



PATNA WOMEN'S COLLEGE

Autonomous
PATNA UNIVERSITY

3rd Cycle NAAC Accredited at **A** Grade with CGPA 3.58/4

'College with Potential for Excellence' (CPE) status accorded by UGC

Avila Convent, Bailey Road, Patna – 800 001, Bihar



Department of Biotechnology
Ministry of Science & Technology,
Government of India

Progress Report for the year 2018-19

1. Name of the College : PATNA WOMEN'S COLLEGE
2. Name of Departments supported : Physics, Chemistry,
Botany, Zoology
Computer Science, Industrial Microbiology

Name of the Principal : Dr. Sister M. Rashmi A.C.
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9473027965
E-mail: info@patnawomenscollege.in

Name of the Bursar : Sister M. Jincy A.C.
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9934295678
E-mail: jincy.sister@gmail.com

Name of the College Coordinator : Dr. Aprajita Krishna
Asst. Prof, Dept. of Physics
Dean, National, International Students
Exchange and Consultancy
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9431632519
E-mail: krishna.aprajita@gmail.com

M. Rashmi
16.6.19
Principal
Patna Women's College
Autonomous
Patna University
Bailey Road, Patna-1

Aprajita Krishna.
Coordinator
Star College Scheme
Patna Women's College
Bailey Road, Patna-1

MENTORING ABOUT STAR COLLEGE SCHEME BY PATNA WOMEN'S COLLEGE



MENTORING AT MUNGER UNIVERSITY



MENTORING AT A. N. COLLEGE, PATNA



MENTORING AT GANGA DEVI COLLEGE, PATNA



MENTORING AT PATNA SCIENCE COLLEGE, Patna

After getting star college scheme, Patna Women's College initiated mentoring about this scheme. Seven Colleges of Bihar were mentored. They are :

- Patna Science College, Patna
- A.N. College, Patna
- Ganga Devi College, Patna
- Commerce College, Patna
- R.D. & D.J. College, Munger
- Jamalpur College, Jamalpur
- J.D. Women's College

Out of these the Colleges which applied for Star Scheme are

- Patna Science College, Patna
- A.N. College, Patna
- Ganga Devi College, Patna
- Commerce College, Patna
- R.D. & D.J. College, Munger

The College were selected for Final presentation

- Patna Science College, Patna
- A.N. College, Patna
- Ganga Devi College, Patna
- R.D. & D.J. College, Munger

Finally the Colleges received Star Scheme are :

- Patna Science College, Patna
- A.N. College, Patna

PROGRESS REPORT OF THE DEPARTMENT OF PHYSICS FOR THE YEAR 2018-19

Patna Women's College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, : **Dr. Surabhi Prasad**
 Address and phone no. Head of Physics Dept.
 Patna Women's College
 Bailey Road, Patna, 800001
 Ph. No. : 9835491550

3. No. of regular faculty with Ph.D. in Physics department:

Five faculty members with the following details:

Sl. No.	Name of Faculty	Designation	Qualification
1.	Dr. Surabhi Prasad (H.O.D)	Co-ordinator, Associate Professor	M.Sc, Ph.D
2.	Dr. Aprajita Krishna	DBT Co-ordinator, Assistant Professor	M.Sc, Ph.D
3.	Dr. Kavita Verma	Assistant Professor	M.Sc, Ph.D
4.	Dr. Rohit Singh	Assistant Professor	M.Sc, Ph.D
5.	Dr. Amrita	Assistant Professor	M.Sc, Ph.D

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

B.Sc Physics Honours 3-year course.

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018-2019 academic session :

Cut off percentage for admission

General : 76%
 OBC : 73%
 EBC : 69%
 SC / ST : All

University Position (2018)

1. Pragati Kumari – 4th Rank

Percentage of result (2018) – 78%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year :

(i) DBT research project:

A two month duration project were assigned in different research fields to groups of final year students and the power point presentation was judged by two experts , one internal and one external. This served as a platform for undergraduate students to develop a research interest and pursue further in basic sciences.

Sl. No.	Title of Project	Name of the students	Supervisor's Name	Outcome of the project
1.	Synthesis of Barium Cobalt Titanate, a lead free compound by citrate precursor method	Chandani Kumari, Pooja Kumari, Sadhvee Singh, Anchal Rai, Divya Kumari, Priya Kumari	Dr. Kavita Verma	Synthesis of Nanoparticles by Wet Chemical Method for device application.
2.	Synthesis and Characterization of Electrodeposited Ni, Co, Mn metals and Ni-Co binary alloy	Anchal Kumari, Kajal Singh	Dr. Rohit Singh	Synthesis of thin film samples of metals Ni, Co, Mn, and binary alloys such as Ni-Mn, Ni-Co by electrodeposition .
3.	Preparation of material for Dielectric and electrical properties of cobalt doped Barium Titanate	Vandana Kumari, Aditi Priya, Chandni Verma, Soni Kumari, Ragini Kumari, Nibha Kumari, Vasundhara Raj.	Dr. Surabhi Prasad	Introduction of Ferromagnetic material, preparation and application of ferromagnetic material.
4.	Design and analysis of Mobile Phone detector	Ankeeta, KritiSagar, Ayesha	Dr. Amrita	Design and development of electronic circuit and its

		Jahangir, Geeta Sinha		performance study
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(ii) Industrial visit :

Visit to MSME, Govt. of India Society :

Venue: Tools and Training Centre, Patna, Bihar-800013, Patliputra Industrial Area Estate.

Date: 27th Sept'2018.

No. of Beneficiaries : 55 students of B.Sc –III Physics Honours

Good place to train in the field of latest software and industries. The students visited Mechanics Lab, Electronics Lab, Robotics, Computer Programming, Computer Hardware and Networking , Welding Technology, Tools and Die Making, CNC Machining, CAD/CAM, Filter, Industrial Quality Control and many more. The students were happy and satisfied.

(iii) Summer training:

Not done

7. Training received by faculty from participating departments :

Faculty improvement program/Conference/Seminar

- (i) Dr. Amrita presented paper in a National Conference on “Contributions of Indian Scientists in different areas of Physics organized by PG Deptt. of Physics, Patna University on 15. 04.2018.and received First Prize in Oral presentation.
- (ii) Dr. Rohit Singh presented paper in a National Conference on “ Contributions of Indian Scientists in different areas of Physics organized by PG Deptt. of Physics, Patna University on 15. 04.2018.
- (iii) Dr. Amrita presented paper in Poster Presentation in a three day International Conference on Quantum and Atom Optics(ICQAO2018) organized by IIT Patna on 16th-18th Dec'2018.

8. List of exhibitions/seminars/training courses conducted by the college :

- (i) **Science Exhibition on 27.02.2019 and 28.02.2019:** To celebrate the national Science Day, a two day exhibition was organized funded by DBT in which all the Science Department participated. B.Sc –I Core 51 students prepared models with the following details –

- (a) **Group I** – Automatic Street Light
- (b) **Group II** – Drone and Border Security Alarm.
- (c) **Group III** – JCB model.
- (d) **Group –IV** – Water Irrigation by Solar Panel.
- (e) **Group V** – Automatic Traffic signal.

- (ii) **Workshop conducted on 18th August'2018 for all students of Science departments of Ist year**

Resource person: Ms. Sapna Suman, Assistant Professor, St. Xavier's College, Patna.

No. of Beneficiaries : 200 students

Topic: Innovative Experiments in Basic Sciences – Low cost no cost experiments

- (iii) **Vigyan Utsav 2019- A Science Fest:**

An Inter-College competition on working model on the topic “Science for the people and the people for Science” was conducted under the Vigyan Utsav on 15.03.2019 funded by DBT. Different colleges from universities of Bihar participated and a total number of 36 models were presented. A three member jury of specialized experts decided the groups with innovation and relevance in which Ist, 2nd and 3rd cash prize of 2500rs, 1500rs and 1000rs were rewarded along with trophy and certificates. This event inculcated amongst the students a spirit of team work and competence with the winning aptitude. All the participants and volunteers were also provided certificates.

- (iv) **Outreach Program :**

Research Project on Measurement of Noise Pollution Level:

The project was performed on the topic “Measurement of Noise pollution” by the students of B.Sc. III, Physics Honours under the DBT Star Scheme in Collaboration of Bihar State Pollution Control Board.

- The whole class was divided into two groups with two group leaders in each group to supervise the whole work. The project was done on 31st of October and 1st of November at two sites and the places were income tax and airport. It was a two day outreach project. Each group had worked on both places alternately.
- To complete the project, some of girls took the work of counting vehicles and some of girls had taken the work of recording the intensity of sound.
- The purpose of doing this project is to make people realize how much noise affects our health and our city. People should know that we can travel without making noise and save our health and environment.
- Income tax golambar was chosen because it is the one of the most crowded place in Patna.
- BMP ground is situated near Patna airport and it is one of the important area of Patna.
- This work deals with monitoring and modelling of the disturbances caused due to vehicular road traffic interrupted by traffic flow conditions on personal work performance. Traffic volume count and noise indices data were collected simultaneously at two selected sites of the city. A relationship was developed between different traffic noise parameters and its harmful impact on work competency of individuals.

9. Name, designation, host institute of guest faculty invited :

Guest Lecture organized jointly by Physics and Computer application department

Resource person : Prof. Vijay A. Singh, National Co-ordinator, Science Olympiad.

Topic : The Golden Ratio-Centre of Mass and beauty

Venue : Mother Veronica hall, Science Block.

Date : 27.07.2018

10. Date of Advisory committee meeting:

N.A.

11. List of New Practicals/demonstrations introduced in different departments in last one year :

(i) Experiment using Flywheel -

Aim of the experiment: To determine the moment of inertia by falling objects

No. of beneficiaries B.Sc –I Physics Honours (52students)

(ii) Experiments based on Cathode Ray Oscilloscope(CRO):

Aim of the experiment: To obtain the output when different input signals are given.

No. of beneficiaries B.Sc –II Physics Honours (38 students)

(iii) OPAMP based experiments:

Aim of the experiment: To study the Operational amplifier(IC741)in different configurations.

No. of beneficiaries : B.Sc –III Physics Honours (53 students)

**12. Details of equipment purchased in the department from DBT grant.
(item, no., cost, date of order placed, purchase/installation)**

Sl. No.	Item	Quantity	Cost (Inclusive of all taxes)	Date of Order placed	Purchased/ Installation
1.	Desktop (DBT computer Lab)	5Pcs	2,05,000/-	26.07.2018	18.08.2018
2.	Operational Amplifier (NISCO)	5Pc	29,440/-	03.10.2018	13.10.2018
3.	Flywheel with Counter (NISCO)	6Pcs	26,550/-	24.09.2018	13.10.2018
4.	Spectrometer (7Omega)	5Pcs	74,340/-	24.09.2018	14.10.2018
5.	Cathode Ray Oscilloscope(CRO) 30Mhz Dual trace (NISCO)	2Pcs	64,900/-	20.09.2018	13.10.2018
6.	Cathode Ray Oscilloscope(CRO) 30Mhz Dual trace (NISCO)	2Pcs	64,900/-	20.09.2018	14.10.2018
7.	HpLaserjet printer	1Pc	18,100/-	18.02.2019	25.02.2019
8.	(a)Alumina Crucible, (b)Magnetic Stirrer with hotplate 2litre, (c)Scientific Calculator	4Pcs 1Pc 2Pc	16,770/-	16.03.2019	23.03.2019

		Total Amount	5,00,000/-		
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13. Details of books & journals subscribed from DBT grant.

In progress

14. Qualitative improvements due to DBT support.

DBT Star grant strengthened our department in various ways. It has not only provided financial support but strengthened the bonding between teachers and students as they work in unison for different specialized events.

Lab is much upgraded now with new multiple equipments so that students now can work in smaller groups.

Interdisciplinary events organized throughout the year developed a sense of competition and enhancement of individual personality.

The research work at undergraduate level created interest for further higher studies.

Students developed teamwork spirit as they worked in projects, outreach programs, industrial visit and so on.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant.

No remuneration for the teachers for extra hours in addition to their workload.





Workshop conducted on for all students of Science departments of 1st year
Resource person: Ms. Sapna Suman, Assistant Professor, St. Xavier's College, Patna.
No. of Beneficiaries : 200 students
Topic: Innovative Experiments in Basic Sciences – Low cost no cost experiments
Date : 18th August, 2018



Guest Lecture organized jointly by Physics and Computer Science department

Resource person: Prof. Vijay A. Singh, National Co-ordinator, Science Olympiad.

Topic: The Golden Ratio-Centre of Mass and beauty

Venue: Mother Veronica hall, Science Block

Date: 27.7.2018



Research Project on Measurement of Noise Pollution Level

Date: 31st October and 1st November, 2018

Venue: IT Golambar and BMP Ground

PROGRESS REPORT OF THE DEPARTMENT OF CHEMISTRY
FOR THE YEAR 2018-19

Patna Women's College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, :
Address and phone no.

Dr. Madhu Rani Sinha
Associate Professor & Head,
Dept. of Chemistry
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9431458807

3. No. of regular faculty with Ph.D. in Chemistry department:

Sl. No.	Name of The Teacher	Qualification	Designation
1.	Dr. Madhu Rani Sinha	Ph.D	Associate Prof., Head
2.	Dr. Ashish Kumar	Ph.D	Assistant Professor
3.	Dr. Jyotsana Kumari	Ph.D	Assistant Professor

4.	Dr. Jyoti Chandra	Ph.D/Net	Assistant Professor
5.	Ms. Amita Prasad	Pursuing Ph.D	Assistant Professor

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

B.Sc. (CBCS)

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018-2019 academic session :

Cut off percentage for admission

General : 72%

OBC : 69%

EBC : 65%

SC / ST : All

University Position (2018)

1. Bhawana Priya – 5th Rank
2. Puja Jha – 7th Rank
3. Prity Anand – 10th Rank

Percentage of result (2018) — 98%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year :

PROJECTS:

DEPARTMENTAL PROJECT USING STAR GRANT	NAME OF STUDENT	FACULTY SUPERVISOR
Detection of heavy metal in fruit juices in deffernt packaging material	1. Kumari Nandini 2. Shruti Lal 3. Saima Naaz	Dr. Madhu Rani Sinha
Determination of Lactose and various adulterants in different milk samples	1. Shivani kumari 2. Muskan 3. Shubham Kumari	Dr. Ashish kumar

To Analyse the composition of heavy metal in different type of sindoors available in market	1. Ranjana jha 2. Momita Das 3. Nidhi Kumari	Ms. Amita Prasad
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INDUSTRIAL VISITS : N.A

SUMMER TRAINING : N.A.

7. Training received by faculty from participating departments :

N.A.

8. List of exhibitions/seminars/training courses conducted by the college :

POSTER EXHIBITION

DATE	TOPIC OF POSTER COMPETITION	NO. OF BENEFICIARY
28.09.2018	Global warming and its effect	49 students

SEMINARS : NA

WORKSHOP

Date	Topic of Workshop	In Collaboration with	No. of Beneficiary
13.03.2019	Physico – Chemical Analysis of drinking water	PHED, Bihar	71 students

TRAINING COURSES : NA

9. Name, designation, host institute of guest faculty invited :

N.A.

10. Date of Advisory committee meeting:

N.A.

11. List of New Practicals/demonstrations introduced in different departments in last one year :

NAME OF THE EXPERIMENT - DETERMINATION OF THE MIXTURE COMPOSITION

- AIM : To determine the composition of mixture of acetic acid and HCL by conductometric titrations.

NAME OF EXPERIMENT – DETERMINATION OF THE MIXTURE COMPOSITION

- AIM : To determine the composition of mixture of NH_4OH and NaOH by conductometric titrations.

NAME OF EXPERIMENT – DETECTION OF FUNCTIONAL GROUP

- AIM : Analysis of FTIR and UV – Vis spectra of some organic compounds

**12. Details of equipment purchased in the department from DBT grant.
(item, no., cost, date of order placed, purchase/installation)**

Sl. No.	Item	No. of Equipment	Cost Including GST	Date of Order Placed	Purchase/Installation
1.	Digital balance (Capacity 200gms 0.01 gm)	3	13,629.00	26.10.18	11.12.18
2.	Digital balance (Capacity 200gms 0.001 gm)	1	24,780.00	26.10.18	11.12.18
3.	Binocular microscope model MLX (BINO PLUS)	1	32,214.00	26.10.18	11.12.18
4.	Digital photocalorimeter	1	6,844.00	26.10.18	11.12.18
5.	Deluxe conductivity meter	4	41,772.00	26.10.18	11.12.18
6.	Digital pH meter	6	40,710.00	26.10.18	11.12.18

7.	Digital potentiometer	2	29,382.00	26.10.18	11.12.18
8.	Digital TDS meter	1	10,354.5	26.10.18	11.12.18
9.	Digital melting point	1	45,961.00	26.10.18	11.12.18
10.	D.O. Analyzer cum temp.	1	19,470.00	26.10.18	11.12.18
11.	Soxhlet apparatus: (cap 200ml BSG)	1	11,988.8	26.10.18	11.12.18
12.	Hot Air Oven (18×18×18) s/s digital	1	32,450.00	21.02.19	05.03.19
13.	HP laser printer and toner (M1005#CNKNLDC2 M3)	1	21,550.00	21.02.19	05.03.19
14.	Salt mixer grinder (Bajaj 500 watt)	1	3250.00	21.02.19	05.03.19
15.	Computer	4	1,65,200	26.07.2018	06.09.2018
TOTAL AMOUNT					4,99,556.3
DELIVERY CHARGE					19.00
GRAND TOTAL					4,99,575.3
ROUNDED OFF					4,99,575.00

13. Details of books & journals subscribed from DBT grant.

N.A.

14. Qualitative improvements due to DBT support

- Individual student gets the apparatus for better learning.
- Modern apparatus purchased for replacing traditional techniques.
- Enhancement of hands-on-learning
- Increase in inter – disciplinary activities
- More research activities undertaken apart from CPE and BSR scheme.
- Industrial visits made by the students for further enhancement of working skill.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant.

N.A.



Poster Exhibition on 28.09.2018 Topic : “Global Warming and its effect”





DBT Reasearch Powerpoint Presentation on 24.01.2019

PROGRESS REPORT OF THE DEPARTMENT OF BOTANY
FOR THE YEAR 2018-19

Patna Women’s College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, : **Dr. Pinky Prasad**
Address and phone no. Head, Dept. of Botany
Patna Women’s College
Bailey Road, Patna, 800001
Ph. No. : 9939003372

3. No. of regular faculty with Ph.D. in Botany department: 04

Faculty profile:

Name	Qualification	Designation
Dr. Pinky Prasad	Ph.D	Assistant Professor
Dr. Urvashi Sinha	Ph.D	Assistant Professor
Ms. Hena Naz	Pursuing Ph.D	Assistant Professor
Ms. Isha Gaurav	Pursuing Ph.D	Assistant Professor

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

B.Sc. Honours

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018-2019 academic session :

Cut off percentage for admission

General : 74%

OBC : 71%

EBC : 67%

SC / ST : All

University Position (2018)

1.	Zainab Rahman	—	1 st Rank
2.	Jagriti Singh	—	2 nd Rank
3.	Vinita Kumari	—	3 rd Rank
4.	Worthyson Sakshi	—	4 th Rank
5.	Mariya Tanwir	—	5 th Rank
6.	Tanu Priya	—	6 th Rank
7.	Sweety	—	7 th Rank

Percentage of result (2018) — 100%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year : 05

S. No	Title of the Project	Students	Supervisor
1.	“Estimation of chemical components and nutritional values of edible mushroom <i>Agaricus bisporus</i> ”	Nazneen Mishra, Prerna Sinha, Sneha Jha and Amala Kumar	Dr. Pinky Prasad
2.	“Comparative estimation of phytochemical and antimicrobial properties of apple peel, aloe vera and tomato peel”	Priya Kumari, Sweety Kaur and Priyanka Priyadarshani	Ms. Isha Gaurav
3.	“Assay and assessment of allelopathic effect of <i>Eichhornia</i> spp. against selected strains of microbes”	Sadqa Fatma, Ragini Kashyap, Snehlata Upadhyay and Palak Yashvini	Dr. Urvashi Sinha
4.	“Phytochemical analysis and antimicrobial activities of guava leaf extract on Gram negative and Gram positive bacteria”	Ambika Bharti, Kumari Anamika, Lovely Sah and Kumari Smita	Dr. Pinky Prasad
5.	“Green synthesis of nanoparticles from natural product of <i>Phyllanthus niruri</i> and their antimicrobial properties”	Swati Mishra, Amrita and Ankita Aishwarya	Ms. Isha Gaurav

Industrial visits by students in last one year : **01**

S. No	Visit	Students	Teachers in-charge & Support Staff
1.	Educational trip to Kumhrar Archaeological Park, Patna	Botany IInd Year Students: 39	Dr. Pinky Prasad and Dr. Urvashi Sinha Mr. Aditya Kumar Roy Mr. Shyam Babu

7. Training received by faculty from participating departments :

Training program	Organizing agency	Date and place	Participants
Research frontiers in 21 st century	Bihar National College, Patna	29/05/18 & 30/05/18 at Bihar National College, Patna	Dr. Pinky Pprasad Dr. Urvashi Sinha Ms. Hena Naaz Ms. Isha Gaurav

8. List of exhibitions/seminars/training courses conducted by the college :

List of exhibition:

Name of the exhibition	Date	No. of beneficiaries
Vigyan Utsav: Working Model	27/02/19 and 28/02/2019	53

List of Seminar:

S. No	Seminar/Training Courses	Date	No. of Beneficiaries	Resource Person
1.	National Seminar on “New Horizons of Biological Sciences: Advantages and Challenges”	27.11.2018 & 28.11.2018	200	1. Prof. B.N Tiwary 2. Dr. Ashok Ghosh 3. Prof A. Sharan 4. Prof. Inder Nath Mishra 5. Prof Alok Narain Singh 6. Dr. Aprajita Krishna

List of Training Courses:

S. No	Seminar/Training Courses	Date	No. of Beneficiaries	Resource Person
1.	A Workshop on “Hydroponics”	06.03.2019	B.Sc Ist (Botany, Zoology, Physics, Chemistry, Maths and Statistics) 100	Md. Jawaid Alam
2.	A Workshop on “Technique of Mushroom Cultivation”	08.03.2019 – 14.03.2019	B.Sc Ist (Chemistry, Maths and Statistics) 15	Dr. Urvashi Sinha

9. Name, designation, host institute of guest faculty invited :

No

10. Date of Advisory committee meeting:

No

11. List of New Practicals/demonstrations introduced in different departments in last one year :

S. No.	Name of the experiments	Aim	Total no. of beneficiaries
1.	Preliminary screening of the phytoconstituents.	Detection of phytochemicals in plant products <ul style="list-style-type: none"> • Phenol • Tannin • Flavonoid • Starch • Protein • Lipid 	53
		Estimation of phytochemicals in plant products: <ul style="list-style-type: none"> • Sugar • Protein • Organic acid • Fatty oil 	
2.	Squash Technique	Study of different stages of mitosis	
3.	Microbial assay	Study of different fungal spores	
4.	Herbarium specimens	Study of diseases in plants	

12. Details of equipment purchased in the department from DBT grant. (item, no., cost, date of order placed, purchase/installation)

S. No.	Name of Equipment	Rate	Cost	Date of Order Placed	Date of Purchase
1.	Desktop Computer (04)	41,300/-	82, 600/-	26.07.2018	04.09.2018
2.	Laminar Air Flow (01)	49,560/-	49,560/-	20.07.2018	18.08.2018
3.	Rotary Vacuum Buchi Evaporator (01)	49,796/-	49,796/-	20.07.2018	18.08.2018
4.	Monocular Student Microscope (05)	5,310/-	26,550/-	20.07.2018	18.08.2018

5.	Glassware		18,950/-	22.09.2018	26.09.2018
6.	Oil Free Vacuum Pump (01)	10,200/- +18% Tax	12,036/-	13.10.2018	29.10.2018
7.	HP WL A10 Printer 419 (01)	11,610.17/- +18% Tax	13,700/-	15.12.2018	15.12.2018
8.	Digital Balance (02)	9,500/- +18% Tax	22,420/-	09.01.2019	22.01.2019
9.	Student Microscope (05)	5,250/- +18% Tax	30,975/-	09.01.2019	23.01.2019
10.	Bacteriological Incubator (01)	23,400/- +18% Tax	27,612/-	09.01.2019	31.01.2019
11.	Microwave (01)	6,250/- (With Tax)	6,250/-	07.01.2019	15.02.2019
12.	Juicer Mixer Grinder (01)	3,550/- (With Tax)	3,550/-	21.02.2019	05.03.2019
		Grand total	3,43,999/-		

Details of equipment in progress of purchasing:

S. No.	Name of Equipment	Rate	Cost	Date of Order Placed
1.	Centrifuge (01)	14,000/- +18% Tax	16,520/-	21.02.2019
2.	Autoclave (01)	12,000/- +18% Tax	14,160/-	21.02.2019
3.	Incubator (01)	12,000/- +18% Tax	14,160/-	21.02.2019

13. Details of books & journals subscribed from DBT grant.

In progress

14. Qualitative improvements due to DBT support.

- Many new types of equipment in multiples have been bought from the DBT grant which has helped the students to undertake many innovative research projects. They have learned to handle instruments, report writing and their presentation skills have also improved.
- It has also helped us to organize interdepartmental activities involving students from other science departments.

- It also enabled us to organize workshops and a seminar at national level.
- With the fund provided by DBT, the students were taken for educational trip that has enhanced their observational skill.
- It has increased the involvement of teachers, students and the non teaching staff in the subject.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant.

- The work load on the teachers sometimes delays the implimentation and utilization of the DBT grant.
- The teachers are not paid for extra load of work.



WORKING MODEL EXHIBITION (31.07.2018)



EDUCATIONAL TRIP (08.08.2018)



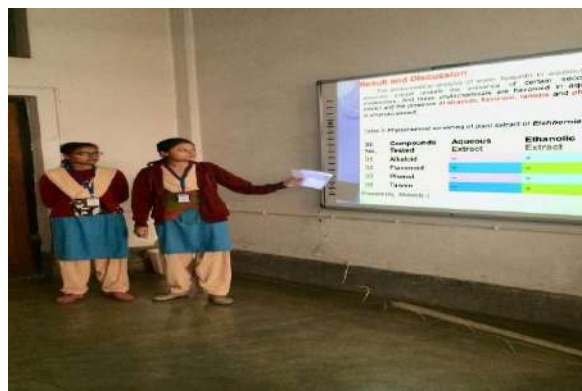
DEBATE CONTEST (18.08.2018)



SKIT COMPETITION (13.09.2018)



NATIONAL SEMINAR (27.11.2018 & 28.11.2018)



DBT PROJECT PRESENTATION



WORKSHOP ON "HYDROPONICS"(06.03.2019)



WORKSHOP ON "MUSHROOM CULTIVATION"
(08.03.19-14.03.19)

PROGRESS REPORT OF THE DEPARTMENT OF ZOOLOGY **FOR THE YEAR 2018-19**

Patna Women's College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, :
Address and phone no.

Dr. Shobha Shrivastava
Associate Professor,
Deptt. of Zoology
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9431427666

3. No. of regular faculty with Ph.D. in Zoology department:

S. No.	Name	Qualification	Designation
1.	Prof. Dr. Shahla Yasmin	M.Sc, Ph.D	Professor, Head
2.	Dr. Shobha Shrivastava	M.Sc, Ph.D	Associate Professor
3.	Dr. Sister M Stuti A.C	M.Sc, Ph.D	Assistant Professor
4.	Dr. Joyita Das	M.Sc, Ph.D	Assistant Professor
5.	Mr. Sumeet Ranjan	M.Sc	Assistant Professor

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

S. No.	Courses	Duration
1.	B.Sc Zoology (a) Honours and Subsidiary (b) Core and Generic elective	Since 1988 Since 2018
2.	M.Sc Zoology	From coming session 2019-20

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018-2019 academic session :

Cut off percentage for admission

General : 83%
OBC : 80%
EBC : 76%
SC / ST : All

University Position (2018)

1. Ananta – 3rd Rank
2. Awantika Kumari – 4th Rank
3. Nandani Kumari – 7th Rank

Percentage of result (2018) — 95%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year :

A. Projects

S. No.	Topic of Project	Students name	Faculty Supervisor
1.	Analysis of chemical nutrients in the vermi compost processed by <i>Eisenia fetida</i> and its effect on the growth of chilli plant <i>Capsicum annum</i>	a. Alma Soren b. Rinku Kumari c. Puja raj	Dr. Sister M Stuti A.C
2.	Antimicrobial properties of	a. Payal Nandini	Dr. Reshma Sinha

	ethanolic extracts of ginger and garlic	b. Jyoti Kumari c. Sushma	
3.	Detection of formalin in fish samples collected from different regions of Patna	a. Monalika Kumari b. Gargi Priya c. Monika Kumari	Dr. Rachna Sahay
4.	Acne remediation through herbal extracts	a. Arushi Sharma b. Shreya Gaurav c. Saloni Kumari	Dr. Reshma Sinha

B. Industrial Visit/ Summer Training

S. No.	Site visited	Duration	No of beneficiaries
1.	Educational tour to Rajgir Wild life Sanctuary	1 day (16.02.2019)	42

7. Training received by faculty from participating departments :

N.A.

8. List of exhibitions/seminars/training courses conducted by the college :

A. Exhibition

S. No.	Activity Name	Duration
1.	Scientific Model exhibition on Vigyan Utsav	27.02.19- 28.02.19

B. Seminars

N.A

C. Training

S. No	Training	Duration
1.	Workshop on Vermicomposting and organic farming	07.03.2019
2.	Workshop on Bee keeping	09.03.2019

9. Name, designation, host institute of guest faculty invited :

Date	Name of Resource Persons	Topic of Lecture	Host Institution
14.09.18	Prof Dr Geeta Sinha	Hormonal Issues	Patna Medical College and Hospital, Patna
07.03.19	Ms. Margaret Molomoo	Organic Farming	Taru Mitra, Patna

	Ms Debopriya		
09.03.19	Sri Parmesh Kumar	Bee Keeping	Shiva Madhumakkhi Palan Kendra, Patna

10. Date of Advisory committee meeting:

N.A.

11. List of New Practicals/demonstrations introduced in different departments in last one year :

S. No.	Name of Practicals
1.	To estimate the haemoglobin level in the human blood through haemoglobin meter
2.	To estimate the level of Fluoride ions in Water samples
3.	To estimate the level of Fluoride ions in Urine samples
4.	To test the level of Nitrogen, Potassium and Phosphate in vermicompost

**12. Details of equipment purchased in the department from DBT grant.
(item, no., cost, date of order placed, purchase/installation)**

Bill	S. No.	Equipment Name	Total No.	Cost (including tax.) in Rs.	Purchase order date	Purchase date
I	1	Blood pressure apparatus	11	23,500.00	29.8.18	04.10.18
	2	Digital Conductivity meter	02	13,200.00	29.8.18	04.10.18
	3	Digital pH meter	02	11,500.00	29.8.18	04.10.18
	4	Digital Photocolorimeter	02	11,600.00	29.8.18	04.10.18
			TOTAL	70,600.00		
II	5	Autoclave	01	51,200.00	25.9.18	04.10.18
	6	Automatic pressure control switch	01	8,400.00		
	7	Automatic low water cut off	01	4,800.00		
			TOTAL	60,450.00		
III	8	Hemometer: GDR	10	23,660.00	20.11.18	03.12.18
IV	9	Fluoride electrode	01	36,000.00	5.12.18	06.12.18
	10	TISAB solution	04	16,000.00		
			TOTAL	42,480.00		
V	11	True Hb automatic hemometer	5	20,000.00	8.12.18	04.1.19

	12	True Hb strips	10	15,000.00		
			TOTAL	40,320.00		
VI	13	Nikon Binoculars	5	28,750.00	15.12.18	04.1.19
VII	14	Semi automatic blood chemistry analyser	01	1,65,200	7.12.19	12.3.19
VIII	15	Binocular microscopes	10	1,18,000.00	7.12.19	12.3.19
IX	16	HP Laser Jet Printer	01	18,100.00	7.2.19	28.3.19
X	17	Micropipette	02	7,051.00	7.3.19	30.3.19
XI	18	Desktop Computer HPAIO, 22b231	02	82,600.00	14.07.18	28.08.18
	19	Desktop Computer HPAIO, 22b231	02	82,600.00	14.07.18	30.08.18
			Grand Total	7,39,811.00		

13. Details of books & journals subscribed from DBT grant.

N.A.

14. Qualitative improvements due to DBT support

- Enhanced scientific temperament among students.
- 100 % participation in all activities/experiments
- Enhanced analytical and critical thinking of students.
- Desire to learn more and suggestion of more experiments from students.
- Inter departmental activities increased the collaborative learnings.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant

Not Yet



Workshop on Vermicomposting

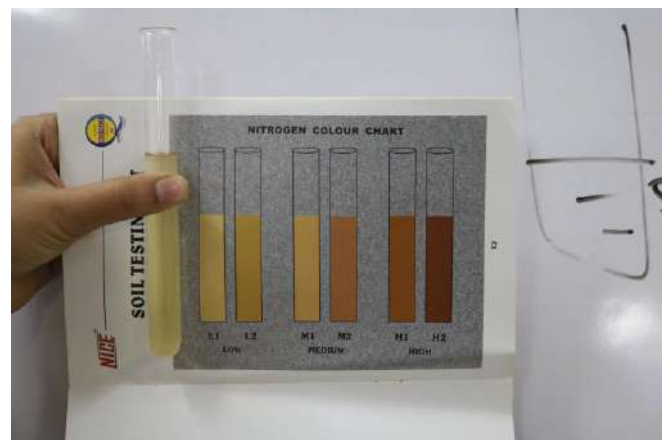


Workshop on Beekeeping



4. NPK Testing

Field/Industrial Visit: Tour to Rajgir Wildlife Sanctuary



NPK Testing



Haemoglobin level testing from blood



Estimation of F from Water and urine



Guest Lecture on Hormonal Imbalance

PROGRESS REPORT OF THE DEPARTMENT OF COMPUTER SCIENCE
FOR THE YEAR 2018-19

Patna Women's College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, : **Ms. Manisha Prasad**
Address and phone no. Head, Dept. of Computer Science
Patna Women's College
Bailey Road, Patna, 800001
Ph. No. : 9470634066

3. No. of regular faculty with Ph.D. in Computer department :

Sl. No.	Name of the Teachers	Qualification	Designation
1.	Ms. Manisha Prasad	MCA, NET Pursuing Ph.D.	Assistant Professor
2.	Ms. Anshu	M.Sc. (IT) Pursuing Ph.D.	Assistant Professor
3.	Ms. Amrita Prakash	MCA, Pursuing Ph.D.	Assistant Professor
4.	Ms. Renu Kumari	MCA, Pursuing Ph.D.	Assistant Professor
5.	Ms. Nimisha Manan	MCA, Pursuing Ph.D.	Assistant Professor

4. List of courses (B.Sc./M.Sc/PG .Diploma, Certificate etc) run by Computer department:

- B.Sc (Hons) in Computer Applications
- Post Graduate Diploma in Computer Applications
- Credit based Add – on Certificate Course in Computer Literacy Programme (College Level)
- Credit based Add – on Certificate Course in Web Designing (College Level)
- Credit based Add – on Certificate Course in Financial Accounting (Tally) (College Level)

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018-2019 academic session :

Cut off percentage for admission

General : 82%

OBC : 79%

EBC : 75%

SC / ST : All

University Position (2018)

B.Sc. Computer Applications

1. Spriha – 1st Rank
2. Kumari Simran – 3rd Rank
3. Kriti Kumari – 4th Rank
4. Pallavi Kumari – 6th Rank
5. Aparna Agrawal – 7th Rank

Percentage of result (2018) — 100%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year :

No

7. Training received by faculty from participating departments:

- Training in Computer Networking and Security Issues (In Progress).
- Training in Python Programming (In Progress).

8. List of exhibitions/seminars/training courses conducted by the Computer Science Department:

Date	Event	Topic	Resource Person	Venue
26.10.18 & 27.10.18	Hands on Training	Identification of Bacteria Isolated from Computers	Mr. Sumeet Ranjan, Scientist-I, Central Research Laboratory, Patna Womens College	CRL, PWC
04.02.19 & 05.02.19	Workshop	BLAST for Beginners: An application of Computer to Genomes	Mr. Maneesh Kumar, Senior Research Fellow, Rajendra Memorial Research Institute of Medical Science, Patna Ms. Aarti, Deptt. of Industrial Microbiology, Patna Womens College	Deptt. of Computer Science
15.03.19 to 16.03.19	Vigyan Utsav	Working Model Competition	Mr. Azad Deepak, Director, Aztech Technology & Engineers Pvt Ltd. (Judged the Competition)	Patna Women's College
27.03.19 to 29.03.19	Workshop	Basics of Networking	Mr. Azad Deepak, Director, Aztech Technology & Engineers Pvt Ltd. Mr. Vivek Ranjan, Hardware and Network Exper ,CTO, Aztech Technology & Engineers Pvt Ltd.	Deptt of Computer Science

9. Name, designation, host institute of guest faculty invited:

Name	Designation	Host Institute	Date of Visit	Topic of Lecture
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Prof. Vijay A. Singh	National Coordinator, Science Olympiad	Homi Bhabha Centre for Science Education, Mumbai.	21.07.18	The Golden Ratio- Centre of Mass Mother Veronica Hall
Mr. Saurabh Suman	Chief Trainer	Atal Tinkering lab, Computer Section (Supaul)	18.01.19	Arduino Programming

10. Date of Advisory committee meeting:

No

11. List of new Practical's/demonstrations introduction in different department in last one year (2017-18) :

Development of Sensor Based devices using Ardiuno Kit

12. Details of equipment purchased in the Department of Computer Science from DBT grant:

Purchase/Bill Date	Item Name	Qty	Rate	Amount
21/08/2018	Desktop Model-22b231	2	41300/-	Rs. 82,600/-
29/08/2018	Desktop Model-22b231	2	41300/-	Rs. 82,600/-
12/2/2019	Arduino Kit			Rs. 48,834/-
29/03/2019	Networking Tool Kit	10	Rs. 889.70/-	Rs. 8,897/-
30/03/2019	Sony Mini Projector MP CD 1B	1	Rs. 29,500/-	Rs. 29,500/-
30/03/2019	Sony Projector VPL EX 430	2	Rs. 39,900/-	Rs. 79,800/-
30/03/2019	Interactive Smart Board Instalock Screen 6X4" Ceiling Mounting kit & Installation	1	Rs. 71,870/-	Rs. 71,870/-
30/03/2019	Colour Laserjet Pro M 254 DW Printer	1	Rs. 38, 300/-	Rs. 38, 300/-
GRAND TOTAL				Rs. 4, 42, 401/-

13. Details of books & journals subscribed from DBT grant:

In Progress

14. Qualitative improvements due to DBT support:

- Improved Infrastructure for conducting training programs.
- Increased interest of students in diverse fields of Computer Applications.
- Practical based training has enhanced the quality of learning.
- Interdisciplinary and Group activities have promoted collaborative learning and healthy team spirit.

15. Problems faced, if any, in implantation of the programme and utilization of DBT grant:

- Increased work load of Faculty members.
- No remuneration to the faculty members.
- Difficulty in finding appropriate training institutes in Bihar.
- Lack of Software / Hardware Industries in Bihar for Summer Training and on – site visits of students.



Guest Lecture on “The Golden Ratio-Center of Mass “



Hands on Experiment on “Identification of Bacteria Isolated from Computers”



Guest Lecture on “Arduino Programming”



Workshop on “BLAST for Beginners:An application of Computer to Genome”



Vigyan Utsav : Science Fest



Hands on Workshop on “Basics of Networking”

PROGRESS REPORT OF THE DEPARTMENT OF INDUSTRIAL MICROBIOLOGY FOR THE YEAR 2018-19

Patna Women’s College (Autonomous) supported under DBT-Star College Scheme

Name of the Deptt. Coordinator, designation, :
Address and phone no.

Ms. Jaya Philip
Head,
Dept. of Industrial Microbiology
Patna Women’s College
Bailey Road, Patna, 800001
Ph. No. : 7544852759

3. No. of Regular faculty with Ph.D. in department

Sl. No.	Name of the Faculty	Qualification	Designation
1.	Ms Jaya Philip	Pursuing Ph.D	Assistant Professor
2.	Ms Arti Kumari	Pursuing Ph.D	Visiting Faculty
3.	Dr. Nidhi Rastogi	Ph.D	Visiting Faculty
4.	Ms Satyamvada Swayamprabha	Pursuing Ph.D	Visiting Faculty
5.	Dr Tanuja	Ph.D	Visiting Faculty
6.	Dr Brijender Saran	Ph.D	Visiting Faculty
7.	Mr. Roy Mazumdar	Biochemistry	Visiting Faculty
8.	Ms Sonal Suman	Microbiology	Visiting Faculty (Left)

4. List of courses (B.Sc./M.Sc./PG Diploma, certificate etc) run by different participating departments:

B.Sc. Hons (Industrial Microbiology) – II and III year

B.Sc. Hons. (Microbiology) I Year

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of results in 2018-19 academic session

Cut off percentage for admission

General : 78%

OBC : 75%

EBC : 71%

SC / ST : All

University Position (2018)

1. Moni Kumari – 1st Rank

2. Soha Ahmad – 2nd Rank
3. Maha Tarique – 3rd Rank
4. Sana Perwaze – 4th Rank
5. Madhu Muskan – 5th Rank
6. Mehrun Sultana – 5th Rank
7. Richa Shree – 7th Rank
8. Himani Bhushan – 8th Rank
9. Neda Fatma – 9th Rank
10. Tania Chatterjee – 10th Rank

Percentage of result (2018) — 98%

6. List of projects undertaken by students, industrial visits by students, summer training in last one year

A. Projects-

Sl. No.	Departmental project using STAR grant	Name of Student	Faculty Supervisor
1.	Isolation, identification and characterization of coliform from Ganga Water	Neha Shree Draksha Parween Alina Nesar	Jaya Philip
2.	Isolation of the microorganisms associated with pectolytic activity	Annie Selma Trikey Sapna Kumari Suman Raj	Dr. Nidhi Rastogi
3.	Tissue culture, Phytochemical Screening & Evaluation of antimicrobial activity of <i>Glycyrrhiza glabra</i>	Anubhuti Raj Afrin Fatima Anshu kumara	Arti Kumari

B. Industrial Visit- Educational Visit- Exposure visit to Plant tissue culture Laboratory, Jadhua, Hazipur

An educational trip was planned to Plant Tissue Culture Lab. Agrotech.Pvt. Ltd., Jadhua, Hajipur on 24/07/18 under guidance of Dr. Promod Kumar. The students of Industrial Microbiology third year along with two teachers and a non teaching visited the lab. The students were made familiar to Plant Tissue Culture technique and its advantages. The lab was expertise in plant tissue culture of banana. Other explants which are under establishment were strawberry and were supported by the government.

Students were even imparted with the knowledge on how to establish Plant Tissue Culture laboratory from scratch which was a live example of

entrepreneurship development. During the time devoted for the trip students gained very valuable knowledge about one of the important aspect of their curriculum of degree course. They were highly motivated. It proved a great and satisfying experience.

C. Summer Training - None

7. Training received by faculty from participating Department

- **Ms. Jaya Philip** Participated in a two days National seminar on Research Frontiers in 21st Century on 29th & 30th May, 2018 organized by B. N. College Patna University
- **Ms. Jaya Philip** participated in 2 day National Seminar on New Horizons of Biological Sciences: Advantages and challenges 27th & 28th November, 2018. She participated in the **Poster presentation, Topic: Biofertilizer: A way towards sustainable Agriculture and secured 2nd prize.**
- **Ms. Nidhi Rastogi** participated in 2 day National Seminar on “New Horizons of Biological Sciences : Advantages and challenges” 27th & 28th November, 2018
- **Ms. Arti Kumari** participated in 2 day National Seminar on New Horizons of Biological Sciences: Advantages and challenges 27th & 28th November, 2018. She participated in **Poster presentation, Topic: Polythene degradation by *Bacillus subtilis*** and secured **1st prize.**
- **Ms. Satyamwada Swayamprapha** participated in 2 day National Seminar on New Horizons of Biological Sciences : Advantages and challenges 27th & 28th November, 2018
- **Ms. Isha Gaurav** Participated in a two days National seminar on Research Frontiers in 21st Century on 29th & 30th May, 2018 organized by B. N. College Patna University

8. List of exhibition/ seminars/training courses conducted by the college

- ❖ **National Seminar- “New Horizons of Biological Sciences: Advantages and challenges”**

(No of beneficiaries- 250)

The two day National Seminar on ‘**New Horizons of Biological Sciences: Advantages & Challenges**’ 27th and 28th November, 2018, organized by the Departments of **Industrial Microbiology & Botany, Patna Women’s College**, under Star College Scheme of DBT & In collaboration with **The Indian Science Congress Association, Patna Chapter** included a range of high impact plenary presentations, cutting edge invited interactive presentation and poster presentations on relevant topics. The intimate scale of National Seminar and the broad interests of fellow delegates offered many opportunities for networking and interdisciplinary discussions.

The inaugural program started with lighting of the lamp. The Chief Guest **Dr. Prem Kumar**, Hon’ble minister, Department of Agriculture, Govt. of Bihar, graced the occasion and also, addressed the participants, emphasizing on the frequent use of organic farming to combat the harmful effects of pesticides. The Guest of Honour, **Prof. Rash Bihari Prasad Singh**, Vice-Chancellor, Patna University was delighted to know that the departments of Botany and Industrial Microbiology took the initiative to discuss the pros and cons of advancements in biological sciences. The Special Guest for the session was **Prof. B. N. Tiwary**, Department of Biotechnology, Guru Ghasi Das Central University, Bilaspur, Chattisgarh. The Souvenir was released and the Vote of thanks was given by **Ms. Jaya Philip**, Coordinator, Department of Industrial Microbiology.

Seminar was conducted in plenary session and various technical sessions and our many dignitaries, **Prof. B. N. Tiwary**, Department of Biotechnology, Guru Ghasi Das Central University, Bilaspur, Chattisgarh, **Prof. Ashok Ghosh**, Chairman, Bihar State Pollution Control Board & Prof. and Head, Research, Mahavir Cancer Sansthan, Patna, **Dr, Tanuja**, Head, Dept of Botany, TPS College, PPU, Patna. **Prof A K Sharan**, Chief Coordinator, N.O.U., Patna, **Dr Aparajita Krishna**, Asst. Prof., Department of Physics, Patna Women’s College, **Prof. (Dr) Sheo Satya Prakash**, Retd. Professor, Department of Chemistry, A. N. College, M.U, **Prof. Indra Nath Mishra**, Director, Dept. of Biotechnology, L. N. Mithila University, Darbhanga and **Prof. Alok Narain Singh**, Retd. Professor,

Department of Botany, V.K.S.U., Ara, imparted their knowledge to participants of the national seminar.

The esteemed guests of the Valedictory function of two day National Seminar were **Prof. Dolly Sinha**, Pro Vice-Chancellor, Patna University and **Dr Sister M. Rashmi A.C.** the Principal, Patna Women's College. **Dr. Pinky Prasad**, Head, Department of Botany and Convenor of the National Seminar, and **Ms. Jaya Philip**, Coordinator, Department of Industrial Microbiology and Organizing Secretary of the National Seminar also accompanied them on the dais. The session ended with the National Anthem.

❖ **Workshop/ Exhibition**

- **A Workshop in Chromatography Technique**

(No of Beneficiaries: 40)

A workshop on chromatography technique was organized by the Department of Industrial Microbiology on 9th March 2019 for the students of the Departments of Zoology, chemistry and industrial Microbiology. Total of 40 students learned the chromatography technique. The workshop started with a lecture on the basic principle and its working of the chromatographic techniques. Dr. Nidhi Rastogi, Assistant Professor Department of biotechnology conducted the theory session of the workshop. Students performed paper chromatography with plant pigments and thin layer chromatography with mixture of amino acid. Practical session was organized with the help of faculties of Microbiology Jaya Philip, Dr. Nidhi Rastogi and Arti Kumari.

- **A display competition based on the theme: an insight into the microbial diversity**

(No of Beneficiaries: 35)

A display competition was organized by department of Industrial Microbiology. The Students highlighted the diversity of micro-organisms in the most interesting way showing the isolation from various sources like Ganga water and Pani-puri. The judges were Dr.

Sister Celine Crasta AC, Head of Department of History, Dr. Joyita Das, Assistant Professor, Department of Zoology and Dr. Rohit Singh, Assistant Professor, Department of physics. A total of 35 students participated in this competition and it helped the students to learn the various pure culture technique of microbiology.

- **Vigyan Utsav (No of Beneficiaries: 35)**

Vigyan Utsav 2019 organized by Patna Women's college for various science departments along with academic partner Patna Science College, PU, Patna and A. N. College, PPU, Patna on 15th & 16th of March 2019. The Department of Industrial Microbiology was coordinating the **innovative science theme based cultural events** which was held on Day 2. In this 13 groups participated and performed dance drama, Nukkar natak etc on topics like clean India, save trees, contributions of scientists, importance of blood donation, female feticide etc which created awareness among youths. In science the based cultural event 11 students of the department performed a dance drama on **Significance of Microbiology in the field of Medicine**. The students participated in dance drama were awarded third prize. On day 1 events like model display and poster making competition was held. Three groups comprising each 5, participated in the competition by making models on Gel Electrophoresis and Biofuel cell and Glucose insulin model. Around 10 students participated in the poster competition. On the second day speech contest (Hindi/ English) was held in which 2 students participated from the department.

9. Name , designation, host institute of guest faculty invited :

None

10. Date of advisory committee meeting:

Not yet held

11. List of new practicals/ demonstrations introduced in different departments in last one year:

- **Name of experiment- Isolation of genomic DNA from Callus of the plant tissue**

Outcome- Callus is the good source of clonal cells. Thus isolation of DNA from callus is easier method than whole plant cells.

- **Name of experiment- Isolation of *E. coli* by enrichment culture technique from chicken and mutton**

Outcome- *E. coli* is normal flora of gut. But, when the colonization of it increases in gut it causes disease. By isolation of *E.coli* from different sources we can further plan various experiment like antimicrobial activity of different compounds against *E.coli*.

- **Name of experiment- Callus production from rose plant**

Outcome- Callus is the unorganized mass of plant cell. These are pluripotent in nature and can be further propagated for raising individual plants or can be used for the isolation of the various phytochemicals instead of destroying plants for it.

- **Name of experiment- Shoot multiplication of *Glycyrrhiza glabra***

Outcome- shoot multiplication of plant can be used to preserve endangered plant species.

- **Name of experiment- Separation of mixture of Amino acids by thin layer chromatography**

Outcome- chromatography is a technique which can be used in the separation of mixture of compounds based on their solubility in different solvent system. Thin layer chromatography is an advanced technique of chromatography.

- **Name of experiment- Separation of mixture of amino acids by paper chromatography**

Outcome- chromatography is a technique which can be used in the separation of mixture of compounds based on their solubility in different solvent system. Paper acts as a solid support in the chromatography and acts as polar molecule.

- **Name of experiment- Isolation bacteria on CMC agar media**

Outcome- various cellulose degrading bacteria were isolated on CMC Agar media. Further those were pure cultured and can be used in ethanol production.

- **Name of experiment- Calculation of Blood group frequency**

Outcome- students were taught about calculating blood group frequency which can help students to take projects related to it in future.

12. Details of equipment purchased in the department from DBT grant:

Non Recurring Expense

Sl. No.	Name of Equipment	Total No	Cost	Amount Spent	Order placed	Purchase
1.	Digital balance :Danwar CAP 200GMs. 0.01 GM	03	3,850	13,629=00	12.10.18	07.12.18
2.	Digital Balance : K'ROY: CAP 300GMS 0.01GM	01	9,500	11,210=00	12.10.18	07.12.18
3.	Oven universal : "Sciencetech" size: 455x 455x 455MM	01	16,500	19,470=00	12.10.18	07.12.18
4.	Water Bath Rectangular : thermostar "Sciencetech" 355x405x100 MM	01	12,600	14,868=00	12.10.18	07.12.18
5.	Vortex Shaker :Sciencetech"	03	4,000	14,160=00	12.10.18	07.12.18
6.	Bacteriological Incubator "Sciencetech" 455x455x455 S/S	02	16,800	39,648=00	12.10.18	08.12.18
7.	Clamps for Shaker : CAP, 500 ml	05	450	26,55=00	12.10.18	08.12.18
8.	Clamps for shaker: CAP, 250 ml	05	350	20,65=00	12.10.18	08.12.18
9.	Monocular medical Microscope "Scentech" 300x 500mm	04	9,500	44,857=00	12.10.18	08.12.18
10.	Autoclave vertical: "Sciencetech"300x500mm	01	38,000	44,840=00	12.10.18	08.12.18
11.	Anaerobic culture jar: B.T.L TYPE "Sciencetech"	01	21,600	25,488=00	12.10.18	08.12.18
12.	Monocular Medical	01	9,500	11,210=00	12.10.18	08.12.18

	Microscope “ Ajay” ISI					
13.	Monocular microscope SM 100 SL Nom10A00307, 18A00306, 18A00321, 18A00326, 18A00327	05	17500	1,03,250=00	03.08.18	29.08.18
14.	Colony counter Digital (equitron)SL No- 0671 M A P K235	011	10,500	12,390=00	10.08.18	17.08.18
15.	Revolutionary microcentrifuge Machine: “REMI” Model 12 c	02	15,500	36,580=00	12.10.18	02.02.19
16.	Angle head : 10x2 ML	02	2,700	6372=00	12.10.18	02.02.19
17.	Desktop model 22b231	01	82,600	82,600	26.07.2018	25.08.18
18.	Desktop model 22b231	01	82,600	82,600	26.07.2018	27.08.18
	Total			5,67,892=00		
	(adding delivery charges)			25=00		
	Grand total			5,67,917=00		

13. Details of books & journals subscribed from DBT grant

In Progress

14. Qualitative improvements due to DBT support

- Star DBT has helped to purchase the new equipments in multiples so that, the students can do experiments individually and thus it is also time saving.
- The DBT research projects have given opportunity to every student to develop their research aptitude.
- It has increased the interaction of teaching, non teaching and students creating a consortia for academic progress.
- Exposure trip have helped them to broaden their practical knowledge on large scale.
- Participating in various activities has helped the students to work as a team.
- This scheme is providing students and teachers with new opportunity.

- It also provides the teachers with more opportunity to attend seminar and conferences which imparts research knowledge to teachers.

15. Problem faced in implantation of the programme and utilization of DBT grant

- Specific period for DBT activities can be allotted for better functioning
- Non recurring grant amount can be increased
- Instructions about grant utilization may be made more clear



Tissue culture of Strawberry



Performing inoculation of explant

An Educational Tour to Plant Tissue Culture Lab, Agrotech. Ltd., Jadhua, Hajipur (24.07.18)



Principal visiting the microbial display



Teachers and students with microbial display

A DISPLAY ON “An Insight into the Diversity of Microbial World”(12.09.18)



Loading of chromatography Paper



Participants of the workshop

A Workshop in Chromatography Technique (09.03.19)



Students of IMB with their models



Award winning group of dance drama

Vigyan Utsav (15.03.19 & 16.03.19)



Address by chief guest



Release of Souvenir



Prize Distribution by the Chief Guest



Poster Presentation by the Participants

National Seminar on the topic “New Horizons of Biological Sciences: Advantages and challenges” held on 27. 11.18 & 28.11.18