

## Curriculum vitae



**Dr. Bhupendra Nath Dutta Smriti Mahavidyalaya**  
Hatgobindapur: Purba bardhaman: WB: India



**Dr. Raj Narayan Roy**  
Assistant Professor of Botany

### Contact Detail

Dept. of Botany, Dr. Bhupendra Nath Dutta Smriti Mahavidyalaya, Purba bardhaman West Bengal, PIN-713407, India

**Email:** [rajnarayanroy@gmail.com](mailto:rajnarayanroy@gmail.com), Mob no: 9434157801

**Vidyan Profile URL:** <https://vidwan.inflibnet.ac.in/profile/591069>

**Google Scholar Link:** [Dr. Raj Narayan Roy - Google Scholar](#)

**ORCID ID:** <https://orcid.org/0000-0003-2334-3543>

**Research interest:** Bioactive compound, Fermentation, Streptomyces, Microbial Enzymes

### Academic Qualification

**Ph.D. (2005)** in Botany, VISVA-BHARATI UNIVERSITY: Title of the thesis: Production of bioactive compound by *Streptomyces albidoflavus* 321.2

**Qualified NET (UGC-CSIR):** June 2003

**B. Ed (Sc) 1996:** Institution of Science Education (Academic campus, The University of Burdwan)

**M. Sc (1995)** in Botany (The University of Burdwan) Spl: Microbiology

**B. Sc (H) (1992)** in Botany (Burdwan Raj College, The University of Burdwan)

### Teaching experience

27.09.1997-03.09.2008 (as Assistant Teacher at Rampurhat High School)

04.09.2008 - till date (as an Asstt. Prof. at Dr. B N Dutta Smriti Mahavidyalaya, Hatgobindapur, Purba-Bardhaman)

### Major research project completed

Title	Funding Agency	Sanction No.	Grant(s) mobilized (Rs. Lakh)	Principal Investigator/ Co-investigator
Study of extracellular enzyme producing gut bacteria of <i>Grylotalpa africana</i> P.de Beau	UGC	Research Project [39-391/2010 (SR) dt. 27.12.2010/ 31.03.2011	10.22	Principal Investigator

**Total impact factor \*: >40,**

**Total citation: 961**

**\*Thomson-Reuters**

### Best four publications

- Banerjee S., T K Maity and **R N Roy** (2022). Enzyme producing insect gut microbes: an unexplored biotechnological aspect. *Critical Reviews in Biotechnology*. 42(3):384-402, Taylor and Francis, **Impact factor\* - 9.062, Cited by - 60**
- **Roy RN** (2020). Bioactive natural derivatives of phthalate ester. *Critical Reviews in Biotechnology*. 40:913-929 Taylor and Francis **Impact factor\*- 9.062, Cited by- 52**
- **Roy RN**, S Laskar and SK Sen (2006). Dibutyl phthalate, the bioactive compound produced by *Streptomyces albidoflavus* 321.2. *Microbiological Research*, Germany, **ELSEVIER**, **161**: 121-126. ISSN: 0944-5013, **Impact factor\* -6.7, Cited by- 204**
- Saha S, **RN Roy**, SK Sen and AK Roy (2006). Characterization of cellulase producing bacteria from digestive tract of tilapia, *Oreochromis mossambica* (Peters) and grass carp, *Ctenopharyngodon idella* (Vallenciennes). *Aquaculture Research*. The Netherlands, **BLACKWELL SYNERGY**, **37**: 380-388. ISSN: 1365-2109 **Impact factor\* - 2.184 , Cited by- 338**  
**\*Thomson-Reuters**

	All	Since 2020
<u>Citations</u>	961	457
<u>h-index</u>	10	9
<u>i10-index</u>	10	9

(as on 04-01-2025) ([Raj Narayan Roy - Google Scholar](#))

### Administrative Experience

- ✓ Member of Governing Body (University Nominee) of Burdwan Raj College. 2022 - till date
- ✓ Member of Board of UG Studies, Biochemistry, The University of Burdwan 2016-2018
- ✓ Member of Board of UG Studies, Microbiology, The University of Burdwan 2016-2019
- ✓ Member of Board of UG Studies in Botany, The University of Burdwan 2016-2018
- ✓ Member of Finance committee of Dr. B N Dutta Smriti Mahavidyalaya 2014-2018
- ✓ Member of Governing Body (TR) of Dr. B N Dutta Smriti Mahavidyalaya 2014-2018
- ✓ Member of Governing Body (University Nominee) of Durgapur Women's College 2013 -2016
  - Member of Finance Committee 2013-2016
  - Member of IQAC (external) 2014-2016
  - Member of Screening Committee for NTS 2014-2016 as EC, BU Nominee
- ✓ Member of the undergraduate Board (B Ed etc) Burdwan University 2013-2014.

### Reviewer of the scientific journals (Selective)

- ✓ ISME Journal, ISSN:1751-7362 (UK) Nature Publishing Group, Impact factor, 11.217
- ✓ Pest Management Science, ISSN:1526-4998 (UK) Willey online Library, Impact factor, 4.462
- ✓ Environmental Toxicology and Pharmacology ISSN: 1382-6689, Elsevier Impact factor, 4.3
- ✓ Journal of Applied Microbiology, ISSN: 1365-2672 (UK) Willey Blackwell, Impact factor 3.722
- ✓ Insects eISSN- 2075-4450 MDPI Impact factor 2.7
- ✓ Animals ISSN: 2076-2615 MDPI Impact factor 2.7
- ✓ Toxicology Research, ISSN: 2045452X, 20454538 ((UK)) Oxford University Press, Impact factor 2.680
- ✓ Archives of Microbiology ISSN: 1365-2672, 1432-072X (Germany) Springer Nature Impact factor 2.667
- ✓ Biocatalysis and Biotransformation ISSN: 1024-2422, (UK) Taylor & Francis. Impact factor 2.181
- ✓ Annals of Microbiology, ISSN: 1869-2044, Springer (Italy) Impact factor 2.112

- ✓ Physiological Entomology, ISSN:1365-3032 Willey, (UK) Impact factor 1.833
- ✓ Folia Microbiologica ISSN : 0015-5632, Springer (Czech Republic ) Impact factor 1.31
- ✓ Journal of Applied Entomology and Zoology ISSN: 1347-605X (Japan) Springer Impact factor 1.3
- ✓ International Journal of Tropical Insect Science ISSN: 1742-7584 (UK) Springer Impact factor 1.071
- ✓ Trends in Immunotherapy EnPress Publisher (USA) ISSN: 2573-5985 Scopus Indexing Impact factor 1.0
- ✓ Jordan Journal of Biological Sciences, ISSN 1995-6673 (Jordan) Impact Factor 0.861
- ✓ Biotechnologia ISSN 0860-7796 BTA-00451-2020-1 ISSN (Poland) ISSN: 0860-7796 SCOPUS indexing
- ✓ Journal of Microbiology, Biotechnology and Food Sciences (Slovakia) ISSN: 1338-5178 SCOPUS indexing
- ✓ Uttar Pradesh Journal of Zoology ISSN 0256-971X (UGC care listed)

\*Impact factor: Thompson and Reuters

**Academic attachment other than The University of Burdwan**

- ✓ Visva-Bharati University, Santiniketan, WB
- ✓ Midnapur College (Autonomous), Midnapur, WB

**Member of the Executive Committee**, Zoological Association of Burdwan (Registered Under the West Bengal Society Regulation Act, Registration No. S/65988 of 1990-1991) Since September, 2012 to till date

**A. PUBLICATIONS**

**a. Published paper at Journal**

Sl. No	Title with page number	Journal Name	indexing/ Impact factor (IF*)	Published From
1	Banerjee S., T K Maity and <b>R N Roy</b> (2022). Enzyme producing insect gut microbes: an unexplored biotechnological aspect.	Critical Reviews in Biotechnology.	Scopus indexing IF - 9.062. Taylor & Francis	United Kingdom
2	<b>Roy R N</b> (2020). Essentiality, Toxicity and the Mechanism of Toxicity of Nickel in Plant. 40 (1):121-128.	Pollution Research	Scopus indexing	India
3	<b>Roy R N</b> (2020). Essentiality, Toxicity and the Mechanism of Toxicity of Nickel in animal. 40(1): 227-236.	Pollution Research	Scopus indexing	India
4	<b>Roy R N</b> (2020). Bioactive natural derivatives of phthalate ester. 40:913-929	Critical Reviews in Biotechnology.	Scopus indexing Taylor & Francis IF - 9.062	United Kingdom
5	<b>Roy R N</b> (2020). Natural herd immunity vis-à-vis Indian Society in COVID-19 pandemic situation. 11 (Suppl 3): 52-55	Journal of Advanced Scientific Research	UGC-care enlisted	India
6	Banerjee S., T K Maity and <b>R N Roy</b> (2020). Production, purification, characterization of cellulase from <i>Acinetobacter junii</i> GAC 16.2, a novel cellulolytic gut isolate of <i>Gryllotalpa africana</i> and its effects on cotton fiber and saw dust. 70:28	Annals of Microbiology Springer	Scopus indexing IF-3.0 Springer nature	Italy
7	Dey MC, <b>R N Roy</b> and A Sinhababu (2017). Fatty Acid Composition and Antibacterial Activity of the Leaf Oil of <i>Kleinhovia hospita</i> Linn., 10 (3) 378-384.	International Journal of Chem Tech Research	UGC enlisted	India
8	Banerjee S., T K Maity and <b>R N Roy</b> (2016). Identification and product optimization of amylolytic <i>Rhodococcus opacus</i> GAA 31.1 isolated from gut of <i>Gryllotalpa africana</i> " 10: 490-496	Journal of Genetic Engineering and Biotechnology	Scopus Indexing Elsevier IF-3.6	Egypt

9	Banerjee S. T K Maity and <b>R N Roy</b> (2017). Protease production by thermo-alkaliphilic novel gut isolate <i>Kitasatospora cheerisanensis</i> GAP 12.4 from <i>Gryllotalpa Africana</i> 35 (3): 168-176	Biocatalysis and Biotransformation	Scopus indexing Taylor & Francis IF-2.52	United Kingdom
10	Ukil S, S. Laskar <b>R N Roy</b> (2015) Physicochemical characterization and antibacterial activity of the leaf oil of <i>Crotalaria pallida</i> Aiton 10: 490-496	Journal of Taibah University for Science	Scopus Indexing Taylor & Francis IF-2.8	Saudi Arabia
11	<b>Roy RN</b> (2016). Commentary: "Physicochemical Characterization and Antibacterial Activity of the Leaf oil of <i>Crotalaria pallida</i> Aiton". 1:110	<i>Journal of Meningitis</i>	OMICS International	USA
12	<b>Roy RN</b> and SK Sen (2013) Fermentation Studies for the Production of Dibutyl Phthalate, an Ester Bioactive Compound from <i>Streptomyces albidoflavus</i> MTCC 3662 Using Low-Priced Substrates. 6 (3): 177-181	Jordan Journal of Biological Sciences	Scopus indexing 0.861	Jordan
13	<b>Roy RN</b> and SK Sen (2011). Growth and production kinetics of the antimicrobial compound from <i>Streptomyces albidoflavus</i> 321.2 (2011) 6: 2042-2046.	Scientific Research and Essays	Peer reviewed Indexed	USA
14	Kar N, <b>RN Roy</b> , SK Sen and K Ghosh (2008). Isolation and characterization of extracellular enzyme producing bacilli in the digestive tracts of rahu, <i>Labeo rohita</i> (Hamilton) and Murrel, <i>Channa punctatus</i> (Bloch)., 21: 421-434.	Asian Fisheries Science, Philippines,	Scopus Indexing IF-1.07	Philippines
15	Hazra K M, <b>RN Roy</b> , SK Sen and S Laskar (2007). Antibacterial pentahydroxy flavones from the seeds of <i>Mimusops elengi</i> Linn. 6: 1446-1449.	African Journal of Biotechnology	UGC approved	Nairobi KENYA
16	<b>Roy RN</b> , S Laskar and SK Sen (2006). Dibutylphthalate, the bioactive compound produced by <i>Streptomyces albidoflavus</i> 321.2., 161: 121-126	<i>Microbiological Research</i>	Scopus Indexing IF-6.7 Elsevier	Germany
17	Saha S, <b>RN Roy</b> , SK Sen and AK Roy (2006). Characterization of cellulase producing bacteria from digestive tract of tilapia, <i>Oreochromis mossambica</i> (Peters) and grass carp, <i>Ctenopharyngton idelle</i> (Vallenciennes)., 37: 380-388.	<i>Aquaculture Research</i>	Wiley IF-2.082	The Netherlands
18	<b>Roy RN</b> and S K Sen (2002). Survey of antimicrobial streptomycetes from soils of West Bengal: Characterization and identification of potent broad spectrum antibiotic producing <i>Streptomyces albidoflavus</i> 321.2, 44: 25-33.	<i>Hindustan Antibiotics Bulletin</i>	Peer reviewed Indexed	Pimpri, Poona, India
19	Sahani S, <b>RN Roy</b> and SK Sen (2004). Fermentation conditions for growth and $\alpha$ -amylase production by thermophilic <i>Bacillus</i> sp. S-2. Proceeding of the National Seminar on Role of Microbes on Agriculture, Industry and Mines. Utkal University, pp 10-19.	Proc of the Nat Semi on Role of Microbes on Agriculture, Industry and Mines. Utkal University	----	India

\*IF- Thomson and Reuters

#### b. General Article

**R N Roy (2020)** COVID 19: Some influences factors for its pandemic nature. SCM commerce digest Economy and society post pandemic. Published by Sree Chaitanya College Habra, Vol 1, page 43-49.

#### c. Book

**Virus and Coronavirus:** Raj Narayan Roy and Sukanta Kumar Sen

First Edition: 2025; ISBN: 978-93-91741-85-3

Publisher: Levant Books 27C Creek Row, Kolkata 700 014, India

Distributor: Sarat Book Distributors 18B, Shyama Charan Dey Street Kolkata 700 073

**d. Edited Book Chapter**

**i. By national publisher**

Sl. No	Title with page number	Title of the Book	Name of the Publisher With ISBN No
1	<b>Roy RN</b> (2017). Environmental monitoring and assessment with reference to Microbes	Pollution: disbalancing the Global Environment: Threat and Prevention	Parampara prakashan 20A, Beniatola Lane, Kol-6
2.	<b>Roy RN</b> and SK. Sen (2008). Thermal and pH stability of dibutyl phthalate, an antimetabolite of proline from <i>Streptomyces albidoflavus</i> 321.2. pp. 53-56.	Environmental Science: Appreciation and Perception	Daya Publishing House. Delhi ISBN: 9788170354895
3.	<b>Roy RN</b> and SK Sen (2007). Cultural characterization and optimization of the fermentation conditions for thermophilic amylase producer <i>Bacillus</i> S-8. pp 107-120.	Rhizosphere Biotechnology/ Microbes in relation to Plant Health	SCIENTIFIC PUBLISHERS (INDIA)DELHI ISBN: 81-7233-4710
4.	<b>Roy RN</b> and SK Sen (2006). Microbial production of thermostable $\alpha$ -amylase. pp- 211-235.	Applied Microbiology	AGROBIOS Jodhpur India ISBN-81-7754-284-2

**ii. By international publisher**

Sl. No	Title with page number	Title of the Book	Name of the Publisher With ISBN No
1	<b>Roy RN</b> and B Saha (2019) Plants response to heavy metal stress	Stress Physiology of Woody Plants	Edited by: Wenhao Dai North Dakota State University, USA ISBN: 149874608X/ 9781498746083 Publisher: CRC Press <b>Taylor &amp; Francis Group</b>
2	<b>Roy RN</b> (2024) The role of insect and insect enzyme in remediation environment (in Press)	Remediation of pollution and climate changes to avoid environmental risks	Editor: Prof. Arafat Moawad Botany and Microbiology Department South Valley University Egypt Publisher: <b>Springer Nature</b>
3	<b>Roy RN</b> and SK Sen (2025) Pesticide bioremediation by Actinobacteria: Current status and future perspectives (Revised)	Plant-Microbe interaction under Xenobiotic exposure-Future perspective	Editor: 1. Dr. Swarnendu Roy Department of Botany University of North Bengal Siliguri, West Bengal, India 2. Dr. Vivekananda Mondal Department of Botany University of Gour Banga Malda, West Bengal, India Publisher: <b>Springer Nature, Singapore</b>

**B. Paper presented at Seminar**

Sl.	Title of the Paper presented	Title of Conference/ Seminar/Symposia	Organized by	International National/ State/ University
1	Depletion of environment and ecosystem by chemical fertilizer	Environment & Literature: Depicting struggle for the co-existence of civilization and sustainability.	Department of Sanskrit and English Galsi Mahavidyala in collaboration with: International Association for Study of Australia Dec 06, 2019	International
2	Antimicrobials from Pteridophytes: A close look	Next-Generation Pteridology: Indian Perspective	Dr. B N Dutta Smriti Mahavidyalaya & Fern society of India, Chandigarh March 08-10, 2019	International

3	Study on protease production by thermo-alkaliphilic <i>Kitasatospora cheerisanensis</i>	National seminar on Plant and Microbe: Diversity and utilization	Dept. of Botany, VISVA - BHARATI, Santiniketan March 19-20, 2016	National
4	Studies on potent cellulolytic <i>Acinetobacter junii</i> GAC 16.2 isolated from the gut of <i>Grylotalpa africana</i> P. de Beau	Prospect of Biotechnology and Bioinformatics tools and their Application	University Centre of Biotechnology T M Bhagalpur University, Bhagalpur 19 <sup>th</sup> -21 <sup>st</sup> Jan 2015	National
5	Amylase producing actinobacteria <i>Rhodococcus opacus</i> from gut of potato pest <i>Grylotalpa africana</i> , P. de Beau.	21 <sup>st</sup> WB State Science and Technology Congress-2014	The University of Burdwan, WB State Science and Technology Council, February 20-21, 2014	State level
6	Thermotolerant alkalophilic protease producing actinobacteria <i>Kitasatospora cheerisanensis</i> from gut of <i>Grylotalpa africana</i>	Bioprospecting of Natural Products	Dept of Zoology, The University of Burdwan, UGC-DRS December 05-06, 2013	National
7	Enzyme producing gut bacteria from <i>Grylloptalpa africana</i> P.de. Beau: An initial study	Utilization of Plant & Microbial Resources	Dept. of Botany, VISVA - BHARATI, Santiniketan March 17-18, 2012	National
8	Microbial contamination of drinking water- A close look	Pollution: Disbalancing the global environment: Threat and Prevention	Bolpur College, NIT (Durgapur) & Dept of Biotechnology and Environmental Science, University of Burdwan. March 5-6, 2011	National
9	Ester antimetabolite from the culture filtrates of <i>Streptomyces albidoflavus</i> 321.2	Recent trends in contemporary plant and microbial sciences	Dept. of Botany. The University of Burdwan, March 19-20, 2010.	National
10	Dibutyl phthalate, the bioactive compound produced by <i>Streptomyces albidoflavus</i> 321.2	Biodiversity & Natural Resource Utilization	Dept of Botany, VISVA - BHARATI, Santiniketan, March 14-17, 2010.	National
11	Ester antimetabolite from <i>Streptomyces albidoflavus</i> 321.2	Plant and Microbial diversity: Prospects and Potentials	Dept. of Botany VISVA - BHARATI	National
12	Production of ester antimetabolite by <i>Streptomyces albidoflavus</i>	Current Researches in Plant and Microbial Sciences	Dept. of Botany The University of Burdwan	National
13	Isolation, characterization of thermophilic amylase producer, <i>Bacillus</i> S-2 and optimization of the fermentation condition for growth and production	Rhizosphere Biotechnology/ Microbes in relation to Plant Health: Retrospects & Prospects	University Dept. of Botany & Biotechnology, T.M. Bhagalpur University, Bhagalpur	National
14	Study on the fermentation conditions for growth and $\alpha$ -amylase production by thermophilic <i>Bacillus</i> sp. S-2.	Role of Microbiology on Agriculture, Industry and Mines	Dept of Botany Utkal University Bhubaneswar	National
15	Antimetabolite of Proline from <i>Streptomyces albiboflavus</i>	Current Trends in Research on Microorganisms.	The Indian Mycological Society & Dept. of Botany, University of Calcutta.	National
16	Antimetabolites from <i>Streptomyces albidoflavus</i> 321.2	Microbial Biotechnology: Concepts and Applications	Dept of Botany, University of Calcutta, Kolkata.	National
17	Antibiotic production by <i>Streptomyces albiboflavus</i> : Cultural conditions and purification of active compound	Microsymp: Diversity of Microbial Resources and Their Potential Applications	Dept. of Botany, University of North Bengal, Siliguri	National
18	Isolation and purification of the antimetabolite produced by <i>Streptomyces albiboflavus</i> 321.2	Microbial Biotechnology- Millennium's new vision	AMI, Dept. of Microbiology, Gulbarga University, Gulbarga, Karnataka	National
19	Screening and optimization of antibiotic production by <i>Streptomyces</i>	Microbiotech 2000	Association of Microbiologists of India, Birla Institute of Scientific Research, Jaipur.	National

**C. Webinar attained**

Sl No	Title of Conference/ Seminar/ Symposia with date	Organized by
1	Celebration of Biodiversity: Solutions are in Nature 5 <sup>th</sup> June, 2020	Sidho-Kanho-Birsha University
2	A one day International webinar COVID-19: Facts and the findings, 8 <sup>th</sup> June, 2020	Department of Chemistry Sidho-Kanho-Birsha University
3	Two-day National Webinar on Mathematical Perspective of COVID-19 Outbreak: Predictions, Precautions & Preventive Measures (MPCOPPPM-2020) June 11-12, 2020	Department of Mathematics in association with IQAC, Sidho-Kanho-Birsha University
4	Precaution and awareness in unlock-1 period: Steps and Strategies, June 16, 2020	Knowledge resource center (library) and Department of Food and Nutrition, Sree Chaitanya Mahavidyalays, Habra, North 24Pgs
5	E-Content Creation and Delivery', 18.06.20	IQAC, Dr. B N D S Mahavidyalaya, Hatgobindapur, Purba Bardhaman, West Bengal,
6	One day state level Webinar on Challenges and strategies to run library service on educational institutions during COVID-19, 18 <sup>th</sup> June, 2020	IQAC and knowledge resource (Library) center, Sree Chaitanya Mahavidyalaya, Habra, North 24 Pgs
7	'Rebuilding management education in the post COVID-19 World 23.06.20	IQAC, Guwahati College, Assam
8	Two day international webinar on Advanced functional material for biomedical and energy 24-25.06.20	Loyala College (Autonomous) Chennai India
9	Webinar entitled "Mahajibaner Pathe" June 27, 2020	IQAC, Dr. Bhupendra Nath Dutta Smriti Mahavidyalaya, Hatgobindapur, West Bengal
10	Contemporary issues and challenges (CICC-2020) 28 <sup>th</sup> June	Department of Botany in collaboration of IQAC Ramananda college, Bankura
11	International webinar on COVID-19: diseases prevention & control on 2 <sup>nd</sup> July 2020	IQAC, Government general degree college, Singur, Hooghly
12	Nurturing nature for new sustainable new normal beyond pandemic. 04.7.20 (10 AM to 1PM)	Department of Botany, MUC Womens' college, Burdwan
13	Role of medicinal plant during COVID-19 pandemic 20 <sup>th</sup> July	University department of Botany, Kolan University, Chaibasa, Jharkhand
14	"International Webinar on Transversal Trends" 22.07.2020 to 24.07.2020	Department of Science and Humanities, Nehru Institute of Engineering and Technology T. M. Palayam, Coimbatore
15	Online Faculty Development Programme on Gender equity in Classroom. 28 <sup>th</sup> July, 2020	Department of Science and Humanities, Nehru Institute of Engineering and Technology T. M. Palayam, Coimbatore
16	COVID-19 Treatment and Understanding of Human immune Response-A complex circuit for vaccine research. 1 <sup>st</sup> August	Department of Botany in collaboration with IQAC, Vivekananda Mahavidyalaya, Hooghly, West Bengal
17	International Webinar on "Recent advances in Biological Sciences"	Oriental Institute of Science and Technology, Burdwan, Purba bardhaman, WB
18	Three days International Webinar on "E-learning Door to future" 18 to 20 <sup>th</sup> August 2020	IQAC, Katwa College. Katwa, WB
19	National Webinar on National Education Policy 2020, 26 <sup>th</sup> August, 2020	Department of Education, Mizoram University, Aizal
20	National level Webinar on "New Methodologies of Assessment and Accreditation by NAAC for the affiliated college". 27 <sup>th</sup> August, 2020	IQAC of Sree Chaitanya Mahavidyalaya, Habra, North 24 Pgs in collaboration with IQAC, Barrackpore Rastraguru Surendranath College, Barrackpore
21	Webinar on "Mechanism on cancer induced cachexia". 28 <sup>th</sup> August, 2020	Mizoram University, Aizal
22	International virtual conference on vermicomposting and organic farming, 29 <sup>th</sup> and 30 <sup>th</sup> August, 2020	Department of Botany \$ Zoology N C (A) college, Jajpur in collaboration with Department of Env Sc, Trichandra

		college, Tribhuban university, Kathmandu, Nepal,
23	Webinar “Technological Advancements for application in forest exploration.	Department of Botany Mizoram University, Aizal
24	International Webinar on “Recent advancement in Biological Research” . 2 <sup>nd</sup> September 2020	Midnapur City College, Midnapur, West Bengal
25	National Webinar on “Plants: Immunity boosters for COVID-19’ 7 <sup>th</sup> September 2020	Department of Botany, Salipur autonomous college, Salipur, Cuttack, Orissa
26	One day national webinar on “National education policy 2020-impact on higher education”. 22 September,2020	IQAC, Katwa College in collaboration with Centre for educational and social studies (CESS), Bangaluru
27	One day International webinar on Coxiella burnetti and lysosome: a love-hate relation ship	Department of Zoology in associated with IQAC, Panchokot Mahavidyalaya
28	International Webinar on “Text Mining to Explore PubMed Database” on 26.09.2020	Department of Science and Humanities, NEHRU INSTITUTE OF ENGINEERING AND TECHNOLOGY , T. M. Palayam, Coimbatore-641 105

#### D. Professional development

Name of the Course	Place	Duration
84 <sup>th</sup> Orientation Programme	UGC-ASC-The University of Burdwan	18.02.2012 to 16.03.2012 (28 days)
Refresher Course	UGC-ASC, Sambalpur University	23.02.2013 to 15.03.2013 (21 days)
Winter School in Biological Science	HRDC-The University of Burdwan	11.01.2017-31.01.2017 (21 days)
Seven days Faculty Development Programme (online) on Earth and Environment response During Covid-19	UGC-Human Resource Development Centre, Sabitribai Phule Pune University	11.07.2020 -17.7.2020 (7 days)