (PG) College, Dehradun affiliated to HNB Garhwal University, Srinagar (Garhwal)	
M.Sc. (Geology)	1986	DBS (PG) College, Dehradun affiliated to HNB Garhwal University, Srinagar (Garhwal)	
Ph.D. (Geology)	1993	Wadia Institute of Himalayan Geology, Dehradun	
Post Doctorate	1993-1994	Delhi University, Delhi	
Post Doctorate	1994-2004	Jawaharlal Nehru University, New Delhi	
Post Graduate Diploma in Distance Education (PGDDE)	2014	Indira Gandhi National Open University, New Delhi	
CAREER PROFILE			
<ul style="list-style-type: none">• 2016-till date: Professor of Geology, School of Sciences, Indira Gandhi National Open University, New Delhi• 2013-2016: Associate Professor of Geology, School of Sciences, IGNOU, New Delhi• 2010-2013: Reader in Geology, School of Sciences, IGNOU, New Delhi• 2010-2004: Assistant Professor, Department of Geology, Banaras Hindu University, Varanasi• 2004-2004: Lecturer, School of Earth & Environmental Sciences, Mizoram University, Aizwal• 2004-2003: Scientist ‘C’, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi• 2003-2001: Principal Investigator, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi			

- **2001-1999:** Pool Officer (CSIR), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi
- **1999-1994:** Research Associate (CSIR), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi
- **1994-1993:** SRF (CSIR), Department of Geology, University of Delhi, Delhi
- **1988-1993:** JRF and SRF (DST project), Wadia Institute of Himalayan Geology, Dehradun
- **1988-1986:** JRF (DST project), Survey of India, Dehradun

Areas of Interest: Sedimentary Geochemistry & Igneous Petrology.

First Indian Women to Carry Geological Fieldwork in Ladakh Himalaya

- Geochemistry and Petrogenesis of mafic dykes from Mahakoshal Group and Vindhyan Supergroup in Sonbhadra district.
- Geochemistry and provenance of siliciclastics from Vindhyan Supergroup in Mirzapur and Sonbhadra districts. Geochemistry of metasedimentary rocks from Eastern Dharwar craton, Archaean greenstone belt.
- Geochemistry of Porcellanite Shale with special reference to the understanding of uranium mineralization in and around Sidhi district.
- Geochemistry and petrogenetic modelling of the bimodal volcanics exposed within various schist belts from eastern and western Dharwar craton *i.e.* Ramagiri, Kolar, Bababudan, Chitradurga, Gadag, Shimoga and Hutti. Geochemical and petrological investigations of the bimodal volcanics are important component in constraining tectonic setup and establishing crustal evolution of Archaean craton.
- Carried pioneering research on the ophiolitic mélange zone exposed along the Indus Tsangpo suture zone in the western sector of Ladakh Himalaya. Detailed mapping (av. height 3600-3800m), geochemistry and geochronology of the mélange zone has revealed that the tectonic blocks of diverse lithologies probably represent the relicts of oceanic islands and seamounts. 13 Km long Blueschist zone was delineated and radiolarians were dated.

ROLE AND RESPONSIBILITIES AT IGNOU

Programme Coordination

- M.Sc (Geoinformatics)
- PG Diploma in Geoinformatics (PGDGI)
- Appreciation Course in Environment (ACE)
- Ph.D (Geology) programme (2012-2016)

Course Coordination (includes transformation and vetting)

Developed and Printed - 2 Courses of PGCGI Programme (each 4 credit)

1. MGY-001 Introduction to Geoinformatics
2. MGY-003 Global Navigation Satellite System and Geographical Information

System

Developed and Printed- 6 Courses of Geology in B.Sc.(Gen.) programme

1. BGYCT-131 Physical and Structural Geology (4 credit)
2. BGYCL-132 Physical and Structural Geology: Laboratory (2 credit)
3. BGYCT-133 Crystallography, Mineralogy and Economic Geology (4 credit)
4. BGYCL-134 Crystallography, Mineralogy and Economic Geology: Lab. (2 Cr)
5. BGYCT-135 Petrology (4 credit)
6. BGYCL-136 Petrology: Laboratory (2 credit)

Developed but not Printed-1 Course of B.Sc. (Major) Geology (4 credit)

BGY-01 (Planet Earth)

Under Development- 3 Courses of M.Sc (Geoinformatics) programme

1. MGY-103 Global Navigation Satellite System and Geographic Information System
2. MGY-007 Applications of Geoinformatics
3. MGYL-008 Digital Image Processing and Spatial Analysis Laboratory

Programme Maintenance: Includes web counselling, virtual sessions, activation of study centres, programme delivery, paper setting, moderation, assignment preparation, assignment and paper evaluation, etc.

- B.Sc. (Gen.) with Geology courses
- PGCGI programme
- Ph.D (Geology)
- Appreciation Course in Environment (ACE)

Academic counsellor

For all courses for PGCGI programme since July 2014 cycle

Face to Face Teaching

Delivering Ph.D course work work (16 credits)

Units contributed to IGNOU Self-learning Materials – 35 Units

B.Sc (Major) Geology-not printed-5 Units

- Unit 11: Megascopic Study of Minerals. In: Course: BGY-001, Block: 3
- Unit 13: Petrology. In: Course: BGY-001, Block: 4
- Unit 14: Igneous Petrology. In: Course: BGY-001, Block: 4
- Unit 15: Sedimentary Petrology. In: Course: BGY-001, Block: 4
- Unit 16: Metamorphic Petrology. In: Course: BGY-001, Block: 4

Editing

- Block 1 Natural Hazards of Course MEV-002 Environmental & Occupational

Health programme

- Block 2 Climatology and Meteorology of Course MEV-12 Earth Surface Processes
- Block 4 Natural Hazards of Course MEV-12 Earth Surface Processes

Interactive Radio Counselling (IRC) – 20 sessions

Teleconferencing (TC)/Swayamprabha channel sessions -28 sessions

Video programmes coordinated and uploaded on UTube – 47

videos

- Physical Properties of Minerals Depending on Light
Link: <https://www.youtube.com/watch?v=FjuZ-hn8Qyo&t=52s>
<http://egyankosh.ac.in/handle/123456789/73668>
- Physical Properties of Minerals Depending on State of Aggregation: Form and Habit
Link: https://www.youtube.com/watch?v=0SfrT76_liA&t=14s
<http://egyankosh.ac.in/handle/123456789/73669>
- Physical Properties of Minerals Depending on State of Aggregation: Cleavage, Striations and Fracture
Link: <https://www.youtube.com/watch?v=DbJQE3RaQoM>
<http://egyankosh.ac.in/handle/123456789/73670>
- Physical Properties of Minerals Depending on State of Aggregation: Hardness and Tenacity
Link: <https://www.youtube.com/watch?v=eUPWtaMeOAA&t=16s>
<http://egyankosh.ac.in/handle/123456789/73672>
- Physical Properties of Minerals Depending on State of Aggregation: Specific Gravity and Senses
Link: <https://www.youtube.com/watch?v=UFXBMcMrQJc&t=13s>
<http://egyankosh.ac.in/handle/123456789/73673>
- Physical Properties of Minerals Depending on Forces
Link: <https://www.youtube.com/watch?v=POWD1V85Hyl&t=19s>
<http://egyankosh.ac.in/handle/123456789/73671>
- Introduction to Ore Deposits
Link: <http://egyankosh.ac.in/handle/123456789/53454>
- Classifications of Ore Deposits
Link: <http://egyankosh.ac.in/handle/123456789/53455>
- Early Magmatic Deposits
Link: <http://egyankosh.ac.in/handle/123456789/53456>
- Late Magmatic Deposits
Link: <http://egyankosh.ac.in/handle/123456789/53457>
- Contact Metasomatic and Contact Metamorphic Deposits
Link: <http://egyankosh.ac.in/handle/123456789/53458>
- Hydrothermal Mineralisation
Link: <http://egyankosh.ac.in/handle/123456789/53461>
- Weathering, its types and Significance
Link: <https://www.youtube.com/watch?v=gBYijlPPVgc>
- Soil: Product of Weathering

- Link: <https://www.youtube.com/watch?v=y-SENU4Abv8>
- Landslides: Its types and causes
Link: <https://youtu.be/cl73TU0hjQk>
- Landslides: Mitigation measures
Link: <https://youtu.be/BcUveL43x7c>
- Landslide hazard zonation
Link: <https://youtu.be/8cDxEJdPkVc>
- Deccan Volcanism-an Inside Story
Link: <https://www.youtube.com/watch?v=1a3glcg0oGs>
- Himalaya-an Overview
Link: <https://www.youtube.com/watch?v=vK5Cglisa1Y>
- Evolution of Himalaya
Link: <https://www.youtube.com/watch?v=gVGZKqrjVZY>
- Fossils in Himalaya
Link: <https://youtu.be/sLUqzsz1E80>
- Igneous Textures, Processes and Pathways: An Overview
Link: <https://www.youtube.com/watch?v=9NU3SL7HWF4>
- Igneous Textures, Processes and Pathways: Aphanitic Textures
Link: <https://www.youtube.com/watch?v=pboabkaFzWY&t=5s>
- Igneous Textures, Processes and Pathways: Phaneritic Textures
Link: https://www.youtube.com/watch?v=tw7vVvp6R_U
- Igneous Textures, Processes and Pathways: Homogenous Textures
Link: <https://www.youtube.com/watch?v=Zx6wQG0qiG4>
- Igneous Textures, Processes and Pathways: Inhomogeneous Textures
Link: https://www.youtube.com/watch?v=XYb_tzRISKc
- Igneous Textures, Processes and Pathways: Fabric Related to Textural Equilibrium and Consolidation of Volcaniclasts into Solid Rock
Links: <https://youtu.be/omO-AJS2bPU>
<http://egyankosh.ac.in/handle/123456789/68338>
- Geology around us-Part I
Links: <https://youtu.be/F6cglc12wd0>
<http://egyankosh.ac.in/handle/123456789/63948>
- Geology around us-Part II
Links: <https://youtu.be/BtmJ8lOfxek>
<http://egyankosh.ac.in/handle/123456789/65950>
- Physical Features of Volcanic Terrain
Link: <https://www.youtube.com/watch?v=Wrbw0MQzSQU&t=141s>
- Microscopic view of basaltic rocks
Link: <https://www.youtube.com/watch?v=2RGL3XB2x3E&t=103s>
- Exsolution Intergrowth
Link: <https://youtu.be/7SnfV0nJMvk>
- Rapakivi Texture
Link: <https://youtu.be/voXGUT4HSxY>
- Textures Related Zoning in Igneous Rocks
Link: <https://www.youtube.com/watch?v=Wrbw0MQzSQU&t=141s>
- Sedimentary structure of clastic rocks
Link: <https://www.youtube.com/watch?v=llg5aAbaL0s&t=44s>
- Sedimentary Structure of non-clastic rocks
Link: https://www.youtube.com/watch?v=3iL__lYkFRM

- Metamorphism
Links: <https://www.youtube.com/watch?v=pB9S8UoXLtY>
<http://egyankosh.ac.in/handle/123456789/68333>
- Types of metamorphism
Links: <https://www.youtube.com/watch?v=33hJAGiyeQA>
<http://egyankosh.ac.in/handle/123456789/68332>
- Age and duration of Deccan Volcanism
Links: <https://youtu.be/rodINJOA-r8>
- Deccan Volcanism and Mass Extinction at KT Boundary
Links: <https://youtu.be/cxifXuAnSPE>
- Unraveling geochemistry of basaltic rock
Links: <https://youtu.be/VkLOFLRsNys>
<https://youtu.be/VkLOFLRsNys>
- Role of Ocean Circulation in Climate Change
Link: <https://youtu.be/vgOsm7ewDZw>

Contribution to E-Pg Pathshala (MHRD)–ALL 4 QUADRANTS

Course- M.Sc. (Environmental Science); Paper-Environmental Geology

- M-02 Plate Tectonics
Link: https://epgp.inflibnet.ac.in/view_f.php?category=274
- M-03 Rock Types and Rock Cycle
Link: https://epgp.inflibnet.ac.in/view_f.php?category=274
- M-08 Geological Work of Wind and its Impact
Link: https://epgp.inflibnet.ac.in/view_f.php?category=274
- M-27 Structural Geology
Link: https://epgp.inflibnet.ac.in/view_f.php?category=274

RESEARCH GUIDANCE- M.Sc. and M.Sc. Tech.-06 : PHD -03

Year	Name	Topic
Ph.D Guided		
2021 Awarded	G. Mageswarii	Petrology, Nd-Sr Isotopic Compositions and Geodynamic Evolution of Palaeo-Mesoproterozoic Intrusives along Son-Narmada Lineament in the Eastern part of the Son Valley, Central India
2021 Awarded	Sarvesh Misra	Tectono-Sedimentary Model And Palaeogeography Of Siwalik Sediments Around Ramnagar Kaladungi Area, Nainital, Uttarakhand
2011 Awarded	Shinjana Sen	Geochemistry of siliciclastics from Kaimur group of Vindhyan supergroup, Son valley, Mirzapur and Sonbhadra districts, U.P.
Ongoing	Bilal Sunu	Sedimentology, geochemistry and dating of Pleistocene sediments from Nagum Formation, Kashmir: Palaeoclimatic Reconstruction.
Ongoing	Ihsan Ullah Lone	Petrogenesis and Tectono-Magmatic Evolution of Bukdang Mafics Associated with the Shyok Ophiolite, Ladakh Himalaya

M.Sc. and M.Sc. Tech. Students

2006	Manoj Saraswat	Geochemistry of shales from Vindhyan Supergroup, Sonbhadra district, U.P.
2007	Himanshu Topno	Geochemistry of Porcellanite shales from Chopan area, Vindhyan Supergroup, Sonbhadra district, U.P.
2008	Anubhav Verma	Geochemistry of Porcellanite shales from Hardi-Kon sector, Vindhyan Supergroup, Sonbhadra district, U.P.
2009	Pritam Mohapatra	Geochemistry of Glauconitic sandstone from Salkhan and Patwadh, Vindhyan Supergroup, Sonbhadra district, U.P.
2009	Vishnu Kumar	Geochemistry of Arangi Shale and Patherwa Sandstone around Dala, Vindhyan Supergroup, Sonbhadra district, U.P.
2010	Reegan Muppalla	Geochemistry of mafic dykes from Mahakoshal Group around Rantola, Sonbhadra district, U.P.

NUMBER OF PUBLICATIONS -116

A. Books/Monographs (Authored/Edited)/ Book Chapter: 10

1. **Meenal Mishra** (2021) Petrological studies of serpentinite from the Shergol Ophiolitic Mélange, Ladakh Himalaya: Remnant of the Oceanic Lithosphere along Indus Suture Zone. In: *Geology and Natural Resources of Himalaya* (Ed.) R. A. Singh and Piyush K. Singh ASR Publications, Lucknow, ISBN: 978-93-83247-95-0, pp. 154-171.
2. **Meenal Mishra** and Bandana Samant (2020) Feldspars: Life-Sustaining Minerals on the Earth. In: *Minerals and their properties: Novel Approach for Applications* (Eds.) Sanjay J. Dhoble, Anup P. Bhat, Renu Nayar and Bandana Samant. Published by Nova Science Publishers, Inc. New York. ISBN: 978-1-53618-990-2, pp. 227-252.
3. S. Sen and **Meenal Mishra** (2019) Mineralogical and Geochemical Characterization of Sandstones Used In the Historical Buildings in and around Varanasi District. In: Rashmi Sinha (Ed.) *Issues and Perspectives in Anthropology*, Rawat Publications, Jaipur. ISBN 9788131608753, pp. 184-197.
4. **Meenal Mishra**, Kakoli Gogoi and Benidhar Deshmukh (2016) Status of Women in Geoscience Education in India. Chapter 25. In: *Dimensions of Education* (Eds.) Jha A. K. and Singh S. P., pp. 321-331, Renu Publishers, ISBN:978-93-85502-08-8.
5. Benidhar Deshmukh, **Meenal Mishra** and Kakoli Gogoi (2016) Geospatial Education in India: Present Scenario. Chapter 22. In: *Dimensions of Education* (Eds.) Jha A. K. and Singh S. P., pp. 273-286. Renu Publishers, ISBN: 978-93-85502-08-8.
6. **Mishra Meenal** and Sen, Shinjana. (2011) Silenced Rivers and Urbanization- a major threat to Food Security. In: *Biodiversity and Sustainable Development*. (Eds.) Kavindra Nath Tiwari and Swarn Lata. Prasanna

- Prakashan, Bhopal. ISBN: 978-81-905131-0-4, pp.209-218.
7. **Mishra Meenal** (2007): Guest Editor: Biogeochemistry and Soil Chemistry. Special issue of Indian Journal of Geochemistry, Vol. 22(1): 190p, ISSN 0970 9088.
 8. **Meenal Mishra** (2007) An assessment of Geochemical techniques in standardization of Ayurvedic Bhasmas for their quality control. National Seminar on Novel tools of nano-technology, Material Science and geological Techniques in standardization of Ayurvedic Bhasma held on 28th December 2007 at Research and Development Centre, Prof. S.N. Tripathi Foundation, Varanasi, lecture notes.
 9. Sinha, A.K. and **Mishra Meenal** (1995a): Fragmented Ocean Island from ophiolitic mélange of ancient convergent zone in western Ladakh Himalaya, India. In: Magmatism in diverse tectonic settings, R. Srivastava and R. Chandra (Eds.) A. A. Balkema, Rotterdam, Netherlands. ISBN 81-204-0989-2, pp. 393-413.
 10. Sinha A.K. and **Mishra Meenal** (1997): India-Eurasia collision tectonics and evidences of Cretaceous oceanic islands along the ophiolitic mélange belt of Ladakh Himalaya, India In: Geodynamic Domains in Alpine Himalayan Tethys, A.K. Sinha (Ed.), Oxford and IBH Publishing Co., New Delhi, ISBN 81-204-1091-2. pp. 45-55.

Papers in Peer reviewed Journals: 47

1. Sen S., Kaur. P, Saini J., Kaur G. and **Meenal Mishra** (2022) Kaimur Sandstone of Vindhyan Supergroup: A Prevalent Prehistoric and Ancient Monumental Heritage Stone from Son Valley of Central India. *Geoheritage*, DOI: 10.1007/s12371-022-00687-8, Published by Springer.
2. Joshi H., **Mishra Meenal** and Tiwari Meera (2022) Origin of the Early Ediacaran chert from Infrakrol Formation in Krol Belt, Lesser Himalaya, India. *Journal of Sedimentary Environment*, DOI: <https://doi.org/10.1007/s43217-022-00108-4>, Published by Springer.
3. **Meenal Mishra**, Juergen Schieber and Abhijit Basu (submitted) The geochemical dilemma in sleuthing the tectonic setting of the Lower Vindhyan tuff (~1640-1630 Ma) in India. *Jour. of Geological Soc. Ind.*
4. Ihsan Ullah Lone, **Meenal Mishra**, Sachin Kr Tiwary, Rakesh Chandra (accepted) Remnants of Tethyan Oceanic Lithosphere along Shyok Suture Zone of NW Ladakh Trans-Himalaya: Shyok Ophiolites as Geoheritage Site. *Geoheritage*, Published by Springer.
5. Shinjana Sen and **Meenal Mishra** (accepted) Implications of heavy mineral assemblage to sediment recycling, Rare Earth Element budget and provenance of Kaimur Sandstones, Vindhyan Supergroup, Son Valley. *Journal of Earth System Science*,
6. Mageswarrii G., **Mishra Meenal**, Srivastava V., Srivastava H. B., Satyanarayanan M. and Shrivastava J. P. (submitted) Palaeoproterozoic Post-Mahakoshal/Pre-Vindhyan rift related ~1800 Ma alkaline magmatism in

Bari area, Son valley, Central India: review and new data.

7. Ihsan Ullah Lone, **Meenal Mishra** and Rakesh Chandra (submitted) Petrology and Geochemistry of mafic rocks from Shyok Ophiolites, Shyok Suture Zone, Ladakh Trans-Himalaya: Constraints on Petrogenesis and Tectonic Setting (Journal of Himalayan Geology).
8. Gurmeet Kaur, Swtantra Kumar Singh, Prabhakar Upadhyay, Parminder Kaur, Jaspreet Saini, Alok Kumar Pandey, **Meenal Mishra** (accepted) Eastern Son valley, India: A case for Geoheritage site designation. Geoheritage.
9. Mageswari G., **Mishra Meenal** and Shrivastava J. P. (2021) Petrology and Geochemistry of mafic plugs associated with the Semri Group of the Vindhyan Supergroup in the eastern part of the Son Valley, Central India: Implications for bimodal volcanism. *Geological Journal*, Vol. 56: 2848–2867, <https://doi.org/10.1002/gj.4078>, Published by John Wiley & Sons Ltd ISSN: 1099-1034,.
10. H. Wani, Bilal A. Sunu, **Meenal Mishra**, Imran Khan (2020) Glacial vis-à-vis tectono-provenance signals of the Plio-Pleistocene sediments of the intermontane Kashmir basin, northwestern Himalaya: Evidence from quartz micro-textures and a till deposit. *Quaternary International*, 568: 90–102, Published by Elsevier.
11. Mageswari G., Pal S., **Mishra Meenal**, Shrivastava. J. P. (2019) Evidences of felsic volcanism and hydrothermal activities from clays associated with the Palaeoproterozoic Porcellanite Formation of the Vindhyan Supergroup, Central India. *Geochemistry*, V.79(2), pp. 408-420, ISSN: 0009-2819, ISSN 1040-6182, Published by Elsevier.
12. Shinjana Sen and **Meenal Mishra** (2019) Source rock composition of Kaimur Group siliciclastics from Vindhyan Supergroup, Central India: A response to thermal events associated with Bundelkhand craton and Chhotanagpur Gneissic Complex at ~1.1 Ga. *Geological Journal*, Vol. 55 (6): 4128-4158, ISSN: 1099-1034, Published by John Wiley & Sons Ltd.
13. Shinjana Sen and **Meenal Mishra** (2019) Significance of Tuffaceous Beds associated with Bijaigarh Shale of Kaimur Group, Vindhyan Supergroup, Central India and its correlation to Tuffs in other contemporaneous Proterozoic basins. *Journal of Earth System Science*, 128:217, doi.org/10.1007/s12040-019-1212-8, ISSN: 2347-4327, Published by Springer.
14. **Meenal Mishra**, Kakoli Gogoi and Benidhar Deshmukh (2019) Post graduate certificate in geoinformatics at IGNOU-A tool for skill enhancement for women empowerment. *Mahila Pratishtha*, 4(4): 165-174, ISSN: 2454-7891, Published by Offset & Screen Printers, Vishakapatnam.
15. Benidhar Deshmukh, Kakoli Gogoi, **Meenal Mishra** (2019) Reaching the unreached through geoscience and geospatial education at IGNOU for societal benefits. *Asian Journal of Multidimensional Research*, 8(6): 114-123,

16. Sarvesh Misra, **Meenal Mishra** and Ram Chandra Tewari (2019) Significance of Parting lineation in paleoslope studies: An example from fluvial Siwalik sandstones of Ramnagar-Kaladungi area, Nainital, Uttarakhand. *Jour. Indian Association of Sedimentologists*, Vol. 36, No. 1, pp. 84-100, Indian Association of Sedimentologists.
17. Deshmukh B., Gogoi, K., and **Mishra Meenal** (2019). Capacity building of teachers in geospatial technology. *Staff and Educational Development International*, 23(2), 67-76. ISSN: 0971-9008. Published by Aravalli Book International P. (Ltd.)
18. **Meenal Mishra**, Marion E. Bickford, and Abhijit Basu (2018) U-Pb Age and Chemical Composition of an Ash Bed in the Chopan Porcellanite Formation, Vindhyan Supergroup, India. *The Journal of Geology*. V. 126, pp. 553–560, ISSN: 0022-1376, Published by The University of Chicago.
19. Sarvesh Misra, **Meenal Mishra** and Ram Chandra Tewari (2018) Petrography of Siwalik sandstones from Kaladungi-Ramnagar area, Nainital district, Uttarakhand and its bearing on engineering properties. *Journal of Engineering Geology, Volume XLIII, Nos. 1 & 2*: 175-197, Society of Engineering Geologists.
20. **Mishra Meenal**, Sen Shinjana (2017) Petrological study of the Early Mesoproterozoic Glauconitic sandstone and Olive Shale from the Semri group, Vindhyan Supergroup in Central India: Implications to input from intrabasinal felsic volcanic source and Glauconitization. *Geological Journal*. V. 53, pp. 857–876. ISSN: 1099-1034, Published by John Wiley & Sons Ltd.
21. Gogoi K., Deshmukh, B., and **Meenal Mishra** (2017). Addressing Perception of Geoethics through Geoscience Curriculum at IGNOU. *Educational Quest*, 8(3), pp. 481-486. ISSN: 0976-725, Published by New Delhi Publishers.
22. Bickford E., Marion, **Mishra Meenal**, Mueller Paul A., Kamenov George D. and Schieber Juergen and Basu Abhijit (2017) U-Pb age and Hf-isotopic compositions of magmatic zircons from a rhyolite flow in the Porcellanite Formation in the Vindhyan Supergroup, Son valley (India): Implications for its tectonic significance. *The Journal of Geology*, ISSN: 0022-1376, Vol. 125: 367-379.
23. Kakoli Gogoi, Benidhar Deshmukh and **Meenal Mishra** (2016) Challenges and Opportunities in Geoscience Education in Open and Distance Learning: Indian Scenario. *Learning Community* ISSN No. 0976-3201, 7(2): 117-126.
24. **Meenal Mishra**, Shinjana Sen and Kiran Kumari (2017) Explosive Episodic Felsic Volcanism at Palaeo-Mesoproterozoic Boundary-Evidences from Vindhyan Supergroup, Son Valley, Central India. *Geochemistry International*, ISSN 0016_7029, Vol. 5 (5): 474-488.
25. **Meenal Mishra**, Vaibhava Srivastava, P. K. Sinha, and Hari B. Srivastava, (2017) Geochemistry of Mesoproterozoic Deonar Pyroclastics from Vindhyan Supergroup of Central India: Evidences of Felsic Magmatism in the Son Valley.

26. **Meenal Mishra**, Vaibhava Srivastava and Hari B. Srivastava (2017) A Report On The Occurrence of Ferruginous Breccia in Chopan Porcellanite Formation from Semri Group, Sonbhadra District, (U.P.) *Journal of Scientific Research*, V. 61, pp. 1-11. Published by Banaras Hindu University, Varanasi, ISSN: 0447-94830.
27. Sen Shinjana and **Meenal Mishra** (2015) Geochemistry of Rohtas Limestone from Vindhyan Supergroup, Central India: Evidences of detrital input from Bundelkhand Craton. *Geochemistry International*, ISSN 0016_7029, Vol. 53, No. 12, 1107–1122.
28. **Meenal Mishra** (2015) Geochemistry of Late Archaean shaly BIF formed by oxic exogenic processes: an example from Ramagiri schist belt, Dharwar Craton, India. *Chinese Journal of Geochemistry*, ISSN 1000-9426, Vol. 34 (3): 362-378.
29. Sen Shinjana and **Meenal Mishra** (2014) Petrological study of the Kaimur Group sediments, Vindhyan Supergroup, Central India: implications for provenance and tectonics. *Geosciences Journal*, ISSN: 1226-4806. Vol. 18(3): 307-324.
30. **Meenal Mishra**, V., Srivastava Kumar, A. and Srivastava H.B. (2013) Characterization of Deonar Porcellanite from Sidhi District, Madhya Pradesh. *Journal of Scientific Research*, ISSN: 0447-9483, Vol. 57: 20-26,.
31. Mishra Sunita and **Mishra Meenal** (2013). Role of Biofertilizers in maintaining nutritional status of soil in Sonbhadra and Mirzapur districts of Eastern U.P., India. *International Journal of Humanities and Social Science Invention* (IJHSSI), 2 (5): pp 23-30. ISSN-2319-7714.
32. **Meenal Mishra** and Sen Shinjana (2012) Provenance, tectonic setting and source-area weathering of Mesoproterozoic Kaimur Group, Vindhyan Supergroup, Central India. *Geologica Acta*, Vol. 10(3): 243-253, ISSN 1695-6133. University of Barcelona, Spain.
33. Verma M., Singh B. P., Srivastava A., and **Mishra Meenal** (2012) Chemical behavior of suspended sediments in a small river draining out of the Himalaya, Tawi River, northern India: implications on provenance and weathering. *Himalayan Geology*, Vol. 33 (1), 1-14, ISSN 0971-8966. Published by WIHG, Dehradun.
34. **Meenal Mishra** and Shinjana Sen, (2011). Geochemical signatures for the grain size variation in the siliciclastic rocks of Kaimur Group, Vindhyan Supergroup from Markundi ghat, Sonbhadra district, (U.P.), India. *Geochemistry International*, Vol. 49 (3): 274-290, ISSN: 0016-7029. Published by Springer.
35. **Mishra M.** and Sen S. (2011) Grain size control on geochemical signatures in siliciclastics rocks of Proterozoic Kaimur Group, Son Valley, Central India. *Geokhimiya* (Russian text ISSN 0016_8029), Vol. 49 (3): 290–305.
36. **Mishra Meenal** and Sen Shinjana, (2010) Geochemical signatures of Mesoproterozoic siliciclastic rocks of Kaimur Group, Vindhyan Supergroup, Central India. *Chinese Journal of Geochemistry*, Vol. 29 (1) 21-32, ISSN: 1000-

9426. Published by Springer.
37. **Meenal Mishra** and Shinjana Sen, (2008) Geochemistry and origin of Proterozoic porcellanitic shales from Chopan, Vindhyan Supergroup. *Indian Journal of Geology*, Vol. 80 (1-4), 157-171, ISSN 0970-1354.
 38. **Mishra Meenal** (2007) Geochemistry of the Ferruginous Shales from the Ramagiri Schist Belt – Possible Evidence for Paleosols. *Indian Journal of Geochemistry*, Vol. 22(1): 125-134, ISSN 0970 9088.
 39. **Mishra Meenal** (2006) Geochemistry of Ophimagnesite from Shergol ophiolitic melange, Ladakh Himalaya. *Indian Journal of Geochemistry*, ISSN 0970 9088, Vol. 21(2): 427-438, ISSN 0970 9088.
 40. **Mishra Meenal** (2006) Geochemical Discrimination of Blueschists from Ophiolitic Melange of the Indus Suture zone, Ladakh Himalaya. *Indian Journal of Geochemistry*, Vol. 21(1): 139-154, ISSN 0970 9088.
 41. **Mishra Meenal** and Rajamani, V. (2003) Geochemistry of the Archaean Metasedimentary rocks from the Ramagiri Schist Belt, Eastern Dharwar Craton, India: Implications to Crustal evolution. *Journal Geological Society India*, V.62: 717-738, ISSN: 0974-6889. Published by Springer.
 42. Kojima, S., Ahmad, T., Tanaka, T., Bagati, T.N., Mishra, Meenal, Kumar, R., Islam, R. and Khanna, P.P. (2001) Early Cretaceous radiolarians from the Indus suture zone, Ladakh, northern India. *News of Osaka Micropaleontologists*, ISSN 0287-0428, Spec. Vol. No. 12, p. 257-270.
 43. **Mishra Meenal** and Rajamani, V. (1999) Significance. Bimodal volcanic rocks from the Ramagiri schist belt in the formation of eastern Dharwar craton, south India. *Journal Geological Society India*, Vol.54: 263-283, ISSN: 0974-6889. Published by Springer.
 44. Sinha, A.K. and **Mishra, Meenal** (1995b) Ophicarbonate associated with the ophiolitic mélange of Western Ladakh – a probable genesis. *Ophioliti*, Vol. 20(1):31-39, ISSN, 0391-2612.
 45. Sinha, A.K. and **Mishra, Meenal** (1994) The existence of oceanic islands in the Neotethys: Evidence from Ladakh Himalaya, India. *Current Science* Vol. 67 (9 and 10):721-727, ISSN 0011-3891.
 46. Sinha, A.K. and **Mishra, Meenal** (1992a) Plume activity and seamounts in the Neotethys: Evidence supported by geochemical and geochronological data. *Himalayan Geology*, 3(1): 91-96, ISSN 0971-8966. Published by WIHG, Dehradun.
 47. Sinha, A.K. and **Mishra, Meenal** (1992b) Generation and emplacement of the ophiolitic mélange along continental collision zone. *Himalayan Geology*, 3(2):179-189, ISSN 0971-8966. Published by WIHG, Dehradun

C. Papers in Conference Proceedings: 15

1. **Meenal Mishra**, Kakoli Gogoi and Benidhar Deshmukh (2015) Role and Challenges for Women in Geoscience Education. International conference of the Learning Community on “Trends & Innovative Practices in Education: Future & Implications” on March 03-04, 2015 at Ramgarhia College of Education Phagwara, Punjab.

2. Kakoli Gogoi, Benidhar Deshmukh and **Meenal Mishra** (2015) Challenges and Opportunities in Geoscience Education in Open and Distance Learning: Indian Scenario. International conference of the Learning Community on "Trends & Innovative Practices in Education: Future & Implications" on March 03-04, 2015 at Ramgarhia College of Education Phagwara, Punjab.
3. Benidhar Deshmukh, Kakoli Gogoi, and **Meenal Mishra** (2015) Geospatial Education in India: An Overview" International conference of the Learning Community on "Trends & Innovative Practices in Education: Future & Implications" on March 03-04, 2015 at Ramgarhia College of Education Phagwara, Punjab.
4. Sen, Shinjana and **Meenal Mishra** (2014) Tuffaceous beds from Bijaigarh Shale, Vindhyan Supergroup, Central India: an evidence of volcanism International Seminar on Magmatism, Tectonism and Mineralization (MTM-2014) organized from 27 to 29th March, 2014 at Kumaun University, Nainital by International Association For Gondwana Research Conference Series 18 page 55-56.
5. **Meenal Mishra** and Shinjana Sen (2011) Geochemistry of Rohtas Limestone and Lower Kaimur sandstone from Vindhyan Supergroup, Son Valley, Central India: Evidences for tectonism of Bundelkhand Craton. National Seminar on Geodynamics and Metallogenesis of the Indian Lithosphere from 22nd September 2011 at Banaras Hindu University, Varanasi.
6. **Meenal Mishra** and Shinjana Sen (2008) Geochemistry of Porcellanite Shales from Lower Vindhyan, Son Valley: Evidences of rhyolitic volcanism. International Conference on Geology-Indian scenario and global context at ISI, Kolkata: 59-60.
7. **Meenal Mishra** and Shinjana Sen (2008) Geochemical control on grain size variation in sedimentary rocks of Kaimur Group from Vindhyan Supergroup, Markundi Ghat, Sonbhadra district (U.P.). 95th Indian Science Congress held at Vishakapatnam: 14-15.
8. **Meenal Mishra** and Shinjana Sen (2008) Geochemistry of sandstone and shales from Kaimur Group, Son valley, Central India: Implications for provenance, tectonic setting and palaeoenvironment. Terrestrial Planets Evolution through time: 208-209.
9. **Meenal Mishra** and Shinjana Sen (2008) Paleoclimate and Provenance of Upper Kaimur Group, Vindhyan Supergroup, Son Valley, Central India: a geochemical approach. Selected for Young Scientist Award of 96th Indian Science Congress held at Shillong on 16th October 2008.
10. **Mishra, Meenal** (2006): Sedimentary processes in ancient and modern suture zones: Evidence from Ramagiri Schist belt of Dharwar Craton and Nindam Formation, Indus Suture Zone. National Seminar on Active and Fossil Suture Zones: pp. 108-109.
11. **Mishra, Meenal** (2006): Serpentinite body of the Shergol ophiolitic melange, Ladakh Himalaya: a remnant of the oceanic lithosphere within the Indus suture zone. National Seminar on Origin and Evolution of Deep Continental Crust. Held at Mysore: pp. 47-49.
12. **Mishra, Meenal** (2006): Geochemistry, Petrogenesis and tectonic significance of mafic dykes from Vindhyan Supergroup, Sonbhadra district,

Son Valley 18-19th March, 2006. Group Discussion on Dykes, DST sponsored. Meeting held at BHU, Varanasi 25-27p.

13. **Mishra, Meenal** (2004): Archaean Bimodal Volcanics and arc related sedimentation: evidence from Ramagiri schist belt, eastern Dharwar craton, south India. Inter. Sem. Precambrian Continental growth & Tectonism (PGCT-2005): 77-79.
14. Satoru, T. Ahmad, T. Tsuyoshi, T.N. Bagati, **Meenal Mishra**, R. Kumar, R. Islam and P.P. Khanna (2001): Early Cretaceous radiolarians from Indus suture zone, Ladakh Himalaya, northern India. Pro. 7th Radiolarian Symp. Spec. Vol. No. 12: 257-270.
15. Sinha, A.K., Sati, D.C., Upadhyay, R. and **Mishra, Meenal** (1993): Some new data on the structural framework from Indus suture collision belt of Ladakh Himalaya. Proceedings of Seminar on Himalayan Geology Special Vol. 6: 206-216, Shimane Univ. Japan.

D. Other Publications: Popular science articles - 13

- 1^प **Meenal Mishra** (2021) भू-पर्यटन Published in Ashmika Vol. 27, by Wadia Institute of Himalayan Geology, Dehradun, p. 7-11.
- 2^प **Meenal Mishra** (2022) भू-धरोहर के परिप्रेक्ष्य में वाराणसी और आसपास के क्षेत्र submitted to Deepshikha published by IGNOU, New Delhi.
- 3^प **Meenal Mishra** (2019) कृषि भूविज्ञान Published in Ashmika Vol. 25, by Wadia Institute of Himalayan Geology, Dehradun, p. 1-5.
- 4^प **Meenal Mishra** (2017) सतत विकास Published in Ashmika Vol. 22, by Wadia Institute of Himalayan Geology, Dehradun, p.
- 5^प **Meenal Mishra** (2016) चिकित्सा भूविज्ञान Published in Deepshikha by IGNOU, New Delhi., p. 23-25.
- 6^प **Meenal Mishra** (2014) प्रचीन भारत में Published in Ashmika Vol. 21, by Wadia Institute of Himalayan Geology, Dehradun, p. 65-67.
- 7^प **Meenal Mishra** (2014) दूरस्थ शिक्षा प्रणाली में भूविज्ञान के बढ़ते कदम Published in Ashmika Vol. 20, by Wadia Institute of Himalayan Geology, Dehradun, p. 27-29.
- 8^प **Meenal Mishra** (2014) भूविज्ञान और मानव समाज Published in Ashmika Vol. 20, by Wadia Institute of Himalayan Geology, Dehradun, p. 7-9.
- 9^प **Meenal Mishra** (2013) *Ratno Ka Rahasya*. Published in Ashmika Vol. 17, by Wadia Institute of Himalayan Geology, Dehradun, p 6-9.
- 10^प **Meenal Mishra** (2012) *Saagar ki Khanij Sampada*. Published in Ashmika, Vol. 18, by Wadia Institute of Himalayan Geology, Dehradun, p 15-16.
- 11^प **Meenal Mishra** (2012) *Pralyakaari Sindhu Tarange, Tsunami leherey-Vaigyan Drishti kond*. Published in Deepshikha published by IGNOU, New Delhi.
- 12^प **Mishra Meenal** (1998) *Gemstones – Treasures of the Earth*. Published in “The Times of India” newspaper (Chandigarh edition) 11th March.
- 13^प **Mishra Meenal** (1995) *Oceanic islands found on Himalayas*. Published in ‘The Telegraph’ newspaper, (Calcutta edition) dated 28th Feb.

E. Units published in Self Learning Material of IGNOU - 35

1. **Meenal Mishra** (Jan. 2012) *Unit 6: Remote Sensing Data Products and Formats*. In: Course: Introduction to Geoinformatics (MGY-001), Block: 2, pp. 39-58, Post Graduate Certificate in Geoinformatics (PGCGI), ISBN: 978-81-266-5845-9.
2. **Meenal Mishra** (March 2012) *Unit 5: Image Resolutions*. In: Course: Remote Sensing and Image Interpretation (MGY-002), Block: 2, pp. 30-45, Post Graduate Certificate in Geoinformatics (PGCGI), ISBN: 978-81-266-5967-8.
3. **Meenal Mishra** (March 2012) *Unit 7: Visual Image Interpretation*. In: Course: MGY-002, Block: 3, pp. 5-22, Post Graduate Certificate in Geoinformatics (PGCGI), ISBN 978-81-266-5968-5.
4. **Meenal Mishra** (Aug. 2019) *Unit 8: Geological Work of Glaciers and Oceans*. In: Course: Physical and Structural Geology (BGYCT-131), Block: 2, pp. 92-112, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-89668-12-4. (Bilingual)
5. **Meenal Mishra** (Dec. 2019) *Unit 3: Crystal Systems*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 1, pp. 49-74, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-89969-67-2. (Bilingual)
6. **Meenal Mishra** (Dec. 2019) *Unit 6: Rock Forming Minerals-I*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 2, pp. 133-158, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-89969-67-2. (Bilingual)
7. **Meenal Mishra** (Dec. 2019) *Unit 7: Rock Forming Minerals-II*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 2, pp. 159-176, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-89969-67-2. (Bilingual)
8. **Meenal Mishra** (Dec. 2019) *Unit 10: Optical Properties of Rock Forming Minerals*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 3, pp. 57-82, ISBN: 978-93-89969-67-2. (Bilingual)
9. **Meenal Mishra** (Dec. 2019) *Unit 11: Ore and Ore Deposits*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 4, pp. 91-116, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-89969-67-2. (Bilingual)
10. **Meenal Mishra** (Dec. 2019) *Unit 12: Processes of Ore Formation*. In: Course: Crystallography, Mineralogy and Economic Geology (BGYCT-133), Block: 4, B.Sc. (Gen) programme-CBCS, pp. 117-144, ISBN: 978-93-89969-67-2. (Bilingual)
11. **Meenal Mishra** (Dec. 2019) *Experiment 1: Study of Symmetry Elements of Normal Class of Isometric and Tetragonal Systems*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 9-28, ISBN: 978-93-89969-63-4. (Bilingual)
12. **Meenal Mishra** (Dec. 2019) *Experiment 2: Study of Symmetry Elements of Normal Class of Orthorhombic and Monoclinic Systems*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 29-40, ISBN: 978-93-89969-63-4.

(Bilingual)

13. **Meenal Mishra** (Dec. 2019) *Experiment 3: Study of Symmetry Elements of Normal Class of Hexagonal, Trigonal and Triclinic Systems*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 41-56, ISBN: 978-93-89969-63-4. (Bilingual)
14. **Meenal Mishra** (Dec. 2019) *Experiment 4: Study of Physical Properties of Common Rock-Forming Minerals - I*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 57-78, ISBN: 978-93-89969-63-4. (Bilingual)
15. **Meenal Mishra** (Dec. 2019) *Experiment 5: Study of Physical Properties of Common Rock-Forming Minerals - II*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 79-92, ISBN: 978-93-89969-63-4. (Bilingual)
16. **Meenal Mishra** (Dec. 2019) *Experiment 7: Study of Optical Properties of Common Rock-Forming Minerals - I*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 111-124, ISBN: 978-93-89969-63-4. (Bilingual)
17. **Meenal Mishra** (Dec. 2019) *Experiment 8: Study of Optical Properties of Common Rock-Forming Minerals - II*. In: Course: Crystallography, Mineralogy and Economic Geology: Laboratory (BGYCL-134), B.Sc. (Gen) programme-CBCS, pp. 125-136, ISBN: 978-93-89969-63-4. (Bilingual)
18. **Meenal Mishra** (Jan. 2021) *Unit 1: Introduction to Petrology*. In: Course: Petrology (BGYCT-135), Block: 1, B.Sc. (Gen) programme-CBCS, pp. 14-36, ISBN: 978-93-90496-36-5. (Bilingual)
19. **Meenal Mishra** (Jan. 2021) *Unit 2: Textures and Structures of Igneous Rocks*. In: Course: Petrology (BGYCT-135), Block: 1, B.Sc. (Gen) programme-CBCS, pp. 37-68, ISBN: 978-93-90496-36-5. (Bilingual)
20. **Meenal Mishra** (Jan. 2021) *Unit 3: Classification of Igneous Rocks*. In: Course: Petrology (BGYCT-135), Block: 1, B.Sc. (Gen) programme-CBCS, pp. 69-82, ISBN: 978-93-90496-36-5. (Bilingual)
21. **Meenal Mishra** (Jan. 2021) *Unit 4: Concept of magma*. In: Course: Petrology (BGYCT-135), Block: 2, B.Sc. (Gen) programme-CBCS, pp. 93-110, ISBN: 978-93-90496-36-5. (Bilingual)
22. **Meenal Mishra** (Jan. 2021) *Experiment 1: Megascopic Study of Common Felsic Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-136), pp. 9-26, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)
23. **Meenal Mishra** (Jan. 2021) *Experiment 2: Megascopic Study of Common Intermediate Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-136), pp. 27-40, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)
24. **Meenal Mishra** (Jan. 2021) *Experiment 3: Megascopic Study of Common Mafic Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-136), pp. 41-52, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)
25. **Meenal Mishra** (Jan. 2021) *Experiment 4: Megascopic Study of Common Ultramafic Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-136),

pp. 53-62, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)

26. **Meenal Mishra** (Jan. 2021) *Experiment 5: Microscopic Study of Common Felsic and Intermediate Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-136), pp. 63-84, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)
27. **Meenal Mishra** (Jan. 2021) *Experiment 6: Microscopic Study of Common Mafic and Ultramafic Igneous Rocks*. In: Course: Petrology: Laboratory (BGYCL-134), pp. 85-100, B.Sc. (Gen) programme-CBCS, ISBN: 978-93-90496-28-0. (Bilingual)
28. **Meenal Mishra** (March 2021) *Unit 4: Precambrian Stratigraphy*. In: Course: Stratigraphy and Palaeontology (BGYCT-137), Block: 2, B.Sc. (Gen) programme-CBCS, pp. 85-110, ISBN: 978-93-90496-36-5. (Bilingual)
29. **Meenal Mishra** (January 2022) *Experiment 10: Microscopic study of common sulphide and arsenide ore minerals*. In: Course: Ore Geology and Industrial Minerals (BGYET-141), B.Sc. (Gen) programme-CBCS, pp. 85-110, ISBN: 978-93-90496-36-5. (Bilingual)
30. **Meenal Mishra** (January 2022) *Experiment 11: Microscopic study of common oxide ore minerals*. In: Course: Ore Geology and Industrial Minerals (BGYET-141), B.Sc. (Gen) programme-CBCS, pp. 85-110, ISBN: 978-93-90496-36-5. (Bilingual)
31. **Meenal Mishra** (Dec. 2020) *Unit 4: Rocks and Minerals*. In: Course: Earth Processes. Master in Environmental Science (MEV-012).

H. Guest Lectures

1. Guest lectures (4) on emerging areas in Earth Science delivered at Vikram Sarabhai Foundation, Trivandrum.
2. Invited lecture in 'Online Faculty Development Programme' on 12th July 2021 organized by RPS Degree College, Mahendergarh, Haryana in collaboration with Swami Shraddhanand College, Delhi University, Delhi on 'Application of Geographical Information Systems'.
3. Invited lecture delivered at Rani Durgawati Vishwavidyalaya, Jabalpur, and Madhya Pradesh in 'Online Refresher Course on Remote Sensing and Relief Feature on 16th July 2020 organized by UGC-Human Resource Development Centre.
4. Guest lecture delivered in Faculty Development Program on "Open Source GIS software-QGIS" jointly organized by Janardan Rai Nagar Rajasthan Vidyapeeth, Rajasthan & Shivaji College, University of Delhi, Delhi from 08th June 2020 to 14th July 2020.
5. Invited lecture on "Women's role in the Scientific Revolution" in two days webinar on "Role of Women in Self-Reliant India" on 25th June 2020 by Students for Holistic Development of Humanity (SHoD) Haryana.
6. Invited Lecture on "An assessment of Geochemical techniques in standardization of Ayurvedic Bhasmas for their quality control". National Seminar on Novel tools of nano-technology, Material Science and geological Techniques in standardization of Ayurvedic Bhasma held on 28th December 2007 at Research and Development Centre, Prof. S.N. Tripathi Foundation, Varanasi.

7. Lecture on "Plate Tectonics and NW Himalaya" Presented at 42nd Orientation Course in 2006 by UGC-Academic Staff College, BHU, Varanasi.
8. Delivered about 11 Lectures at INSPIRE Science Camp on Applications of Geospatial Technology at Hi-Tech Institute of Engineering and Technology, Ghaziabad.
9. Delivered 1 Lecture at INSPIRE Science Camp on Applications of Geoinformatics at Arunachal University of Studies, Namsai, Arunachal Pradesh

A. Conferences/Seminars/Workshops organised – 2

- Organised 21 days (29th May-17th June 2018) Residential Vigyan Jyoti programme sponsored by DST at IGNOU Campus. 30 girl students from Kendriya Vidyalaya and Navodaya Vidyalaya in Delhi/NCR participated. They were mentored by 60 resource persons in different areas to take up subjects like science, engineering and mathematics for their higher education and career.
- Convened and organized International Earth Science Olympiad in Delhi/NCR region, sponsored by Geological Society of India in 2013, 2014 and 2015.

B. Presented Papers in Conferences/Seminars/Workshops

- National Seminar "Anthropology-Unveiling the Mystique" held on October 28-29, 2015 at IGNOU Headquarters, New Delhi.
- International conference of the Learning Community on "Trends & Innovative Practices in Education: Future & Implications" on March 03-04, 2015 at Ramgarhia College of Education Phagwara, Punjab.
- Workshop on Gender mainstreaming and Gender Budgeting, 21st February, 2011 organized by School of Gender Development Studies and Ministry of Women and Child Development, Government of India at Convention Centre, IGNOU, New Delhi.
- National Seminar on Geodynamics and Metallogenesis of the Indian Lithosphere from 22nd September 2011 at Banaras Hindu University, Varanasi.
- Environmental Threat to Human Health in 21st century at BHU from 16th and 17th Jan. in 2009 at Banaras Hindu University, Varanasi.
- International Conference on Geology-Indian scenario and global context held at Indian Statistical Institute, Kolkata from 7th -11th Jan. in 2008
- 95th Indian Science Congress held at Vishakapatnam from 3rd -7th Jan. in 2008
- Terrestrial Planets Evolution through time held at Physical Research Laboratory, Ahmedabad from 22nd -25th Jan. in 2008
- National Seminar on Active and Fossil Suture Zones, at WIHG, Dehradun from 22nd -24th Nov. in 2006
- MSI-2006 VIII-Convection of Mineralogical Society of India & National Seminar on Origin and Evolution of Deep Continental Crust held at Pune from 13th -14th October 2006
- Group Discussion on Dykes, DST sponsored meeting from 18-19th March at

BHU in 2006 <ul style="list-style-type: none"> • Seminar in Geology & Geophysics at WIHG, Dehradun in 1993 • IX Convention of Indian Geol. Cong. Tamil. Univ. at Thanjavur in 1993 • 29th International Geological Congress, Kyoto, Japan, in 1993 • 10th Himalayan Geology Seminar at W.I.H.G., Dehradun, in 1990 • National Seminar on Tectonics & Metallogeny of Ophiolites at Univ. Manipur, Impha in 1990 • Participated in 6th International dyke conference held at BHU, Varanasi in 2010. 			
C. Courses attended –7 <ul style="list-style-type: none"> • Workshop on “Student Evaluation” organized by STRIDE at IGNOU from 14th – 16th October 2014 • Attended “Distance Education: Theory and Practice “organized by STRIDE at IGNOU from 25th – 29th October 2010. • Attended “Development of Online Courses “organized by STRIDE at IGNOU from 16th -18th August 2011. • 2nd Refresher Course UGC-Academic Staff College, BHU in 2010 of 21 days. • 41st Orientation course UGC-Academic Staff College, BHU from 28th Dec. 2005 to 24th Jan. 2006 • DST Winter School in Sedimentary facies & Basin Analysis, Jadavpur University, Kolkata in 2002. • Analytical techniques in Petrology at Wadia Institute of Himalayan Geology, Dehradun, 1991. • UNESCO Structural Geology at Wadia Institute of Himalayan Geology, Dehradun, 1989. 			
INTERNATIONAL COLLABORATORS: <ol style="list-style-type: none"> 1. Prof. Abhijit Basu Indiana university, Bloomington 2. Prof. Marion Bickford, Syracuse University, Syracuse 			
RESEARCH PROJECTS- 5			
Sponsoring Agency	Period	Grant (in Lakhs)	Title of project
DST-Vigyan Jyoti Project	2018-2019	16	Breaking Stereotypes in the field of Science and Technology for Girl Students through Motivational Guidance
Council of Industrial and Scientific Research, New Delhi	2013-2016	28.58	Geochemistry, petrogenesis and Isotopic studies of mafic dykes from Sonbhadra district, Son valley: Implication to Evolution of Sub-continental Lithosphere in Central India None

Department of Atomic Energy, Board of Research in Nuclear Sciences	2011-2014	19.57	Geological, petrological, sedimentological and geochemical characterization of Deonar Porcellanite (Semri Group) of Vindhyan Basin in parts of Satna, Sidhi and Singrauli districts, Madhya Pradesh, to assess their potential for hosting uranium mineralization (Co-PI)
University Grants Commission, New Delhi	2006-2009	6.30	Geochemistry of Proterozoic siliciclastic rocks from Vindhyan Supergroup, Son Valley: Implications for Provenance and source area weathering
DST-Fast Track Project	2001-2004	6.60	Geochemistry and petrogenesis of Bimodal volcanics in the schist belt of Dharwar craton

HONOURS/AWARDS/DISTINCTIONS

- Best paper award given by Wadia Institute of Himalayan Geology, Dehradun in 1994.
- Received fellowships from DST and CSIR for carrying out Ph.D and Post doctoral research.
- Paper selected for Young Scientist Award of 96th Indian Science Congress held at Shillong on 16th October 2008.

MEMBERSHIP OF PROFESSIONAL BODIES

- Life member of Indian Geological Congress, Roorkee.
- Life membership of Society of Earth Scientists, Lucknow.
- Member of Indian Association of Geochemists, Varanasi.
- Life membership of Geological Society of India, Bangalore. (Delhi chapter)
- Member of Editorial Board of Indian Journal of Geochemistry.

OTHER ACADEMIC AND OUTREACH ACTIVITIES

- SECRETARY-GEOLOGICAL SOCIETY OF INDIA - DELHI CHAPTER
- Member of Expert Committee for Technical Evaluation of proposals received under WOS-A scheme of DST, New Delhi in the area of Earth and Atmospheric Sciences.
- Expert, UPSC, New Delhi.
- Member of Management Committee of World Education Mission.
- Expert, ONGC Energy Centre, New Delhi
- Expert, Rajasthan Public Service Commission, Ajmer
- Member of Expert Committee for Technical Evaluation of proposals in Geology received at Consortium of Educational Communication (CEC), New Delhi.
- Member of Expert Committee in Geology for compilation of comprehensive scientific terminology in Hindi by Commission of Scientific and Technical

Terminology (MHRD), New Delhi.

- Acting as external examiner at Delhi University, Sagar University, Meerut University, Nagpur University, Jammu University and Kumaon University.
- Convened and organized International Earth Science Olympiad in Delhi/NCR region, sponsored by MoES and Geological Society of India in 2013, 2014, 2015.
- Mentor in Inspire Science Camps organized by DST.
- Mentor in Vigyan Jyoti Science Camps organized by DST.
- Expert, Human Resource Development Centre, GJUST, Hissar, Rani Durgawati University, Jabalpur and University of Delhi.
- Member of Board of Management, Arunachal University of Studies, Arunachal Pradesh.
- Conducting summer training in Geology for undergraduate students of Amity University.
- Above six years of experience as Warden in Gargi and Godavari Girl's Hostels, Triveni Complex, Banaras Hindu University: As a warden of girl's hostel, actively involved in the welfare of students in day to day activity and organizing sport activities and cultural and extracurricular activities for students.
- Designed the curriculum and prepared the proposal for introduction of Geology at UG level at Women's College, BHU.
- Received Vice-Chancellor's Trophy for Five times in Inter-hostel maintenance competition amongst other 65 hostels in BHU campus.
- Member of Convocation committee and Admission and Counselling committee of Faculty of Science, Banaras Hindu University.
- Developed and modified syllabus of Geochemistry and Soil Geology paper at Post graduation level at Banaras Hindu University approved by Broad of Studies.

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