

MEMORANDUM OF UNDERSTANDING

(MOU)

Between



Pandit Lalit Mohan Sharma Government Post Graduate College, Rishikesh

(Shri Dev Suman Uttarakhand Vishwavidhyalaya Campus)

And



Modern Institute of Technology, Dhalwala, Rishikesh

NAAC accredited B⁺⁺

Affiliated to H.N.B. Garhwal University (A central University), Srinagar (Garhwal), Sridev Suman University, Tehri, Uttarakhand Technical University and approved by NCTE and PCI, Uttarakhand Polytechnic Board, Dehradun

MEMORANDUM OF UNDERSTANDING (MOU) sets for the terms and understanding between **Pandit Lalit Mohan Sharma Government Post Graduate College, Rishikesh (Shri Dev Suman Uttarakhand Vishwavidhyalaya Campus)** (Department of Medical Lab Technology & Botany) & **Modern Institute of Technology, Rishikesh** (Department of Biotechnology & Microbiology, Pharmacy, & IT)

Background:

(Pandit Lalit Mohan Sharma Government Post-Graduate College, Rishikesh (Shri Dev Suman Uttarakhand Vishwavidhyalaya campus))

Pandit Lalit Mohan Sharma Government Post-Graduate College, Rishikesh had the distinction of being the only autonomous college of Govt. of Uttarakhand and an institution of academic excellence. It was upgraded by the Government to Sri Dev Suman Uttarakhand University, Campus on 6th August 2019 (A State university with its head office at Badshahithaul, Tehri) .

The College was started by the State Government of undivided Uttar Pradesh in July 1973 and the campus is spread over 49 acres. At present, the college has twenty departments in Arts, Commerce, and Science faculties with undergraduate, postgraduate, and Ph. D programs. The college was recognized as “College with Potential for Excellence” by UGC, New Delhi in 2006. Autonomous Status was granted to the college in 2010. The college was accredited with grade ‘A’ in 2004 and re-accredited again in 2014 by NAAC. Currently, college has more than 3000 students and 80 faculty members. It is one of the institutions catering to the academic need of western parts of Uttarakhand.

The College is surrounded by picturesque foothills of the Great Himalayas. Rishikesh, the city in which the College is situated is the place of Sages and is the famous spiritual town on the right bank of the holy river Ganga. The legend of Uttarakhand begins from Rishikesh. The city is Gateway to Char-Dham Yatra, Sikh Shrine Hemkund sahib, and the Valley of Flowers. The Sacred River Ganga flows in a meandering fashion and touches famous Ashrams along its bank pulsating the city life with spiritual learning, meditation, and Yoga.

The two organizations Pandit Lalit Mohan Sharma Government Post Graduate College, Rishikesh (Shri Dev Suman Uttarakhand Vishwavidhyalaya Campus) (Department of Medical Lab Technology & Botany) & Modern Institute of Technology, Rishikesh (Department of Biotechnology & Microbiology, Pharmacy, & IT) intent to collaborate to bolster academic and entrepreneurial of institution as well as for the community awareness on their health and hygiene issues and promotion of Science & technology in the society.

About Department of Medical Lab Technology:

Department of Medical Laboratory Technology was started in the year 2005. The department has progressed remarkably under the patronage of dynamic Principals, coordinators and staff members. At present, the department is well equipped with modern and automated equipment's such as Biochemical Semi-Automatic Analyzer, Spectrophotometer, Digital Colorimeters, Electrophoresis Unit, Binocular & Projection Microscope, Microtome and Automatic Tissue Processor, Laminar Air Flow, Tissue Floating Water Bath, Tissue Culture Rack, Magnetic Shaker, etc. The department takes pride of its dedicated and committed teaching staff. The teachers emphasize on competency-based education so that students turn out of that best professionals & develop the expected proficiency.

Students are encouraged for practical-oriented skills to perform routine and specialized diagnostic test with precision and accuracy for quality in the service of mankind. Teachers of Biochemistry, Microbiology, Pathology and Physiology are well experienced and qualified. Guest lectures on relevant topics are also arranged and retired and serving doctors are also invited from time to time.

BMLT Department students Riya Agarwal and Kanchan Gusain passed the course in session 2016-17 and have been awarded Gold and Silver medals, respectively by the then Hon. Governor of Uttarakhand, Dr. K.K. Paul in the First convocation and Monika Prajapati for passing the course in session 2017-18 was awarded Gold medal by Hon. Governor of Uttarakhand, Mrs. Baby Rani Maurya in the second convocation of H.N.B. Uttarakhand Medical Education University, Dehradun.

The department organizes various seminars and workshops on topics such as “Cancer”, “Heart Diseases and Their Control”, “Identification of Disease-Causing Microorganisms & Their Prevention”, “Biomedical Basis of Mental Health and Disorders”, “Quality Control in Laboratories” and many more. Students of the department actively participate in “Swachh Bharat Abhiyan” wherein they covered different areas like – Botanical garden of the College Campus, Bairaj Colonies, Triveni Ghat, Sarvahara Nagar, to name a few. BMLT department has successfully held many health Check-up and Blood grouping camps in different locations of Rishikesh villages along with the Community and Family Medicine (CFM) department of AIIMS, Rishikesh.

Students are also provided an opportunity to visit various institutions such as Jawaharlal Nehru University & National Institute of Plant Genome Research (NIPGR), New Delhi, Central Molecular Research Laboratory (CMRL), Dehradun, All India Institute of Medical Sciences, Rishikesh to name a few. Recently, on 18th

November 2019, the department invited Padmashri Professor R.N.K. Bamezai, Ex VC of Sri Mata Vaishno Devi University, Katra (J & K), a pioneer in the field of Genetics & Molecular Biology who delivered a plenary lecture on “**Genomics and Complex Diseases**”.

Several MOUs have also been signed with various institutions viz. CMRL, SGRR Medical College, Dehradun, USERC, Dehradun for advance training of students. The biggest achievement of the department was to sign an MOU with AIIMS Rishikesh on 22nd March 2018. It happened because of dynamic leadership of Prof. N.P. Maheshwari and efforts of coordinator MLT, Prof. G.K. Dhingra. It gives us immense pleasure to share that 50% of the students from 1st batch of interns got absorbed in AIIMS in various capacities.

BMLT alumni have been placed in various reputed institutions & hospitals like AIIMS (Rishikesh), Max Hospital (Dehradun), Himalyan Hospital (Jollygrant), IMA Blood Bank (Dehradun), Fortis Hospital (Noida), Asian Hospital (Faridabad), Balaji Action Hospital (New Delhi), to name a few. They are also working in different private laboratories of Dehradun, Rishikesh and Haridwar. Many alumni have pursued research and are currently doing research work for Ph.D.

Department of Botany:

Botany Department of Govt. P.G. College, Rishikesh was established in 1973 with undergraduate classes. Postgraduate classes were started in 1978.

This department has rich faculty of two Professors, two Associate Professors and three Assistant Professors with Prof. (Dr.) Sushma Gupta as Head of Botany Department. The department has vibrant alumni and has produced many Professors, Associate and Assistant Professors working at state, central and foreign

universities and a number of scientists presently associated with different central institutes.

One of our alumni, Dr. Anita Panday (MSc. & Ph.D from Botany Department.) is still working with M.I.T Rishikesh. Earlier too, some alumni of the department worked with M.I.T. A large number of students (approximate 45) have done their PhD and some got JRF and fellowships from UCOST, UGC, CSIR under different Professors of this Department. Presently department has 04 research scholars working under CSIR & UGC JRF scheme.01 candidate also registered in AIIMS, Rishikesh under the co-supervision of Prof. G.K. Dhingra.

A number of national and international conferences and workshops were organized by the department from time to time. We have short infrastructure but rich academic and research facilities. A tissue culture lab with some facilities is available which was established with the support of State Biotechnology Department (Govt. of Uttarakhand). Department has its own updated syllabus and library with good text & reference books. All the faculty members of this department have large number of national and international research papers to their credit as well as fellow & life membership of reputed journals of Botany. We have highly qualified, hard working and dedicated faculty members.

To abreast the students about the current status & resent developments in Botany and enhance their capability and potential such Memorandum of Understanding (MOU) will be creative for them and tangible results are bound to follow.

Indian Institute of Remote Sensing Outreach Programs:

Our college feels proud to be associated with IIRS (ISRO, GOI) outreach programs form April 2018. Around 20 online courses conducted by Indian Institute

of Remote Sensing have been successfully completed by the college. The initiative was taken by Principal Prof. N.P. Maheshwari and the program is being coordinated by Prof G.K. Dhingra with a team of Mr. Devendra Bhatt and Mr. Vivek Rajbhar as technical personals. Around 200 students of the college and faculty got benefitted in various courses viz. The courses run by IIRS are free of cost and can be attended online preferably from 4-5:30 PM during the schedule of particular course. “Remote Sensing & GIS applications in monitoring of watershed development program”, “Global Navigation Satellite System & GI system” and “Advanced Image Analysis” to name a few. Both institutes intend to benefit as partners for the up gradation and acquaintance of students in emerging era of remote sensing.

Indian Institute of Remote Sensing (IIRS) under Indian Space Research Organisation, Department of Space, and Govt. of India is a premier Training and Educational Institute set up for developing trained professionals in the field of Remote Sensing, Geoinformatics and GPS Technology for Natural Resources, Environmental and Disaster Management.

IIRS INITIATIVES IN E-LEARNING FOR GEOINFORMATICS

The initial focus of IIRS was to use EDUSAT/INSAT 4CR satellite for distance learning but extended the scope to use broadband internet so that access to large number of institutions/universities /individuals with little cost the user. IIRS distance learning program initiated in 2007 and successfully conducted 16 programs in the last nine years. The first course was attended from twelve universities and the number of institutions /universities increased manifold. The sixteenth course is in progress with more than 350+ institutions /universities

/departments with more than 5000 number of participants attending the program live and interactive.

IIRS program is unique and interactive and demand is increasing not only universities but among research institutions, user departments and individuals. In this mode of online education the teachers are available for live classroom during 15:30/16:00 hrs to 17:30 hrs on daily basis during the course. The practical exercises are being conducted as live demonstration with open source and COTS packages. The live classes are being conducted using A-VIEW system developed by Amrita University funded by Ministry of Human Resources Development (MHRD), Government of India.

Background:

Modern Institute of Technology, Dhalwala, Rishikesh, Uttarakhand

Modern Institute of Technology, the premiere Institute of higher education, situated in the foothills of Himalayas in Garhwal region was established in the year 2002 with the vision to create technologically superior and ethically strong global manpower. It runs under the aegis of a renowned - **Modern School Society**, which is in the field of education since **1970**. The peaceful environment of this place provides good atmosphere in which the process of teaching and learning can take place smoothly and effectively. MIT has a beautiful campus stretched on a vast expanse of **5 acres**.

MIT is committed to provide quality and standard education as well as orientation in selective fields of professional studies. It offers vast career prospects and potentials to meet the societal needs at national and international levels. The co-educational institution has started its glorious journey of imparting higher education in undergraduate, post-graduate and doctoral programs. All the courses

are approved/recognized by H.N.B.G.U, Srinagar (Garhwal), Sri Dev Suman University, Uttarakhand, UTU, Dehradun, NCTE, PCI, AICTE and UGC. Department of Information Technology was the first to be established in the year 2002 followed by Department of Biotechnology & Microbiology, Department of Pharmacy, Department of Education, and Department of Management and Commerce and Department of Engineering in the year 2003, 2004, 2005, 2008 and 2011 respectively and the journey is still on in establishing more technical and professional courses in the forthcoming years.

The foundation of MIT was the result of the untiring efforts, great zeal, enthusiasm and tremendous self-sacrifice of toiling masses under the supreme leadership of **Shri H.G. Juyal, Secretary, Modern School Society**. The institute is flourishing to its present glory in the able guidance of our **Director, Shri Ravi Juyal** with the commitment to provide quality education to the people of Uttarakhand and other states. At present, the institute has a well established IQAC which is working effectively and efficiently under the competent supervision of **IQAC Coordinator and H.O.D. Education, Prof. Dr. Jyoti Juyal**.

The Institute has the bench mark of being **NAAC accredited with “B” grade** for the **Department of Education** in the year **2009**. The Institute has been **re-accredited** by NAAC in the year **2016** with **“B++” grade**.

Department of Biotechnology & Microbiology

Department of Biotechnology & Microbiology being established in the year **2003** is running under the guidance of **Prof Koushalya Dangwal, H.O.D**. The Department is currently running 3 undergraduate programs: B.Sc. CBZ with Biotechnology, B.Sc. (CBZ), and B.Sc. (PCM). Apart from this, the department also offers 3 post graduate programs: M.Sc. Biotechnology, M. Sc. Microbiology,

M.Sc. Chemistry besides a Ph. D. Program in Biotechnology and Microbiology. The department has distinction of being excellent in quality education, pioneer faculty, exemplary research and admirable job placement records. The department runs UG/PG programs with excellent teachings (average of last five years: more than 3,300 theory lectures and 2000 lab period) per semester and more than 100 working days per semester). The Department owns a rich library with reference books, textbooks, and journals of international and national repute. The Department has well established multiple laboratories encompassing various sophisticated and digital instruments such as Thermo-cycler (PCR), High Speed Cooling Centrifuge, Micro centrifuge, B.O.D. Incubator Shaker, Deep Freezer with temperature controller & indicator, Spectrophotometer with P.C. software, Vertical and Submarine Gel Electrophoretic Unit, Western blot apparatus, Rotary evaporator, Double distillation unit Binocular Research Microscope with coaxial head stage original Labo head optics, Laminar Air Flow, Autoclave, etc to name a few.

Department of Biotechnology & Microbiology offers expertise and consultancy in techniques such as DNA and RNA isolation and estimation, PCR amplification, blotting and hybridization (DNA, RNA and proteins), cell- free/nuclear extracts preparation, quantitative analysis : total proteins; lipids; carbohydrates; organic carbons, dietary fibers, sterols, phenolics and flavonoids, water quality analysis, milk quality checking, bioactivities analysis: antioxidant activities (based on *in vitro* both enzymatic and non-enzymatic); antimicrobial activities (antibacterial and antifungal), isolation and characterization of natural compounds; essential oil; soil analysis, analysis of effects of stress (heavy metal, salts, temperature, pH) on bacterial species, analysis of plant growth promoting bacteria, development of biofertilizers for farmers.

Department of Pharmacy

Department of Pharmacy established in **the year 2004** is running successfully under the supervision of **Mr. Ajay Tomar, H.O.D.** the department runs Diploma in Pharmacy (D. Pharma) program. The department owns a rich library with reference and text books on Pharmaceutics, Pharmaceutical chemistry, Pharmacognosy, Biochemistry, Hospital & Clinical Pharmacy etc. Journals of national and international repute are also available in the library. The department has various well equipped laboratories including pharmaceutical chemistry, pharmacognosy, pharmacology, pharmaceutics, human anatomy and physiology, hospital & clinical pharmacy and biochemistry lab, aseptic and instrumentation labs. The labs have various sophisticated instruments such as polarimeter, flame photo meter, dissolution & disintegration test apparatus, capsule, tablet production unit, TLC apparatus, soxhlet extractor, Clevenger apparatus, Millipore membrane filtration assembly with vacuum pump, convulsimeter, actophotometer, histamine chamber, cooks pole climbing apparatus, single & double distillation unit, binocular microscope, autoclave, hot air oven etc.

Department of Information Technology

Department of Information Technology established in **the year 2002** is running under the supervision of **Mr. Pradeep Pokharia, H.O.D.** The department has made substantial efforts to equip IT students with skills necessary to meet the challenges of the modern world. Courses such as B.Sc. IT, B.Sc. CS, BCA and M.Sc. IT offered at Department of IT have a strong focus on practical application as well as theoretical basis. The programs offered are highly innovative and creditable by the virtue of their being comprehensive and result oriented. The unique methodology of teaching combines the finest traditions in academics. The department has a core faculty drawn from the very best in profession. Department

owns a fully air-conditioned computer laboratory. The labs are wireless. Students can access the internet through their laptops while sitting outside in the ground through wi-fi system. The systems are configured with a wide range of software not only in compliance of the syllabi but with an intention to create an advance environment by having proficient software. Latest software and hardware is being continuously added to lab to keep the faculty members up-to-date. In addition, department provides internet facility to students & faculty members for enhancement of knowledge.

Objectives of MOU:

This MOU will serve the following objectives:

- ❖ Academic interaction of students of both the institutions, mutual use of lab facilities (for demonstration of experiments and instruments) and to collaborate in various research opportunities in Botany, Biotechnology, Microbiology, Medical Lab Technology, Pharmacy and Information Technology.
- ❖ Faculty exchange/ expertise extension of human resource of partner institutes
- ❖ Awareness Programs on various important issues in the society viz. Drinking water Quality, Health & Hygiene, Tree plantation drive and popularization of science etc.
- ❖ To extend the use of library and digital library/e-learning lab to students of collaborating institutions
- ❖ Sensitization of students about Intellectual Property Rights through IPR cell established by UCOST in SDSV Campus, Rishikesh
- ❖ Participation/ involvement of students in seminars/workshops/conference on mutual basis
- ❖ Participation of students of both the institutions in outreach programs conducted by IIRS, Dehradun (ISRO, GOI)

Co-ordinators:

Partner organizations will designate persons who will have responsibility for Co-ordination and implementation of this agreement. Specific plan will be worked out by the designated officials for each activity. Coordination committee will periodically review the progress.




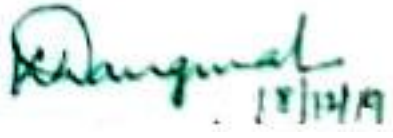
Funding:

The necessary expenditures on awareness and capacity building programs shall be borne by the partner institutions (if any). Both the institutes will provide necessary support as per the requirements.

Duration:

This MOU shall become effective for 3 year (18th December 2019- 17th December 2022) upon signature by the authorized officials from the partner organizations and will remain in effect until modified or terminated by any one of the partners by mutual consent.

Contact Information:

<p>1. Partner Name: Sri Dev Suman Vishvavidyalaya Campus, Rishikesh Partner Representative: Dr. N. P. Maheshwari Position: Principal Address: Haridwar road, Rishikesh (249-201) Telefax: +91-9837442009 Email: gpgcrishikesh@gmail.com</p>	 <hr/> <p>(Dr. N. P. Maheshwari)</p>
<p>2. Partner Name: Modern Institute of Technology, Dhalwala, Rishikesh, Dehradun Partner Representative: Mr. Ravi Juyal Position: Director Address: Dhalwala, Tehri road, Rishikesh (249-201) Telefax: +91- Email: mitrishikesh@gmail.com</p>	 <p>(Mr. Ravi Juyal)</p>
<p>3. Partner Name: Coordinator from Sri Dev Suman Vishvavidyalaya Campus, Rishikesh Partner Representative: Prof. Gulshan Kumar Dhingra Position: Professor of Botany, Coordinator, Dept. of MLT Address: Haridwar road, Rishikesh (249-201) Tele-fax: +91- 9412139156 Email: gulshan_k_dhingra@yahoo.com</p>	 <hr/> <p>(Prof. Gulshan Kumar Dhingra)</p>
<p>4. Partner Name: Coordinator from Modern Institute of Technology, Dhalwala, Rishikesh, Dehradun Partner Representative: Prof. Koushalya Dangwal Position: Professor & Head, Department of Biotechnology & Microbiology Address: Dhalwala, Tehri Road, Rishikesh (249-201) Tele-fax: +91-9897839590 Email: kdangwal1@yahoo.co.in</p>	 <p>(Prof. Koushalya Dangwal)</p>