दक्षिण बिहार केन्द्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF SOUTH BIHAR
SH-7, Gaya-Panchanpur Road, Village : Karhara, Post: Fatehpur
P.S : Tekari, District : Gaya (Bihar) Pin-824236

F. No. : CUSB/Acad/59-1/2021/ 511 Date: 18.04.2022
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NOTIFICATION

In pursuance of the approval of the Competent Authority the Standard Operating Procedure for functioning of Central Instrumentation Facility (CIF) of Central University of South Bihar is hereby notified for implementation.

2. Further, Prof. Pradhan Parth Sarthi, in capacity of Dean, School of Earth, Biological and Environmental Science has been appointed as **In-charge** of Central Instrumentation Facility (CIF) of Central University of South Bihar with immediate effect for next three year or until completion of his term as Dean whichever is earlier.

This issues with the approval of the Competent Authority.

(Col. Rajiv Kumar Singh)
Registrar

Copy to :

1. Prof. Pradhan Parth Sarthi, Dean, School of Earth, Biological and Environmental Science, CUSB, Gaya
2. The Deans of all Schools, CUSB, Gaya
3. The Head of all Departments, CUSB, Gaya
4. Vice-Chancellor's Secretariat, CUSB, Gaya
5. PS/PA to Registrar/FO/CoE, CUSB, Gaya
6. Deputy Registrar (General Administration) CUSB, Gaya
7. Deputy Registrar (Estt. & Academic), CUSB, Gaya
8. Assistant Registrar (Development), CUSB, Gaya
9. Guard File

Standard Operating Procedures

of

Central Instrument Facility

at

Central University of South Bihar, Gaya, Bihar

The Central Instrumentation Facility herein referred as CIF at Central University of South Bihar herein reffered as CUSB comprises a range of high-end instruments for pushing the boundaries of research in science and technology to higher level. These instruments and facilities will help the faculties, research scholars and students to carry out globally competitive research in basic and applied sciences. These instruments in this facility offer a wide range of analytical methods/techniques for chemical/material testing and analysis. This will help researchers to publish their research findings in peer reviewed high impact factor journals and will also contribute to the society at large. CIF is expected to self-sustain by revenue generation for the upkeep and maintenance of the instruments. Hence, a charge on sample testing and analysis will be collected from the users. The services of this facility are not limited only to the stakeholders of CUSB, but also extended to academic & research institutions, universities, industries and NGOs. Standing Operating Procedure herein referred as SoP for running the CIF is as follows.

Objectives:

- To provide sophisticated analytical instrumentation facilities to accelerate fundamental and advanced research
- To analyze samples received from researchers from the CUSB and other organizations.
- To provide guidance and training to personnel for acquisition of data, operation and maintenance of sophisticated instruments
- To create center of excellence with partnering companies of international repute
- To sign Memorandum of Understanding (MoU) for collaborative analytical research
- To organize hands on workshops and trainings along with industrial and government partners in specific instrumentation
- To create networking between research organizations on specific instrumentation for synergetic growth

To run the CIF smoothly, the composition of the core committee of CIF may be of

1. CIF In-charge
2. Coordinator
3. Three members

The CIF In-charge will be the Dean of the school of the major concerned science departments and will be nominated by Vice Chancellor on the rotation basis. The coordinator and three members will be from the major concerned departments of science and nominated by the CIF In-charge. The CIF In-charge may co-opt Head/Head nominee from any department of science as and when required. The tenure of the core committee will be having preferably coincided with the tenure of the Dean of the school/CIF In-charge whichever is earlier. The core committee meets on certain time interval to monitor the smooth functioning of CIF and there may be a recurring budget decided by the core committee to run the CIF.

There will be a separate bank account to maintain the sample charge and other facility of the CIF. To handle the bank account, the signatory will be of CIF In-charge/Coordinator and a nominee of finance officer of the university.

Details of Sample Analysis

A list of instruments available at CIF and their scope is provided in **Annexure-I**. The details of analysis charges are listed in **Annexure-II**. Sample requisition forms for individual instruments are given in **Annexure-III.**

1. Samples will be analyzed after a complete requisition is received by CIF from the user.
2. Priority will be given to faculty members running external funding projects at the CUSB.
3. All samples will be held for a maximum period of 15 days under room temperature (or refrigerated at 0-10°C if specified).
4. Users will be contacted by email once the samples are received /analyzed.
5. The users are also given chance to use the software that comes along with the instrument for data processing and interpretation. A maximum of 2-hour time slot will be given per user for a log request on first come first basis by lodging a log request. If due to unforeseen situations user misses the session he/she is advised to rebook the slot once per extra charges and wait for their turn.
6. CIF will be obliged to calibrate the instruments periodically in collaboration with the companies using their standards.

Sample Reports

1. Raw data in the form of analysis reports will be sent by email or the user may pick them up at the reception of CIF.
2. All the records of sample will be stored for a maximum period of one year after analysis.
3. Specifications of instrumental conditions utilized in the analysis as well as calibration curves, calculated concentrations, matching library data may be provided by users.
4. CIF will ensure to safeguard the data privacy.

Timings:

The facility is expected to normally run on all working days (from 9.00 am to 6.00 pm). The timing and period may be extended depend the sample load. However, users can deposit their samples from Monday to Friday (9.00 am to 1.00 pm) at the office of CIF. The facility will abide by the holidays of the University and remain closed on these days. Saturdays are reserved for maintenance of systems. Users can collect their reports between 3.00 - 5.00 pm (Monday to Friday) at the office of CIF.

Biosafety:

Standard biosafety guidelines of governing bodies will be adopted for the running of the facility.

Waste Disposal:

Standard waste disposal guidelines of the governing bodies will be categorically deployed for environmental safety.

Terms and Conditions

1. All publications of research work, when analytical services of the CIF are carried out, shall be duly acknowledged.
2. The content of our report should not be used for any advertisement, evidence, litigation or/and quote as certificate to a third party.
3. Unstable (Easily reactive in atmosphere) materials are not accepted for analysis, unless specially requested.
4. CIF will not take the responsibility of the results obtained by the analysis as the results are dependent on the stability of the material.
5. Explosive materials are not accepted for analysis.
6. Sample vials have to be sealed properly and labeled for reference purpose.
7. The users are also expected to label the standards wherever need to be analyzed as one of the samples and give numbering accordingly.
8. Slots will be allotted to users on first come first serve basis. However, for multiple slot requests by any user, the slots will be allotted based on the discretion of CIF and the availability of the instruments.
9. CIF will generate annual report at the end of the financial year

ANNEXURE-I

List of Instruments Available at CIF

Sl. No.	Name of the Instruments	Make and Model	Scope
1	Atomic Absorption Spectrophotometer	Thermo Scientific iCE3000	Environmental analysis Food safety, Pharmaceutical and nutraceutical compliance, Industrial QA/QC
2	Gas chromatography system with LCD & FID	Perkin Elmer Clarus 680	Test for contaminants and quality in food, flavors and fragrances. Monitor VOCs and SVOCs in air, water and soil. Ensure quality of consumer goods, including plastics. Analyze lubricants for quality and conformity
3	Gas chromatography system with MS & FID	Perkin Elmer Clarus 580	GC-MS systems are suited for most applications of food, environmental, industrial and forensics analyses
4	Automated solvent extraction unit	Thermo Scientific ASE350	Extraction of solid and semisolid samples using common solvents at elevated temperatures and pressures.
5	Microwave assisted sample preparation	Milestone	Allows the decomposition of many matrices at high pressure and temperature with safety
6	Rotary evaporator	Heidolph Hei-VAP	Efficient and gentle removal of solvents from samples by evaporation.
7	Ion Exchange chromatography system	Metrohm 881 Compact IC Pro	Determination of anions, cations or polar substances without suppression. It is also operated with various types of detection attached.
8	CHNS elemental analyser	Euro Vector EA3000	Determination of Carbon, Nitrogen, Hydrogen and Sulphur in virtually all-existing substances. Determination of Oxygen content is performed on the same instrument in pyrolysis mode by a quick change of configuration.
9	Digestion & Steam distillation unit for Kjeldahl Nitrogen	Pelican Kelplus-classic DX VATS	Separate the ammonia from the digestion mixture and determine protein, nitrogen and ammonia content

ANNEXURE-II

Central Instrumentation Facility-Sample Analysis Charges (in INR)

Sl. No.	Name of equipment installed in CIF	Type of service	Cost per sample analysis for internal students	Cost per sample analysis for internal faculty members	Cost per sample analysis for other Educational Institutions	Cost per sample analysis for National/State/R&D Labs/Organizations	Cost per sample analysis for Industries
1	Atomic Absorption Spectrophotometer	Using flame (per sample per element)	35	35	150	120	200
		Using graphite furnace(per sample per element	65	65	450	360	600
		HVG (per sample per element)	65	65	450	360	600
2	Gas chromatography system with LCD & FID	LCD/FID (per sample)	30	30	150	120	500
		per sample per hour	60	60	175	300	1000
3	Gas chromatography system with MS & FID	GC-MS in FI mode including library search up to 3 peaks (per sample)	50	50	375	300	1500
		MS in FI mode with direct insertion probe analysis (DIP) (per sample)	50	50	375	300	1000
		Method development (per hour of instrument time)	100	100	750	600	1500
		ECD/FID mode	50	50	375	300	1000
4	Automated solvent extraction unit		150	150	555	804	1190
5	Microwave assisted sample preparation	Digestion	70	250	508	450	843
6	Rotary evaporator	per hour	15	15	50	25	200
7	Ion Exchange chromatography system	Per Sample Cation	85	85	525	795	1120
		Per Sample Anion	85	85	525	795	1120
8	CHNS elemental analyser	For all Elements	100	100	500	500	1000
		For each Element	30	30	150	150	300
9	Digestion & Steam distillation unit for Kjeldahl Nitrogen	per hour	10	10	50	25	200

Note:

1. The user should provide standard/reference (compound/solution) for the analysis.
2. Irrespective of the result output, analysis cost will be charged. In case, if multiple runs are required to analyze a single sample, extra charges may be levied.
3. For external users, @ 18.00 % GST or above (as per the prevailing norms) will be applicable in the above rate list. Please add courier and CD charges (in INR)
4. Sample requisition form for each instrument is available in the form of annexure-III.
5. After successful submission of filled sample requisition form and payment, the samples should reach CIF within seven working days along with a copy of acknowledgement receipt.
6. SoP (V1, 2022) will be updated on a regular interval based on the need.

ANNEXURE-III

CENTRAL INSTRUMENTATION FACILITY
Central University of South Bihar
SH-7, Gaya- Panchanpur Road, P.O: Fatehpur
District- Gaya (Bihar) PIN- 824236, India
Email-id: cif@cusb.ac.in

Requisition form

Date:_____
Name of User: Designation of User:
Contact No.: Email ID:
Purpose of analysis: No. of Samples:
Name of Guide/Supervisor: Department:

User: Internal/External (if internal please specify registration no/UID)

Payment options:

Option 1: Demand Draft
The DD (in favour of Central University of South Bihar) should be submitted personally or by post at the following address:
CENTRAL INSTRUMENTATION FACILITY
Central University of South Bihar
SH-7, Gaya- Panchanpur Road, P.O: Fatehpur
District- Gaya (Bihar) PIN- 824236, India

Option 2: **Online transfer**
Transfer cash in A/C no. ……., Bank name……., IFSC code……..
Use …… for PAYTM

Samples should be sent to:

CENTRAL INSTRUMENTATION FACILITY
Central University of South Bihar
SH-7, Gaya- Panchanpur Road, P.O: Fatehpur
District- Gaya (Bihar) PIN- 824236, India

Information of samples

Details (Pl mention Chemical, Physical, Radioactive, Hazardous, others)

S. No.	Sample Name/ Code	Nature of sample	Remark 1	Remark 2	Remark 3	Remark 4
1						
2						
3						

Note: Maximum limit is 5 samples per requisition form. If the sample(s) are hazardous to the personnel or equipment then kindly provide appropriate handling instructions. Kindly consult CIF for sample/sample preparation before bringing your samples for analysis. Attach extra sheet for any additional information. Samples should be in fine powder form (If it is metal piece, the surface should be smooth and parallel to each other). Powder samples should be enough to cover 10 mm x 1 mm circular cavity. The metallic specimens should have a minimum physical dimension of 15 x 10 x 3 mm (not exceeding 5 mm thickness). Maximum time for each sample is 3 hours if it is exceeding, extra charges will be taken as per hour basis.

Undertaking

- I/We undertake to abide by the safety, standard sample preparation guidelines and precautions during testing of samples. I/We do understand the possibility of samples getting damaged during handling and analysis. I/We shall not claim for any loss/damage to samples.
- CIF shall not take any responsibility about the analysis, interpretation and publication of data acquired by the end user.
- We agree to acknowledge CIF in our publications and thesis if the results from CIF instrumentation are used in them.
- I/We hereby declare that the results of the analysis will not be used for the settlement of any legal issue.
- CIF, LPU reserves the rights to return the samples without performing analysis and will refund the analytical charges under special circumstances.
- If the user requests to return the samples without performing analysis then 50% of the analysis charges will be refunded (GST paid will not be refunded).

Name and signature of the user

Name and signature of the supervisor/PI

Signature of the HOD with stamp

For office use only

Lab reference no:……
Samples received on:……

No. of samples:……
Samples analyzed on:……

Invoice/Receipt no:……
Results delivered on:……

Name and signature of operator

Name and signature of laboratory in-charge