

“The experience from
the past to today”

ANNUAL REPORT

2075/076



Tribhuvan University
Institute of Science and Technology
Central Department of Microbiology
(Estd. 14 November 1990)

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ANNUAL REPORT

FY 2075/076 (2018/019)



Central Department of Microbiology

Tribhuvan University

Kirtipur, Kathmandu, Nepal

Estd. 14 November 1990

August 2019

Report Preparation Team

Dr. Megha Raj Banjara, Head of Department and Associate Professor

Prof. Dr. Anjana Singh, Professor

Prof. Dr. Prakash Ghimire, Professor

Mr. Binod Lekhak, Associate Professor

Dr. Komal Raj Rijal, Associate Professor

Dr. Devraj Joshi, Associate Professor

Ms. Reshma Tuladhar, Lecturer

Mr. Nabaraj Adhikari, Lecturer

Mr. Upendra Thapa Shrestha, Lecturer

Mr. Navaraj Karki, Section Officer

Mr. Ramesh Ghimire, Main Account Assistant

Executive Summary

This annual report summarizes the different activities conducted and progress made by the Central Department of Microbiology, Tribhuvan University in the fiscal year 2075/2076 (16 July 2018 to 15 July 2019). Central Department of Microbiology has 3 Professors, 4 Associate Professors, and 7 Lecturers. The department is providing administrative services through eight administrative staff. There are six laboratory support staff in the department. The department has 30 students enrolled in the first semester of M.Sc. programme this year. The proportion of female students in the M.Sc. programme increased every year in last three years. In case of Ph.D. microbiology programme, in academic year 2075/076, 2 male and 3 female students were enrolled. The department purchased few laboratory equipment in FY 2075/076. The teachers of the department involved in national and international activities including academic and consultancy services. One PhD and 21 M.Sc. students from the department were graduated in microbiology in FY 2075/076. The faculties of the department published 18 research articles in the national and international journals in this fiscal year.

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Background

Central Department of Microbiology established in 1990 under Institute of Science and Technology (IOST) at Tribhuvan University is providing advanced level Microbiology education in the country. The department is offering Master's and Ph. D. Degree courses in Microbiology. Since its establishment, department is able to produce more than 585 Masters graduates and 7 doctoral level graduates. The department is enriched with highly qualified, skillful and competitive faculty members having specializations in various fields of microbiology: medical, public health, microbial biotechnology, environmental, food and agriculture microbiology. In addition, department also has good support staff in the laboratory, administration and finance to support departments day to day operation of teaching learning and research activities.



Masters level Microbiology course of Tribhuvan University is designed and timely revised in such a way that it has been able to include global developments in science and technology in the curriculum. Initially for first 15 years, the Masters course was based on annual system, which was revised in 2013 to move on semester-based system. The course from the very beginning has made provision of a compulsory dissertation based on the original research, which student is supposed to complete with supervision of the faculty supervisor; providing opportunity to learn research methodology and document research findings in the form of a thesis and or original research published in a peer reviewed journal. Recently, there is increasing trends of publishing the articles in national and international journals.

The department also encourages the faculties for research and grant applications, as and when available. The department from its beginning has been able to conduct, research in milk, meat, water, other foods, medical/health particularly in vector borne diseases, vaccines, laboratory capacity assessment and strengthening, conducting trainings in quality assurance systems, conducting training on malaria microscopy, climate change and its impact on vector borne and water borne diseases, assessment of antimicrobial use and resistance status in the country in collaboration with the different agencies of the Government and UN agencies.

The department has its own building with teaching/demonstration rooms and teaching laboratory equipped with basic instruments required for day to day student experimentations. Internet and small departmental library facilities are added assets in the department for research activities.

This annual report summarizes the different activities conducted and progress made by the department in fiscal year 2075/2076 (16 July 2018 to 15 July 2019). This annual report comprises human resource capacity of the department, academic progress of the department including pass rate trend analysis, academic programs, educational pedagogy, physical structure status, activities of the faculties, students graduated in the fiscal year, and publications of articles from the department in national and international journals.

Human Resource Capacity of the Department

Central Department of Microbiology has 3 Professors, 4 Associate Professors, and 7 Lecturers. Six faculties have PhD degree and most of others are in the process of completion of their PhD degree.

Table 1: Teaching faculties in the department, FY 2075/076

Particulars	Total	Male	Female	PhD	Non-PhD
Professors	3	2	1	3	-
Associate Professors	4	4	-	3	1
Lecturers	7	2	5	-	7
Teachers on leave	5	1	4	-	-

The department is providing administrative services through eight administrative staff. There are six laboratory support staff in the department.

Table 2: Administrative and laboratory staff in the department, FY 2074/075

Particulars	Total	Male	Female
Officer level	1	1	-
Non-officer level	7	4	3
Laboratory support staff	6	5	1

Academic Progress

Student enrolment trend

In every academic year, the department has 30 students enrolled in the first semester of M.Sc. programme. In the following semesters, there was drop out of some students. The proportion of female students in the M.Sc. programme was more every year than male students. The proportion of female students in the M.Sc. programme increased every year in the last three years.

In case of Ph.D. microbiology programme, in academic year 2075/076, 2 male and 3 female students were enrolled.

Table 3: Level wise enrolment trend analysis of the last three years disaggregated by female and educationally disadvantaged students

Year	M.Sc.		Ph.D.	
	Male	Female	Male	Female
2073/074	7	23	-	2
2074/075	8	22	2	2
2075/076	7	23	2	3

Pass rate trend analysis

The pass rate trend analysis showed that the pass rate of the students is greater than ninety percent every year. Pass rate is relatively high in female students than the male students.

Table 4: Pass rate trend analysis of the last three years of M.Sc. students disaggregated by female

Year	Semester	Total Students		Passed Students	
		Male (%)	Female (%)	Male (%)	Female (%)
2073/074	First	7 (23.33)	22 (76.66)	6 (85.71)	21 (91.30)
	Second	7 (25.0)	21 (75.0)	7 (100.0)	21 (100.0)
	Third	7 (25.0)	21 (75.0)	7 (100.0)	21 (100.0)
	Fourth	7 (25.0)	21 (75.0)	-	-
2074/075	First	8 (26.66)	22 (73.33)	7 (87.5)	21 (95.45)
	Second	8 (26.66)	22 (73.33)	8 (100.0)	22 (100.0)
	Third	8 (26.66)	22 (73.33)	-	-
	Fourth	-	-	-	-

Academic Programs

Central Department of Microbiology offers courses on M.Sc. and Ph.D. degree in Microbiology. The course of Ph.D. Microbiology has been scheduled for three years with two semesters courses and other semesters dissertation. The course of M.Sc. Microbiology has been divided into four semesters within two academic years. The first semester course covers the disciplines of General Microbiology, Immunology, Microbial Genetics, Microbial Biochemistry and practical on these courses. The second semester offers track selection among four different disciplines of Microbiology for specialization. Among four disciplines from second semester the department has offered Medical Microbiology and Public Health Microbiology. The fourth semester is completely skill development and research oriented that includes internships and dissertation.

Educational Pedagogy

There is close communication between the student and teacher. The class room teaching is divided into theoretical subject matter conducted in the class room as well as practical content delivered in the laboratory. The class rooms are equipped with LCD-projector, Overhead projector, and white board. The students also visit laboratories and industries. The students are given enough opportunity to address their query in the subject matter. Class assignment, project work, internal assessment and final examination will be conducted to evaluate the students. The fourth semester of M.Sc. is completely skill development and research oriented that includes internships and dissertation.

Physical Progress

The department constructed molecular biology laboratory in FY 2075/076. The laboratory has been equipped and started with research activities. The department purchased and maintained the following equipment during the FY 2075/076:

Binocular Microscope- 4

The department purchased few books required for the students. The department requested Central Library to purchase reference books for M.Sc. microbiology.

Participation of Faculties in International Activities, FY 2075/076

- Prof. Dr. Anjana Singh presented her paper in a workshop on AASSA-INSANISCAIR Regional workshop on science breakthrough in New Delhi India on 20-22 February, 2019.



- Prof. Dr. Anjana Singh presented a paper in international conference on “Recent advances in traditional medicine, medicinal plants and phytochemistry” held in Ahmednagar college, Ahmednagar India on 8-9 February, 2019.
- Prof. Dr. Anjana Singh participated on 7th international conference on innovations in physical, chemical and life sciences held on 27-28 December, 2018 as a resource person. This conference was organized by New Arts, Commerce and Science College in Sambhajinagar Parner, Pune, India.



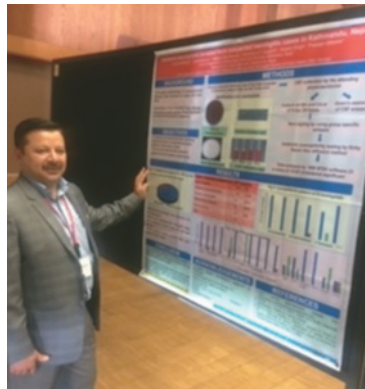
- Prof. Dr. Anjana Singh participated in international conference held in Telangana, India on 22-25 November, 2018.
- Prof. Dr. Anjana Singh participated in a workshop Inter academy partnership for research (IAP-R) and the association and societies of sciences in Asia (AASSA)

held in Kuala Lumpur, Malaysia on 13-14 August, 2018.

- Prof. Dr. Prakash Ghimire participated in an expert meeting “Sixth meeting on vector borne disease control” on 12-14 June, 2019 in New Delhi India.
- Prof. Dr. Prakash Ghimire participated in a APMEN annual general meeting in Bangkok, Thailand jointly organized by Asia Pacific Malaria Elimination Network (APMEN) and Asia Pacific Leaders Malaria Alliance (APLMA) on 22-23 April, 2019.



- Prof. Dr. Prakash Ghimire, participated in the invitation of CDC Foundation in a 4th annual meeting in Singapore on 26-28 February, 2019.
- Prof. Dr. Prakash Ghimire participated on International Pathogenic *Neisseria* Conference (IPNC) held in California USA on 23-28 September, 2018. Prof. Ghimire presented on “*Neisseriameningitidis* isolated from suspected meningitis cases in Kathmandu, Nepal”.



- Prof. Dr. Prakash Ghimire participated on Asia Pacific Malaria Elimination Network Executive Committee meeting held in Bangkok, Thailand on 3-8 September, 2018.
- Assoc. Prof. Dr. Megha Raj Banjara participated in a TDR-WHO expert meeting organized by the University of Freiburg, Global Health Center for Medicine and Society (ZMG) Germany on “Research support for the post visceral leishmaniasis (VL) elimination phase (maintenance phase) in the Indian sub-continent”. The meeting was held on 1-3 October, 2018 in Freiburg University, Germany.
- Dr. Komal Raj Rijal participated and presented on Gordon Research Conference held on 29 June-5 July 2019 in Les Diablerets, Switzerland. The title of his presentation was “Molecular characterization of *Plasmodium vivax* relapse cases in Nepal”.



- Dr. Komal Raj Rijal participated and presented in The Joint Annual International Tropical Medicine Meeting organized by JITTM held in Bangkok, Thailand on 12-14 December, 2018.



- Dr. Dev Raj Joshi participated in AAAS Annual Meeting and Elsevier Foundation Award in Biological Sciences Ceremony in Washington D.C., USA on 14-18 February, 2019.



- Dr. Dev Raj Joshi participated in ISME-AMI Joint Session in 59th Annual Conference of AMI-2018 and ISME Regional Meeting for Promoting Microbial Ecology in Indian Sub-continent organized by Association of Microbiologists of India and International Society for Microbial Ecology on 7-14 December, 2018 in Bangalore, India.



- Lecturer Reshma Tuladhar participated in the training “Biology of *Aedes albopictus* and eco-bio-social drivers for effective vector prevention and control in cooler eco-regions” organized by Goethe University, Institute of Occupational, Social and Environmental Medicine on 17 March- 21 May, 2019 in Frankfurt, Germany.



- Lecturer Reshma Tuladhar participated in advanced course training on viral bioinformatics and genomics on 2-7 September, 2018 organized by Wellcome Genome Campus in Vietnam.



- Lecturer Reshma Tuladhar participated in training on microbial technology held in Amity University, New Delhi India on 1-6 August, 2018.

- Lecturers Mr. Nabaraj Adhikari and Mr. Upendra Thapa Shrestha participated in the G⁺PD analysis and Genotyping of *Plasmodium* spp in Emerging Infections and Parasitology Laboratory, Infectious Diseases Division, International Centre for Diarrhoeal Disease Research Bangladesh (icddr,b) Dhaka, Bangladesh on 10-14 March 2019.



News/Activities in the Department FY 2075/076

- Prof. Dr. Prakash Thorat, Principal, Shivaji College, Barshi, Maharashtra, India presented on “Bio remediation and phyto-remediation”. Prof. Dr. R.D. Joshi, Head, Department of Microbiology, Yogeshwari Mahavidyalaya Ambejogai, Maharashtra, India presented on “Biotechnology: Career and industrial development in Asia”. Prof. Dr. A. M. Deshmukh, Former Head, Department of Microbiology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India President, Microbiologist Society, presented on “To promote and aware regarding virtual lecture in biotechnology”. These talk programmes were held on 26 July 2018 (10 Shrawan, 2075).
- Talk programme was held in the department on 28 June, 2019 (13 Ashad, 2076) on “Mice model of immuno-oncology research”. The talk was delivered by Assoc. Prof. Dr. Yong Wha Moon, Haematology and Oncology, Department of Internal Medicine, CHA University, Seongnam-Si, Gyeonggi-do, South Korea.
- Orientation on B.Sc. Microbiology third year course cell biology at CDM, TU on 12 Poush, 2075 (December 27, 2018) for the faculties from Microbiology running colleges.



- Tribhuvan University Journal of Microbiology (TUJM)-Volume 5 (1); DOIs registered, published on the occasion of Microbiology day on 28 Kartik, 2075 (14 November, 2018).



- The department celebrated its 29th anniversary of its establishment on 14 November 2018. Rector of Tribhuvan University Prof. Dr. Sudha Tripathi was the chief guest and Prof. Dr. Ram Prasad Khatiwada, Dean, Institute of Science and Technology, Tribhuvan University was the special guest on that occasion. Dr. Yogan Khatri, Dr. Dev Raj Joshi and Dr. Komal Raj Rijal presented their research work and findings on that occasion.

RESEARCH TALKS ON MICROBIOLOGY DAY-2018



Dr. Yogan Khatri

Dr. Dev Raj Joshi

Dr. Komal Raj Rijal

- Assoc. Prof. Dr. Pratap Singhasivanon, Dean, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand and the delegates from the faculty visited Central Department of Microbiology, Tribhuvan University on 7th March 2019. The two institutes discussed the areas of co-operation in the field of Tropical Medicine and Microbiology. The Dean Institute of Science and Technology, Tribhuvan University and the Dean Faculty of Tropical Medicine, Mahidol University signed the Memorandum of Understanding (MoU) between two institutes.





Guru Purnima-2075 was organized by M.Sc. Microbiology 25th batch on Shrawan 11, 2075 (July 27, 2018) at CDM, TU



Guru Purnima-2076 was organized by M.Sc. Microbiology 26th batch on Asar 31, 2076 (July 16, 2019)



- Central Department of Microbiology, Kirtipur, Kathmandu, Nepal successfully organized “Hands on Training on Water Quality Testing” at Central Department of Microbiology, Tribhuvan University on 6-10 Jestha, 2076 (20-24 May 2019). Altogether twenty participants from different B.Sc. running colleges have been trained in the program. The program was financially supported by UGC, Sanothimi, Nepal.



- Promotion of Dr. Komal Raj Rijal and Dr. Dev Raj Joshi to Associate Professor.

Memorandum of Understanding (MoU) of Central Department of Microbiology, Tribhuvan University with Different Institutes

MOU with International organizations/institutes

Asia Pacific Malaria Elimination Network (APMEN)

Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand

Stanford University, USA

Institute of Tropical Medicine (ITM), Antwerp, Belgium

Students Graduated in FY 2075/076 and Their Dissertations

Doctor of Philosophy

1. Jagat Bahadur Khadka- Detection of Rifampicin Resistance Genes in Nepalese *Mycobacterium tuberculosis* Isolates using Rapid Molecular Technique (Defense date: 10 July 2018)

Master of Science

1. Samjhana Shrestha- Molecular detection of blaNDM-1 gene among metallo- β -lactamase producing *Pseudomonas aeruginosa* at Tertiary Care Hospital
2. Kiran Kumari Chaudhary- Carbapentmase producing *Klebsiella pneumoniae* from different clinical specimens at Tertiary Care Hospital
3. Supriya Kayastha- Antibacterial activity of honey of clinical isolates of extended spectrum beta-lactamase producing bacteria
4. Sadiksha Adhikari- Characterization of fungal pathogens isolated from sputum of the HIV Patients visiting Sukraraj Tropical and Infectious Diseases Hospital, Teku, Kathmandu
5. Rooku K.C.- Characterization of bacterial pathogens isolated from sputum of the HIV patients visiting Sukraraj Tropical and Infectious Diseases Hospital, Teku, Kathmandu
6. Sujana Pokharel- Bacteriological profile of wound infection in the patients attending a Tertiary Care Hospital, Kathmandu and detection of pvl gene in methicillin resistant *Staphylococcus aureus*
7. Mamata Adhikari- Antibacterial activity of *Aloe barbadensis* against multi-drug resistant *Pseudomonas aeruginosa* isolated from wound specimens

8. Krishna Dhungana- Detection of *Klebsiella pneumoniae* carbapenemase (KPC) and metallo-beta lactamase (MBL) producing gram negative bacteria isolated from different clinical samples in a transplant center, Nepal
9. Salina Manandhar- Prevalence of carbapenem resistance Gram negative bacteria from different clinical samples
10. Prativa Kharel- Drug susceptibility pattern in *Mycobacterium tuberculosis* isolated from new and relapse TB patients visiting national tuberculosis center
11. Samita Dhital- Colistin resistance in *Salmonella* and *Escherichia coli* isolates from raw chicken meat in selected regions of Nepal
12. Karuna Kayastha- Extended spectrum beta-lactamase producing *Escherichia coli* and *Klebsiella* species in pediatric patients visiting international friendship children's hospital, Nepal
13. Nisha Guragain- Extended spectrum beta-lactamase producing Gram negative bacteria from urine samples at Everest Hospital, Kathmandu
14. Manita Pariyar- β -lactamase producing Gram negative bacterial isolates in patients attending Manmohan Memorial Medical College and Teaching Hospital
15. Jeevan Kumar Shrestha- Screening of *Bacillus* spp isolated from a landfill site for plastic biodegradation
16. Tika Ram Mandal- Analysis of the AIDS patients cell mediated immune response attending Sukraraj Tropical and Infectious Disease Hospital Teku, ART Center
17. Ramesh Lamsal- Identification of influenza virus types and sub-types among suspected influenza like illness (ILI), pneumonia and severe acute respiratory illness (SARI) cases in children
18. Srijana Lamsal- Determination of the prevalence of ESBL and MBL producing *Escherichia coli* and *Klebsiella pneumoniae* from urine samples
19. Sajana Chhipi Shrestha- Multi drug resistance of Gram-negative isolates from intensive care unit patients at Shahid Gangalal Heart Center, Nepal
20. Puja Kunwar- Detection of biofilm production and antibiotic resistance pattern of Gram-negative bacterial isolates from the indwelling medical devices of the hospitalized heart patients
21. Rabina Thapa- Antimicrobial effect of guava leaf extract in correlation with biofilm formation and metallo-beta-lactamase production in multidrug resistant *Pseudomonas aeruginosa*

Publications of Articles from the Department's Faculties, FY2075/076

Tuladhar R, Singh A, Varma A and Choudhary DK. Climatic factors influencing dengue incidence in an epidemic area of Nepal. BMC Research Notes 2019; 12:131. PMID: 30867027. <https://doi.org/10.1186/s13104-019-4185-4>

Thapa B, Singh A, Tuladhar R (2018). In vitro antibacterial effect of medicinal plants against multidrug resistant Gram negative bacteria. Tribhuvan University Journal of Microbiology 2018; 5:25-31. <https://doi.org/10.3126/tujm.v5i0.22298>.

Smith JL, Ghimire P, Rijal KR, Maglior A, Hollis S, Andrade-Pacheco R, Das Thakur G, Adhikari N, Thapa Shrestha U, Banjara MR, Lal BK, Jacobson JO, Bennett A. Designing malaria surveillance strategies for mobile and migrant populations in Nepal: a mixed-methods study. Malar J 2019;18(1):158. doi: 10.1186/s12936-019-2791-1.

Rijal KR, Adhikari B, Adhikari N, Dumre SP, Banjara MS, Shrestha UT, Banjara MR, Singh N, Ortegea L, Lal BK, Thakur GD, Ghimire P. Micro-stratification of malaria risk in Nepal: implications for malaria control and elimination. Trop Med Health 2019;47:21. doi: 10.1186/s41182-019-0148-7. collection 2019.

Rijal KR, Adhikari B, Ghimire P, Banjara MR, Thakur GD, Hanboonkunupakarn B, Imwong M, Chotivanich K, Day NPJ, White NJ, Pukrittayakamee S. Efficacy of primaquine in preventing short and long latency Plasmodium vivax relapses in Nepal. J Infect Dis 2019; 220(3): 448–456. doi: 10.1093/infdis/jiz126.

Shahi K, Rijal KR, Adhikari N, Thapa Shrestha U, Banjara MR, Sharma VK, Ghimire P. Methicillin Resistant *Staphylococcus aureus*: Prevalance and Antibioqram in various clinical specimens at Alka Hospital. TUJM 2018; 5(1): 77-82.

Dhungel B, Adhikari N, Shrestha UT, Updhayaya BP, Rijal KR, Ghimire P. Toxoplasma, Rubella, Cytomegalo and Herpes Viral Antibody Level in Patients at National Public Health Laboratory (NPHL), Kathmandu. HiJOST 2018; 2:13-19.

Ghimire P, Rijal KR, Kafle C, Karki BS, Singh N, Ortega L, Thakur GD, Adhikari B. Efficacy of artemether-lumefantrine for the treatment of uncomplicated *Plasmodium falciparum* malaria in Nepal. Trop Dis Travel Med Vaccines 2018; 4:9. doi: 10.1186/s40794-018-0068-2.

Marahatta SB, Amatya R, Adhikari S, Giri D, Lama S, Kaehler N, Rijal KR, Marahatta S, Adhikari B. Perceived stigma of leprosy among community members and health

care providers in Lalitpur district of Nepal: A qualitative study. PLoS ONE 2018; 13(12): e0209676. <https://doi.org/10.1371/journal.pone.0209676>.

Dahal S, Banjara MR, Khadka DK, Ghimire GR, Sharma S. Drug susceptibility profile of *Mycobacterium tuberculosis* isolated from patients visiting national tuberculosis centre, Nepal. Tribhuvan University Journal of Microbiology 2018; 5: 63-68. <https://doi.org/10.3126/tujm.v5i0.22314>.

Singh VK, Joshi AB, Gurung CK, Banjara MR. Implementation of Active Case Detection of Visceral Leishmaniasis along with Leprosy through Female Community Health Volunteers in Sarlahi District, Nepal. Kathmandu Univ Med J 2019; 65(1):40-5.

Joshi PR, Thummeepak R, Paudel S, Acharya M, Pradhan S, Banjara MR, Leungtongkam U, Sitthisak S. Molecular Characterization of Colistin-Resistant *Escherichia coli* Isolated from Chickens: First Report from Nepal. Microb Drug Resist 2019; 25(6): 846-854.

Tuladhar R, Singh A, Banjara MR, Gautam I, Dhimal M, Varma A, Choudhary DK. Effect of meteorological factors on the seasonal prevalence of dengue vectors in upland hilly and lowland Terai regions of Nepal. Parasit & Vectors 2019;12(1):42.

Rana HB, Banjara MR, Joshi MP, Kurth AE, Castillo TP. Assessing maternal and neonatal near-miss reviews in rural Nepal: an implementation research study to inform scale up. Acta Paediatrica 2018; 107: 17-23.

Lim D, Banjara MR, Singh VK, Joshi AB, Gurung CK, Das ML, Matlashewski G, Olliaro P, Kroeger A. Barriers of Visceral Leishmaniasis reporting and surveillance in Nepal: comparison of governmental VL-program districts with non-program districts. Trop Med Int Health 2018; 24 (2): 192-204.

Banjara MR, Das ML, Gurung CK, Singh VK, Joshi AB, Matlashewski G, Kroeger A, Olliaro P. Integrating Case Detection of Visceral Leishmaniasis and Other Febrile Illness with Vector Control in the Post-Elimination Phase in Nepal. Am J Trop Med Hyg 2019; 100(1): 108-114.

Upadhyay BP, Banjara MR, Shrestha RK, Tashiro M, Ghimire P. Etiology of co-infections in children with influenza during 2015/2016 winter season in Nepal. International Journal of Microbiology 2018; 2018 Article ID 8945142.

Pushpa Man Shrestha, Nisha Thapa, Navraj Dahal, Nabaraj Adhikari, Upendra Thapa Shrestha (2018). Microbial Profile of Various Catheter Tips among Hospitalized Patients. TUJM 5(1): 32-38, DOI: <https://doi.org/10.3126/tujm>.

Kushal Shahi, Komal Raj Rijal, Nabaraj Adhikari, Upendra Thapa Shrestha, Megha Raj Banjara, Vijay K Sharma, Prakash Ghimire (2018). Methicillin Resistant *Staphylococcus aureus*: Prevalence and Antibigram in Various Clinical Specimens at Alka Hospital. TUJM 5(1): 77-82, DOI: <https://doi.org/10.3126/tujm.v5i0.22316>

Mamata Adhikari, Anil Kumar Sah, Dev Raj Joshi (2018). In vitro Antibacterial Activity of Organic Extracts of *Aloe barbadensis* against Multi-drug Resistant *Pseudomonas aeruginosa* Isolated from Wound Specimens. TUJM 5(1) :69-76

Jeevan Kumar Shrestha, Dev Raj Joshi, Prakriti Regmi, Govinda Badahit (2019). Isolation and Identification of Low-Density Polyethylene (LDPE) Degrading *Bacillus* spp. from a Soil of Landfill. Acta Scientific Microbiology 2 (4): 30-34.

Manandhar S, Singh A, Varma A, Pandey S, Shrivastava N (2018). Biofilm Producing Clinical *Staphylococcus aureus* Isolates Augmented Prevalence of Antibiotic Resistant Cases in Tertiary Care Hospitals of Nepal. Front Microbiol. 9: 2749.

ANNEX-I Faculties



Dr. Megha Raj Banjara
Associate Professor & Head of Dept.



Prof. Dr. Anjana Singh
Professor



Prof. Dr. Dwij Raj Bhatta
Professor



Prof. Dr. Prakash Ghimire
Professor



Mr. Binod Lekhak
Associate Professor



Dr. Komal Raj Rijal
Associate Professor



Dr. Devraj Joshi
Associate Professor



Ms. Reshma Tuladhar
Lecturer



Ms. Shaila Basnyat
Lecturer



Ms. Supriya Sharma
Lecturer



Ms. Purnima Baidya
Lecturer



Ms. Manita Aryal
Lecturer



Mr. Nabaraj Adhikari
Lecturer



Mr. Upendra Thapa Shrestha
Lecturer

ANNEX-II

Staff



Navaraj Karki
Section Officer



Raiman Shakya
Main Office Assistant-Store



Ramesh Ghimire
Main Account Assistant



Bijaya Laxmi Maharjan
Lab Assistant



Bimala Pandey
Account Assistant



Madhukar Thapa
Senior Lab Boy



Ramesh Maharjan
Senior Lab Boy



Hikmat Lal Shrestha
Senior Lab Boy



Diwakar Thapa
Senior Lab Boy



Ramesh Khadka
Senior Lab Boy



Akal Man Maharjan
Office Assistant



Shyam Tamang
Office Helper



Iswori Khadka
Office Helper



Pabitra Deula
Office Helper

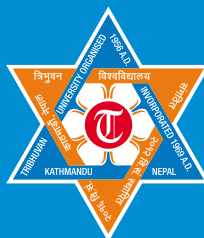
ANNEX-III

Annual budget of the Department with details of income and expenditure, Fy 2075/076

र०७६ असार

लोखा	वजेट निकाशा	थप वजेट	आन्तरिक श्रोत वजेट	धरोटी निकाशा	वर्षको शुरु पेस्की	जम्मा	खर्च	हालको वर्कपिस्की	जम्मा	वैकी
	२	३	४	५	६	७+३+४+५+६+७	८	९	८+९+१०	७-१०+११
०१/००१			०			०				०
०१/००२			१००००००			१००००००				१००००००
०१/००४			५०००००			५०००००			०.००	५०००००.००
०१/००६			५००००००			५००००००.००	७२७४८२.२५		७२७४८२.२५	४२७२५१७.७५
०१/००७		२६६०००.००	१५०००००			१५२६६०००.००	७०२११९.८४		७०२११९.८४	१४५६३८८०.१६
०१/००८			२०००००.००			२०००००.००	०.००		०.००	२०००००.००
०१/००९			०.००			०.००	०.००		०.००	०.००
०१/०१०			२००००००.००			२००००००.००	१८८०९०.००		१८८०९०.००	१८११९१०.००
जम्मा	०	२६६०००.००	३२७०००००.००			३२९६६०००.००	१६१७६९२.०९		१६१७६९२.०९	२१३४८३०७.९१
०९/००१ क										
०९/००१क	७८३००००					७८३००००.००	७०३९३६०.००	०.००	७०३९३६०.००	७९०६४०.००
०९/००१ख			१००००००.००			१००००००.००	६९३०००.००		६९३०००.००	३०७०००.००
०९/००२	४२५६०००		१३८०००.००			४३९४०००.००	४३३६१३३.००		४३३६१३३.००	५७८६७.००
०९/००३	६७५०००	२८००००.००				९५५०००.००	९५१७८५.००		९५१७८५.००	३२१५.००
ग्रेड		०.००				०.००				०.००
०९/००४	१११५०००					१११५०००.००	१०३७४८०.७०		१०३७४८०.७०	७७५१९.३०
०९/००५	२८६०००					२८६०००.००	२८५०३७.३०		२८५०३७.३०	९६२.७०
उपदानकोष										
०९/००५ ख			५३०३०००.००			५३०३०००.००	४२४२५०.००		४२४२५०.००	७५७५०.००
०९/००६			५०००००.००			५०००००.००	३७३९५.००		३७३९५.००	६२६०५.००
०९/००७			१०००००.००			१०००००.००				

लेखा	वजेट	थप वजेट	आन्तरिक श्रोत वजेट	घोटी निकाशा	वर्षको शुरु पेशकी	जम्मा	खर्च	हालको वैकिपेशकी	जम्मा	वैकी
०९/००८			२०००००.००			२०००००.००	३६९२६.००		३६९२६.००	१६३०७४.००
०९/०११		२५०००.००	४०००००.००			४२५०००.००	४२०१२६.९०		४२०१२६.९०	४८७३.१०
०९/०१३		६५०००.००	२०००००.००			२६५०००.००	२६३७१३.५०		२६३७१३.५०	१२८६.५०
०९/०१६			५००००			५००००.००	०.००		०.००	५००००.००
०९/०१७			५०००००.००			५०००००.००	३४२०१०.१०		३४२०१०.१०	१५७९८९.९०
०९/०१८			१५०००.००			१५०००.००	२०००.००		२०००.००	१३०००.००
०९/०१९		१००००.००	०.००			१००००.००	९९००.००		९९००.००	१००.००
०९/०२१		२५०००.००	१०००००.००			१२५०००.००	१२२३१६.७७		१२२३१६.७७	२६८३.२३
०९/०२३			५०००००.००			५०००००.००	१००९१०.००		१००९१०.००	३९९०९०.००
०९/०२४क			८०००००.००			८०००००.००	३९७७३६.००		३९७७३६.००	४०२२७४.००
०९/०२४घ			५०००००.००			५०००००.००	६३७६४.००		६३७६४.००	४३६२३६.००
०९/०२८		४५००००.००	५०००००.००			९५००००.००	९४७१६६.००		९४७१६६.००	२८३४.००
०९/०३०		८१५०००.००	१००००००			१८१५०००.००	१८११८००.२६		१८११८००.२६	३१९९.७४
९.०३१			३००००००			३००००००.००	८१५७८१.६६		८१५७८१.६६	२१८४२१८.३४
जगेडा कोष			५३०३०००			५३०३०००.००	०.००		०.००	५३०३०००.००
कूल जम्मा	१४१६२०००					१४१६२०००.००	०.००		०.००	१४१६२०००.००
आम्दानी	३७००००					३७००००.००	०.००		०.००	३७००००.००
जम्मा	१४१६२०००	१६७००००.००	२०१०९००००.००		०.००	२५३३५०००.००	२०१३८५८२.१९		२०१३८५८२.१९	५१९६४१७.८१
कूल जम्मा	१४१६२०००	१९३६०००.००	५२८०९००००.००		०.००	२१७५६२७४.२८	२१७५६२७४.२८		०.००	२६५४४७२५.७२



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