



# Annual Report 2016-17 2017-18



## West Bengal University of Animal & Fishery Sciences

37 & 68, K. B. Sarani, Kolkata - 700 037







# *Annual Report*

2016-2017 & 2017-2018

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West Bengal University of  
Animal and Fishery Sciences

37 & 68, Kshudiram Bose Sarani  
Belgachia, Kolkata - 700 037, West Bengal, India



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# Foreword



**Prof. Purnendu Biswas**  
*Vice Chancellor*  
*West Bengal University of*  
*Animal and Fishery Sciences*

*I*t is my proud privilege and immense pleasure to present the Annual Report of the West Bengal University of Animal & Fishery Sciences. This report is an essence of the progress and highlights of the principal and important activities of the varsity and various achievements made during the period 2016-2018.

Education in our University has not only created human resources but also nurtured science, technology and innovative techniques required for development. The University is always looking forward towards the welfare of the students through different activities like sports, cultural, NSS, health, Yoga, educational tour etc. with a view to build character and human values alongwith development of personality.

Agriculture, the most significant sector in the Indian economy, is currently going through a phase of multiple challenges and crisis. The share of agriculture in the national GDP has been decreasing over a period of years. Despite the situation of crisis,

people depending on agricultural sector in the country continues to be about two-thirds of the population. The allied sectors such as Animal Husbandry, Dairying and Fisheries sectors play an important role in the national economy and in the socio-economic development of the country. These sectors play a noteworthy role in supplementing family income and generation of worthwhile employment in the rural sector. Livestock are the best insurance against the natural calamities like drought, famine and other disasters and are termed as 'Moving ATMs'.

India's livestock wealth is largest in the world. At the moment country's livestock sector is in a better position economically, than the agriculture itself. Milk production has increased to 165.4 million tonnes during 2016-17 with Per Capita availability (gms/day) of 355. Today, India is the third largest egg producer in the world after China and the United States of America and fifth largest broiler producer. Poultry development in the country has shown steady progress over the years. Egg production was around 55.11 billion in 2016-17, and the poultry meat production was estimated to be about 3.6 million tonnes in 2014.

Livestock and fishery sectors play a pivotal role in sustainable agricultural production system for the small and marginal farmers and landless labourers of the country. The well-developed poultry and dairy farming is paving the way for women empowerment, poverty alleviation and rural development. The West Bengal University of Animal & Fishery Sciences is recognized as one of the leading institutions in the eastern region of the country, shouldering the responsibilities in imparting education, research and extension activities in veterinary, dairy and fishery sectors.

In the livestock sector, there is an urgent need to assess the genetic potential of indigenous breeds and reorient research programmes accordingly. Intensive research work are being undertaken for genetic identification of traits of excellence in Indian breeds, such as Black Bengal, goat, Garole sheep, Khoongroo pig, and Haringhata Black in poultry etc. Scientists of our university have established the importance of Bonapala sheep and khoongroo pigs towards the economic development

of the society. West Bengal owns many big and small water bodies. It is the largest fish seed grower of the country. A complete farming system integrating crop cultivation with horticulture, livestock and fish farming can transform the economic scenario of the State. Motto of our University is to create human expertise by imparting sophisticated education and undertaking innovative research. The teachers and the scientists of the University are engaged in research work for conservation of germplasm of vulnerable livestock varieties of West Bengal. University is regularly imparting trainings on the relevant areas for updating the knowledge of the farming communities.

Three Krishi Vigyan Kendras are presently functioning at Jalpaiguri, Murshidabad and North 24 Parganas districts of the state under the University. Dissemination of knowledge and techniques developed at the University level is undertaken by the Krishi Vigyan Kendras significantly. The Directorate of Research, Extension & Farms has been monitoring the research programmes, KVK Activities, publishing periodic reports, literature, documentary films and conducting various

training programmes on livestock, poultry and fishery fields for the farmers, technicians and State Govt. officials.

Education, research and extension activities have been given equal importance by the University. I gratefully acknowledge the active support and patronage of the Government of West Bengal, I.C.A.R. and other State and Central funding agencies.

I happily appreciate the efforts made by the editorial and publication board in bringing out the Annual Report. I would also like to thank all University Officers, Deans, Heads of Departments, Faculty Members, scientific, technical, supporting and administrative staff for their timely assistance, involvement and contribution in all matters related to the University.



**(Prof. Purnendu Biswas)**  
Vice Chancellor

# PROLOGUE

Annual Report focuses on the overall activities of an institution and this publication too highlights the activities performed and achievements during 2016-18 of the West Bengal University of Animal and Fishery Sciences. In addition to academic programmes, the university has an involvement to embark research and extension activities on timely issues through various projects financed from different Central, State government as well as non-government agencies.



This acclaimed institution marched well ahead for fulfillment of its mandates concerned towards teaching, research and extension education in Veterinary and Animal Sciences, Fishery Sciences and Dairy technology during the reporting period.

The present compilation and publication of Annual Report is a cooperative exertion of all the teaching departments, offices and units of the University. I am thankful to all the teachers, officers, employees and students of this university for their generous support in publishing this report.

I put across my profound gratefulness to the Honourable Vice-Chancellor, Prof. Purnendu Biswas for his entire guidance in bringing out this issue of Annual report of the University.

The efforts made by the members of Annual Report Editorial Committee comprising Prof. Arunasis Goswami, Director of Research, Extension and Farms and others in amassing and editing of this report are highly creditable.

I hope that the university would progress further to achieve greater height of distinction in the coming years.

**(Shyam Sundar Dana)**  
**Registrar (Actg.)**



# P R E F A C E

The main pillar of India's economy and the largest single occupation - Indian Agriculture, is taking a paradigm shift from conventional farming to exactitude agriculture in order to address a wide continuum of constraints such as escalating population, decreasing arable land, restricted water availability, unpredictable changes in climate and feeling fatigue of green revolution. The effect of 2<sup>nd</sup> green revolution particularly in eastern part of India as the earlier one had a minimum impact over this geographical area has now been crystallised and planned.



Agricultural Scientists have realised that crop husbandry alone can't be sufficient to overcome the challenges that can successfully bring about desirable changes in the arena of agriculture to make sustainable economic growth for the sector. The need of the hour is to stretch importance to different facets of Agricultural Science like animal husbandry, horticulture, fisheries, sericulture, agricultural engineering to achieve affirmative changes in the society. The whole world is now experiencing the effect of climate change. It appears that the seasons are either approaching earlier or later than the conventional timings. This effect has reduced the quantitative production during the past years. Livestock farming stands as a rescue point in such adverse situations which always helps the farmers to cope up with environmental disasters.

Green Fodder is deficit in the country despite large area under fodder cultivation (9.2 m ha) and permanent pasture & common grazing land (10.2 m ha). Area under fodder production has remained static for the past four decades — around 4% of the Net Sown Area (NSA) — and common property land resources are declining annually, at the rate of 19 hectare per 1000. The observation can be substantiated with the fact that there is a sharp decline in the livestock population as recorded in the 19<sup>th</sup> livestock census in 2012, than that of earlier censuses. In such situation, Aquaculture has been able to snatch away the limelight and has become an important sector of food production, providing nutritional security to the food basket, contributing to the agricultural exports and engaging about 14 million people in different activities. India constitutes about 6.3% of the global fish production and the sector contributes to 1.1% of the GDP and 5.15% of the agricultural GDP. The total fish production of 10.07 million metric tonnes presently has nearly 65% contribution from the inland sector and nearly the same from culture fisheries. India stands 3<sup>rd</sup> in fisheries production, 2<sup>nd</sup> in Aquaculture and Export earnings from the sector is more than 33 thousand crores. Though West Bengal is the highest fish-seed producer in India, but question of quality seed is an area of importance to be highlighted besides many other aspect to focus like feed technology, role of unauthorised entry of exotic species, studies on wider spectrum of poly culture system, surveillance and monitoring of fish diseases, marketing, cold chain, value addition and so on.

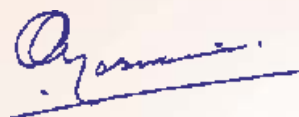
Walking with all these unfavourable facts, our University is primarily involved in imparting education, conducting need-based research work in the fields of veterinary, dairy and fishery. The University is also working hard through some of its programmes on 'livelihood development' in certain outmost parts of West Midnapur district and coastal areas of West Bengal basically Sunderbans. Animal Husbandry practices have been popularized amongst tribal women through one of the programmes, which have changed their lifestyle. Another research programme is being executed throughout the state in the six different cluster or zones for upliftment of the status of Tribal

people under TSP Project. Programme on Mariculture has been adopted by the University in the recent past, which will definitely put an impact to the economy in near future. This programme aims to provide endeavour on enhancement of fish production particularly in marine environment. Marine capture fisheries In West Bengal has shown a tendency of decline. To overcome this situation, the project has been taken up which will definitely focus on enrichment of livelihood of coastal fisher folks and enhance their income and livelihood.

At present there are about twenty six Research projects operating in the University relating to isolation of Blue Tongue viruses, new findings in orthopaedic Surgery using bio-materials, Canine Eye Surgery techniques, Conservation of native breeds like Haringhata Black Chicken, Bonpala and Garole Sheep, Ghoongroo Pig etc., Disease Surveillance in Fish, Molecular characterisation of native sheep breed of Bengal, Gastro-intestinal Parasitism, All India Network Project on Fish Health, AICRP on Black Bengal Goat etc. sponsored by ICAR, DST, DBT and other National and state funding agencies. Regular and specially organized extension programmes are taken up the University, where farmers and other stakeholders like technical personnel are being trained by the Directorate of Research, Extension & Farms wing of the University. The KVKs under the aegis of the University are also performing Research & Extension jobs under their area of surveillance. Our mandate is to work for the rural people, livestock raisers, fish farmers, agro-industries etc. with a target to tone down agrarian crisis and farming distress through suitable sustainability. The University is very much aware of the challenges in the livestock and fisheries sector and always tries to take a lead in solving such challenges. The programs to be taken up by the University in future will definitely reflect such actions to counter the challenges, improve productivity and production in livestock and fisheries. The contribution of livestock sub-sector towards agriculture is always incremental and this trend is likely to be continued where contribution of the GDP from livestock in Agriculture will be enhanced to 6-7%, which is now below 5% (4.6%).

This Report 2016-18, is presenting all these information and achievements of the University in different fields of its operation and action in a concise form as a ready reference. The support received from the concerned Deans and HODs of the departments while publishing this Report is gratefully acknowledged. The suggestions poured in from the different sections, viz. office of the Vice-Chancellor, Registrar, Controller of Examinations, Finance Officer, Deans etc. have motivated the Editorial Board in its work. The guidance, advices and suggestions by Prof. P. Biswas, the Hon'ble Vice Chancellor, for publication of the Report 2016-18 was the most heartening and cheering force to make this publication somewhat different in its presentation and content and the Editorial Board expresses its sincere gratitude towards it.

I convey my sincerest appreciation to all the others who were involved in the process to make this venture a success.



(Prof. Arunasis Goswami)  
Director of Research, Extension & Farms  
& Editor

# EXECUTIVE SUMMARY

Agriculture remains the principal source of livelihood for 48.9 per cent of the workers as per the National Sample Survey Organisation (NSSO), 2011-12. Accordingly, any strategy for faster, more inclusive and sustainable growth must necessarily address the issues faced by rural India which comprises of about 833 million people. The strategies aimed at improving the economy and overall quality of life of people in the rural areas must address the issues of enhancing farm profitability, improving means of livelihood and creating and strengthening physical and social support services. The objectives are not only to address the issues of food security and climate change, but also to raise income of agricultural and rural workers, diminish poverty and reduce inequality. This can be made possible by promoting technology and investments in agriculture, ensuring fair price of farm produce, promoting value addition in agriculture, strengthening supply chains, improving sources of non-farm income and development of rural infrastructure and support services in the areas of health, education, roads, skill development, employment, power, telecommunications, housing, drinking water, proper sanitation, social safety and so on. One such initiative 'Farmers' FIRST was taken by ICAR to move beyond the production and productivity and working towards providing privileges to the small holder agriculture and solve complex, diverse and risk prone realities of majority of the farmers through enhancement of farmers-scientists interaction with multi stakeholders participation for technology development and application.

National Institution for Transforming India's policy paper on 'Doubling Farmers' Income' identified several growth drivers for doubling the farmers' income of India. The paper has visualized the growth of animal husbandry and dairy sector to be 4.5% to 6%. But, this could be achieved with intensive efforts of all the key stakeholders ushering into implementation of the developmental plans aligned to harness the potential of animal husbandry, dairying, poultry, piggeries and aquaculture in order to scale up the production and processing of milk, egg and meat etc. The first Green Revolution (GR) in India began in mid-1960s to ensure food security. Nevertheless, the Eastern region of the country holds promise for a Second Green Revolution (SGR), which can be accomplished through holistic management of land, water, crops, biomass, horticultural, livestock, fishery and human resources. Eastern states of the country contribute 31.14% to total livestock population. However, 95% of the total livestock are of non-descript type, hence results in low productivity. An appropriate livestock improvement strategy, such as Balanced Feeding with locally available resources, applying mineral mixture supplements, proper animal health care etc., is required for sustainable animal husbandry practices. The livelihood of landless farmers can be improved with goat and swine husbandry besides backyard poultry and duck farming. Recommendations from the state include promotion of cage and pen culture in water surplus ecologies, documentation of Hot spot of zoonotic and other infectious diseases like anthrax, FMD, HS, BQ, PPR etc. in livestock for inclusion in SGR. It also gave importance to the cultivation of improved varieties/cultivars of green fodder. Keeping in view the commercial potential of ornamental fishes, focus on research, technology development and dissemination of knowledge in this arena should be undertaken promptly.

A 'crop-livestock' integration was given emphasis to streamline the future scope for rearing of poultry and small ruminants as backyard farming and hence raise farmers' income and livelihood. Prof. M.S. Swaminathan reiterated the need for land reforms, water policy and productivity both quantitatively and qualitatively, technology improvements and access, adequacy and timeliness of institutional credit, and opportunities for assured and remunerative marketing. He strongly recommended raising the agricultural competitiveness of farmers with small land holdings. Vision Document on Agriculture and its Allied Sectors has synergy with the goals set under the Sustainable Development Goals (SDGs) to convert the longer vision into implementable policy as a part of "National Development Agenda".

Different types of technological interventions have been introduced in these sectors to attain target. Quality and standardization in animal husbandry and fisheries sector, Production Intensity Knowledge to the farmers to build capacities for efficient utilization of livestock and market linkages, Value Chain Profitable



commercialization and exports competitiveness, Engaging the rural youth in creating value chains and capacity building and access to finance and markets, creating and promoting agri-business industry etc. are a few to name. It is believed that this will lay concrete on for significant improvement in productivity and production which will in turn increase per capita availability of livestock products.

The State of West Bengal has the potential to enhance the livestock productivity with accelerated application of innovative technologies. The state has produced 4.86 million MT of milk during 2012-13 besides producing 697 thousand MT meat and 4.07 million egg. During 2013-14, India has produced 100.69 lakh tones of fish. West Bengal stood second producing 16.17 lakhtones of fish. Besides this, out of the total fish seed production of 43390 million fries (approx.) in India, West Bengal recorded the production as 16760 million fries (approx.) during 2014-15, which is very encouraging.

The West Bengal University of Animal and Fishery Sciences has already set up a goal in this direction and trying its best through its educational programmes and research activities. In one hand, the University has a mandate to promote – **Doubling Farmers Income**, which is an ICAR initiative to move beyond the production and productivity.

The West Bengal University of Animal and Fishery Sciences (WBUAFS), the second University of its kind in the country began its journey with the heritage of Century old Bengal Veterinary College on 2<sup>nd</sup> January 1995 with an objective to serve the State as well as the nation by imparting quality Education, accomplishing basic and need-based Research and disseminating proven technologies to the beneficiaries through its Extension wing. Another important aspect of attention is to attract and retain youth in agricultural sectors restraining the migration of youths to non-agricultural avocations. With these in perspective, the highlights of various activities of the University during the period 2016-2018 are narrated below :

### **Institutional :**

The 11<sup>th</sup> convocation was organized to confer degrees to 77 Under-graduate, 65 Post-graduate and 17 Ph.D. students under the three Faculties of the University. 25 students have received gold medals in the convocation in different disciplines for their academic excellence. The University has conducted several Conferences / Seminars / Symposiums during the reporting period. The Central Library with Information Network services is working in full fledged in all the three campuses to fulfill the objectives of the University.

### **Academic :**

Keeping in view of the globalization and relevance to changing needs and aspirations in the field of animal sciences and fishery, the University has tailored its academic system dynamically. The educational activities in the University are regularly put under evaluation and accordingly modification of course curricula and teaching methodologies are made.

During 2016-17, a two year Diploma Course In Veterinary Pharmacy with intake capacity of 30 has been introduced by the University. The University offers undergraduate courses of study in Veterinary and Animal Sciences, Dairy Technology and Fishery Sciences in its three respective Faculties. All these faculties have a provision of studying Masters degree courses as well as performing doctoral studies. As a program to extend the academic activities and area of importance, approval of the Govt. of West Bengal has been received to introduce Post-Graduate courses in 'Animal Bio-technology' and 'Avian Science' under the Faculty of Veterinary and Animal Sciences and introduce two new departments namely, 'Dairy Business Management' in the Faculty of Dairy Technology and 'Fish Nutrition' under the Faculty of Fishery Sciences.

### **Research :**

The University is always interested in taking up newer research programmes for the interest of the farming population keeping in pace with the ever-changing scenario in the agricultural, animal husbandry and fishery sectors of the nation. During 2016-18, WBUAFS has bagged one prestigious project 'Establishment of

Biotech-KISAN Hub' funded by the Department of Bio Technology, Ministry of Science & Technology, Government of India worth Rs. 1.37crores approximately. The University has already come up with several new technologies, which will help in enhancement of the income and livelihood security of the farming community of the state. Currently 26numbers of research projects are being carried out by the Faculty members, Scientists and Researchers of the University with a total fund allocation of Rs. 1456.27lakhs. Two Outreach Programmes and one Project under “Tribal Sub Plan” funded by ICAR are running successfully under the proficient supervision of the respective Principal Investigators. AICRP on Black Bengal Goat and Network Programme on Blue tongue are the longest running projects of the University. Network Programme on Gastro-Intestinal Parasitism has been completed successfully in 2017 after inception in 2000.

Process is on to take up a few collaborative research projects in the near future.

### **Extension :**

Besides academic and research activities, another vital feature of the University is to render services to farmers and rural community for implementation of their own farming units. The University is continuously engaged in organization of different sorts of activities throughout the State to stretch out its area of action. University has been actively associated in organizing various types of need based training programmes, mass contact camps in the form of animal and fish health camps, farm and home visits, workshops, seminars, Kisan Mela, farm produce exhibitions, consultancy and advisory services, on-farm trial, frontline demonstrations, field days and other extension activities benefiting a good number of farmers of the state. The University also offers training for Master trainers' of State level Extension Officers, Resource Persons of SHGs, Fisher folk of Sundarban and also organizes periodic National level training programmes for Extension Officers of different States. As per the MOU signed between the University and Agriculture Skill Council of India (ASCI) under the aegis of National Skill Development Corporation (NSDC), Ministry of Skill Development & Entrepreneurship, Govt. of India, various short term skill based training programmes, train the trainer programmes and to create skill development centres for training and capacity building across various segments of Animal Husbandry, Fishery and Dairy Sciences are being organized at the University at frequent intervals.

Leaflets, Booklets, Books published and documentary films produced by the University are rich source of disseminating knowledge on latest technologies evolved by the University in livestock and fishery sectors. During the period, nearly 153 research papers were published in different national and international journals. Apart from this, University has published about 75 number of publications of leaflets, booklets, books, newsletter, manuals, compendiums annual reports and activity highlights.

### **Krishi Vigyan Kendras :**

The Krishi Vigyan Kendras act as a doorway to the University for the farming community. The University has three Krishi Vigyan Kendras (KVKs) in Jalpaiguri, North 24 Parganas and Murshidabad districts of West Bengal. All the KVKs are actively performing based on the mandates formulated by the Indian Council of Agricultural Research (ICAR) and the University through mutual understanding. Besides the routine jobs like FLDs, OFTs, On & Off Campus Farmer's trainings etc., the KVKs are also associated with special collaborative programmes of NABARD, ATMA etc. and other sponsored programmes such as PPV & FR, FOCT, Kisan Sammelan, Pradhan Mantri Fasal Bima Yojana, Swachh Bharat Aviyaan, Krishi Mela etc. and participating in Tribal Sub Plan Programs and monitoring jobs of Research Projects of the University. Inter-institutional collaborative programmes are also being undertaken by the KVKs from time-to-time.

## I. ABOUT UNIVERSITY

Necessity of any kind has always led the pavement for discovery of technology or opened a new arena in the different fields of scientific activities. In a similar fashion, the limitation of land resources in comparison to the worldwide human population gave rise to alternative means of living using livestock resources viz., animals and fishes. People handling such living resources faced challenges to maintain the flock under their control and hence, attention was given towards proper rearing of these livestock resources. Study of appropriate techniques, development of technology following the experiences, and high desire to improve the skills for rearing the animals and fish varieties lead to gathering of information in the related fields. This may be marked as the beginning of study of Veterinary and Animal Sciences as well as allied studies in the Dairy and Fishery sectors. In undivided India after establishment of Lahore Veterinary College in 1882, second such institution came up during British rule with the name **Bengal Veterinary College** on **10<sup>th</sup> of January, 1893**. The West Bengal University of Animal and Fishery Sciences (WBUAFS) was established in 1995, thus fulfilling the dreams of the nation builders to promote education, research and extension activities in one of the important bread-earning sector of the rural people i.e., the Livestock Sector.

The University came into existence on 2<sup>nd</sup> January, 1995 vide West Bengal Act of 1995 with the three Faculties- namely Veterinary and Animal Sciences, Fishery Sciences and Dairy Technology. Process for extending the facilities of education in the existing faculties is continuous. A diploma course on **Veterinary Pharmacy** namely, DVP has been introduced by the University since 2016-17 under the financial assistance of Animal Resource Development Department, Govt. of West Bengal. This course, first of its kind has been introduced under any University in India. In another approach to meet up the demand of the livestock, poultry and fishery industries as well as to fulfill the recommendations of the ICAR & Executive Council of the University, the Govt. of West Bengal has approved the creation of four new Departments alongwith teaching and non-teaching manpower requirements. These are **Department of Animal Biotechnology & Department of Avian Science** under the Faculty of Veterinary & Animal Sciences, **Department of Fish Nutrition** under the faculty of Fishery Sciences and the **Department of Dairy Business Management** under the Faculty of Dairy Technology.

### I.1 MANDATES OF THE UNIVERSITY

The mandates of West Bengal University of Animal and Fishery Sciences are as follows :

- A. To impart education in the branches of Veterinary and Animal Sciences, Fishery Sciences, Dairy Technology and allied sciences.
- B. To conduct basic and applied research in the field of Veterinary and Animal Sciences, Fishery Sciences, Dairy Technology for advancement of knowledge and enhancement of productivity to alleviate poverty and economic upliftment of the society.
- C. To undertake the development of such sciences or technologies and the extension thereof to the rural people in co-operation with the concerned Departments of Government of West Bengal.

### I.2 CAMPUSES OF THE UNIVERSITY

The University Headquarter is situated at Belgachia, Kolkata which is one of the oldest campuses in the country for imparting education in the fields of Veterinary and Animal Sciences.

The undergraduate courses of the Faculty of Veterinary and Animal Sciences and all courses of the Faculty of Dairy Technology are taught in the Mohanpur Campus of the University in the adjoining Nadia district. Post-graduation studies for the Faculty of Veterinary and Animal Sciences take place in the University Headquarters. The courses of the Faculty of Fishery Sciences are undertaken in the Chakgaria Campus, in Kolkata, which is itself a full fledged unit.

Besides these three Faculties, the University has three Krishi Vigyan Kendras in the districts of Jalpaiguri, North 24 Parganas and Murshidabad under the supervision of the Directorate of Research, Extension & Farms. University communicates with the rural farmers and general public directly as well as through these extension centres.



## II. SETUPOFWBUAFS

Management of Education, Research and Extension activities of West Bengal University of Animal & Fishery Sciences (WBUAFS) is being carried out following the organizational set up of the general State Agricultural Universities (SAUs). These are as follows :

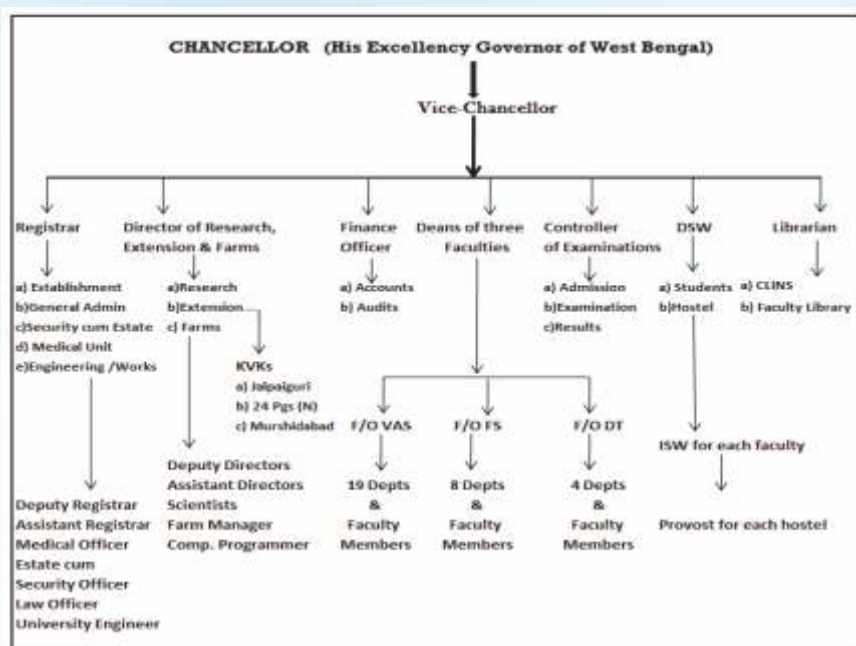
- ❖ Executive Council (EC)
- ❖ Faculty Council (FC)
- ❖ Academic Council
- ❖ Research and Extension Education Council (REEC)
- ❖ Finance Committee
- ❖ Board of Examinations
- ❖ Board of Studies

These bodies are reconstituted from time-to-time depending upon their tenure.

- The Executive Council (EC) is the highest policy making body in the University. All sorts of administrative decisions are approved in its meetings and implemented thereafter.
- The Faculty Council (FC) looks upon the academic affairs of the University and is the authority for control and maintenance of the standards of education, and examination along-with the conferment of the degrees and diploma towards the courses enrolled by the students of the three faculties.
- The Academic Council controls general regulations on teaching and examination system standards set-up in the University.
- The Finance Committee governs the policy for financial and accounting information of the University.
- The Research and Extension Education Council (REEC) makes and controls the policies of the University on the areas of Research and Extension Education in the Faculties as well as Research Stations of the University.

The overall activities of the University taken up for Education, Research and Extension is monitored by the Vice Chancellor with the assistance of the statutory officers, viz., Registrar, Director of Research, Extension & Farms, Finance Officer, Controller of Examinations, Deans of the Faculties, Librarian alongwith other various authorities, Committees and Sub-Committees constituted by the University from time to time.

### II.1. ADMINISTRATIVE ORGANOGRAM OF WBUAFS



## II.1. STATUTORY BODIES :

### II.2.1. EXECUTIVE COUNCIL

Sl. No.	Name & Designation	Position in EC
1	<b>Prof. P. Biswas</b> Vice Chancellor	Chairman
2	<b>Captain A.G. Bandopadhyay</b> Director of Animal Husbandry & Vety. Services, Dept. of ARD, Govt. of West Bengal	Member
3	Director of Fisheries, Govt. of West Bengal	Member
4	The Milk Commissioner, Govt. of West Bengal	Member
5	<b>Prof. A. Goswami</b> Director of Research, Extension & Farms (Actg.), WBUAFS	Member
6	<b>Prof. N.Ghosh / Prof. A.K. Sahoo</b> Dean, F/O Veterinary and Animal Sciences, WBUAFS	Member
7	<b>Prof. B.K. Das</b> Dean, F/O Fishery Sciences, WBUAFS	Member
8	<b>Prof. T. K. Maity</b> Dean, F/O Dairy Technology, WBUAFS	Member
9	<b>Prof. A.K. Samanta</b> Teacher's Representative, F/O Veterinary and Animal Sciences, WBUAFS	Elected member
10	<b>Dr. Supratim Chowdhury</b> Teacher's Representative, F/O Fishery Sciences, WBUAFS	Elected member
11	<b>Dr. P.K. Roy</b> Teacher's Representative, F/O Dairy Technology, WBUAFS	Elected member
12	<b>Sri Amlan Bhattacharya</b> Non-Teaching Staff Representative, WBUAFS	Elected member
13	Students' Representative, WBUAFS	Elected member
14	<b>Smt. Mala Saha</b> (MLA representative nominated by West Bengal Legislative Assembly)	Nominated Member
15	<b>Dr. J.K. Jena</b> DDG (Fishery Sciences), ICAR	Nominated Member
16	<b>Dr. Ravinder Kumar</b> Representative Veterinary Council of India	Nominated Member
17	<b>Smt. Swagata Das</b>	Nominated Member
18	<b>Sri Madan Mohan Maity</b>	Nominated Member
19	<b>Sri Abhijit Pramanick</b> Three members from farmers or producers of the state nominated by the State Govt.	Nominated Member
20	<b>Prof. S.S. Dana,</b> Registrar (Actg.)	Ex-officio Non-member Secretary

**II.2.2. FACULTY COUNCILS**

Sl. No.	Post	Position
1	Vice Chancellor	Chairman
2	Registrar	Member
3	Director of Research, Extension & Farms	Member
4	Librarian	Member
5	Controller of Examinations	Invitee Member
6	Dean of the respective Faculty	Member
7	All Heads of the Dept. of respective Faculty	Member
8	Professor from the respective Faculty	Elected Member
9	Reader from the respective Faculty	Elected Member
10	Lecturer from the respective Faculty	Elected Member
11	UG student from the respective Faculty	Elected Member
12	PG student from the respective Faculty	Elected Member
13	Secretary, Faculty Council	Member Secretary

**II.2.3. BOARD OF STUDIES**

Sl. No.	Composition of Board	Position
1	Head of the Department	Chairman & Convener
2	All the full time teachers of the Department	Members

**II.2.4. BOARD OF EXAMINATIONS**

Sl. No.	Composition of Board	Position
1	One of the Deans from the three Faculties	Chairman (By rotation)
2	Registrar	Member
3	Deans of Faculties	Member
4	Controller of Examinations	Member Secretary

**II.2.5. ACADEMIC COUNCIL**

Sl. No.	Composition of Council	Position
1	Vice Chancellor	Ex-officio Chairman
2	Director of Research, Extension & Farms	Member
3	Deans of Faculties	Member
4	Registrar	Non Member Secretary
5	Controller of Examinations	Member

6	Librarian	Member
7	All Heads of the Departments from all the Faculties	Member
8	One Lecturer, one Reader and one Professor from each Faculty	Member
9	One UG student from each Faculty and one PG student from the University elected by the regular students in a manner as shall be prescribed	Member
10	Two eminent academicians from the field of Veterinary/Dairy/Fishery Sciences nominated by the Vice Chancellor	Member

#### II.2.6. RESEARCH AND EXTENSION EDUCATION COUNCIL

Sl. No.	Composition of Council	Position
1	Vice Chancellor	Chairman
2	Director of Research, Extension & Farms	Member Secretary
3	Director of Animal Husbandry & Vety. Services, Govt. of West Bengal	Member
4	Director of Fisheries, Govt. of West Bengal	Member
5	Deans of Faculties	Member
6	Head of all Research Stations and Project Coordinators of State/ICAR/other agencies, Research schemes	Member
7	Three scientists of eminence to be nominated by the Vice-Chancellor for their specialized knowledge, one for each faculty for a period of two years	Member
8	Three progressive farmers associated with Veterinary, Animal Husbandry, Fisheries, Dairy Technology Practices to be nominated by the Vice-Chancellor	Member

#### II.2.7. FINANCE COMMITTEE

Sl. No.	Composition of Committee	Position
1	Vice Chancellor	Ex-officio Chairman
2	MLA Representative	Nominated Member of EC
3	Secretary, Finance Dept., Govt. of West Bengal or his/her representative	Member
4	Secretary, Animal Resources Development Dept., Govt. of West Bengal or his/her representative	Member
5	Secretary, Fisheries Dept., Govt. of West Bengal or his/her representative	Member
6	Director of Research, Extension & Farms	Member
7	Finance Officer	Member Secretary



**II.3. ORGANIZATION OF MEETINGS OF DIFFERENT STATUTORY BODIES**

Executive Council Meeting		
Sl. No.	Meeting No.	Date
1.	86	24/05/2016
2.	87	24/08/2016
3.	88	06/10/2016
4.	89	20/12/2016
5.	90	08/03/2017
6.	91	27/05/201
7.	92	15/06/2017 (11 <sup>th</sup> Convocation)
8.	93	20/09/2017
9.	94	21/11/2017
10.	95	27/04/2018

Academic Council Meeting		
Sl. No.	Meeting No.	Date
1.	9	11/09/2017

Faculty Councils		
Sl.No.	Meeting No.	Date
<b>Veterinary and Animal Sciences</b>		
1.	72 - 74	2016-17
2.	75 - 76	2017-18
<b>Fishery Sciences</b>		
1.	52 – 54	2016-17
2.	55 – 56	2017-18
<b>Dairy Technology</b>		
1.	48 – 50	2016-17
2.	51	2017-18

**II.4. TEACHING DEPARTMENTS OF THREE FACULTIES OF WBUAFS**

<i>F/O. Vety. &amp; Animal. Sciences</i>	
Sl No	Name of Department
1	Animal Genetics and Breeding
2	Animal Nutrition
3	Livestock Farm Complex
4	Livestock Production Management
5	Livestock Products Technology
6	Veterinary Clinical Complex
7	Veterinary Anatomy & Histology
8	Veterinary Biochemistry
9	Veterinary Epidemiology & Preventive Medicine
10	Veterinary Gynaecology & Obstetrics
11	Veterinary Medicine, Ethics & Jurisprudence
12	Veterinary Microbiology
13	Veterinary Parasitology
14	Veterinary Pathology
15	Veterinary Pharmacology & Toxicology
16	Veterinary Physiology
17	Veterinary Public Health
18	Veterinary Surgery & Radiology
19	Veterinary & Animal Husbandry Extension Education

<i>F/O. Fishery Sciences</i>	
Sl No	Name of Department
1	Aquaculture
2	Aquatic Animal Health
3	Aquatic Environment Management
4	Fishery Economics & Statistics
5	Fishery Engineering
6	Fishery Extension
7	Fish Processing Technology
8	Fishery Resources Management

<i>F/O Dairy Technology</i>	
Sl No	Name of Department
1	Dairy Chemistry
2	Dairy Engineering
3	Dairy Microbiology
4	Dairy Technology

## II.5. STATUTORY OFFICERS IN THE UNIVERSITY

Sl. No.	Designation	Name
1	Vice-Chancellor	Prof. P. Biswas
2	Director of Research, Extension & Farms	Prof. A. Goswami
3	Registrar	Prof. S.S. Dana
4	Finance Officer	Sri G. Majumdar
5	Controller of Examinations	Prof. M.K. Mondal
6	Dean, F/O Veterinary & Animal Sciences	Prof. A.K. Sahoo
7	Dean, F/O Fishery Sciences	Prof. B.K. Das
8	Dean, F/O Dairy Technology	Prof. T. K. Maity
9	Librarian	Vacant

## II.6. OTHER OFFICERS IN THE UNIVERSITY

Sl. No.	Designation	No. of Posts
1	DSW	1
2	Secretary, Faculty Council	1
3	Deputy Registrar	2
4	Deputy Librarian	1
5	Deputy Director (Research)	2
6	Assistant Director (Research)	1
7	Assistant Director (Extension)	1
8	Assistant Director (Farms)	1
9	Scientist	2
10	Farm Manager	1
11	Computer Programmer	1
12	Medical Officer	1
13	Assistant Registrar	1
14	Assistant Finance Officer	2
15	Assistant Librarian	1
16	Estate cum Security Officer	1
17	Sports Officer	1
18	Law Officer	1

## II.7. TEACHERS OF THE UNIVERSITY

### Faculty of Veterinary & Animal Sciences

Department	Name of Teacher	Designation	Qualification
Animal Genetics and Breeding	Prof. P.K. Senapati	Professor	M.V.Sc., Ph.D.
	Prof. A.K. Sahoo	Professor	M.V.Sc., Ph.D.
	Dr. S. Taraphder	Associate Professor	M.Sc. Dairying, Ph.D.
	Dr. M. Roy	Assistant Professor	M.V.Sc., Ph.D.
	Dr. U. Sarkar	Assistant Professor	M.Sc. Dairying, Ph.D.
	Dr. A. K. Das	Assistant Professor	M.V.Sc., Ph.D.
	Dr. S. Datta	Assistant Professor	M.V.Sc. Dairying, Ph.D.
Animal Nutrition	Prof. B. Roy	Professor	M.V.Sc., Ph.D.
	Dr. A. K. Patra	Assistant Professor	M.V.Sc., Ph.D.
	Dr. G. P. Mandal	Associate Professor	M.Sc.(Ani. Nutrition), Ph.D.
	Dr. P. N. Chatterjee	Assistant Professor	M.Sc.(Ani. Nutrition), Ph.D.
	Dr. S. Soren	Assistant Professor	M.V.Sc.
Livestock Farm Complex	Prof. B. K. Sil	Professor	M.V.Sc., Ph.D
	Sri D.C.Roy	Assistant Professor (Agronomy)	M.Sc. (Ag.)
	Dr. M.C. Pakhira	Assistant Professor (Animal Nutrition)	M.V.Sc., Ph.D.
	Dr. (Mrs.) A.Pal	Assistant Professor (Animal Genetics and Breeding)	M.V.Sc., Ph.D.
	Dr. C.P. Ghosh	Assistant Professor (LPM)	M.V.Sc., Ph.D
Livestock Production Management	Prof. A. K. Samanta	Professor	M.V.Sc., Ph.D.
	Prof. R. Samanta	Professor	M.V.Sc., Ph.D.
	Prof. N. Ghosh	Professor	M.V.Sc., Ph.D.
	Dr. S. Bera	Assistant Professor & Head	M.V.Sc., Ph.D.
	Dr. S. Pan	Professor (Retired after superannuation)	M.Sc., Ph.D.
Livestock Products Technology	Prof. S. Biswas	Professor	M.V.Sc, Ph.D.
	Dr. D.Bhattacharyya	Assistant Professor	M.V.Sc, Ph.D.
	Dr. G. Patra	Assistant Professor	M.V.Sc, Ph.D.
Veterinary Clinical Complex	Prof. S.K. Guha	Professor	M.V.Sc, Ph.D.
	Dr. M. Mondal	Associate Professor	M.V.Sc, Ph.D.
	Dr. S. S. Kesh	Assistant Professor	M.V.Sc, Ph.D.
	Dr. S. Chaudhuri	Assistant Professor	M.V.Sc, Ph.D.
	Dr. P. Mukherjee	Assistant Professor	M.V.Sc, Ph.D.

Department	Name of Teacher	Designation	Qualification
Veterinary Anatomy & Histology	Prof. S. Ray	Professor	M.V.Sc, Ph.D., FIAVA
	Prof. P. Das	Professor	M.V.Sc, Ph.D., PDF(Japan), FIAVA, FH
	Dr. A.K. Mandal	Associate Professor	M.V.Sc, Ph.D.
	Dr. N.K. Tudu	Assistant Professor	M.V.Sc, Ph.D.
Veterinary Biochemistry	Prof. S. Batabyal	Professor	M.V.Sc., Ph.D.
	Dr. S. Chattopadhyay	Reader (Contractual)	M.V.Sc., Ph.D.
	Dr. A. Maity	Associate Professor	M.V.Sc., Ph.D.
	Dr. S. Chowdhury	Guest Teacher (upto 31 <sup>st</sup> December, 2016)	M.V.Sc., Ph.D.
Veterinary Epidemiology & Preventive Medicine	Prof. C. Guha	Professor	M.V.Sc., Ph.D.
	Prof. U. Biswas	Professor	M.V.Sc., Ph.D.
	Dr. P. S. Jana	Assistant Professor	M.V.Sc., Ph.D.
Veterinary Gynaecology & Obstetrics	Prof. S. Basu	Professor	M.V.Sc., Ph.D.
	Prof. (Mrs.) K. Ray	Professor	M.V.Sc., Ph.D.
	Dr. P. R. Nandi	Assistant Professor	M.V.Sc.
	Dr. P. Sarkar	Assistant Professor	M.V.Sc.
	Dr. D. Mandal	Assistant Professor	M.V.Sc.
	Dr. A. K. Saren	Assistant Professor	M.V.Sc.
Veterinary Medicine, Ethics & Jurisprudence	Prof. S. Sarkar	Professor	M.V.Sc., Ph.D.
	Prof. C. Lodh	Professor	M.V.Sc., Ph.D.
	Dr. A.R. Gupta	Associate Professor	M.V.Sc., Ph.D.
Veterinary Microbiology	Prof. S. N. Joardar	Professor	M.V.Sc., Ph.D.
	Dr. D. P. Isore	Assistant Professor	M.V.Sc., Ph.D.
	Dr. I. Samanta	Assistant Professor	M.V.Sc., Ph.D. (Transferred)
	Dr. K. Batabyal	Assistant Professor	M.V.Sc., Ph.D.
	Dr. S. Dey	Assistant Professor	M.V.Sc., Ph.D.
Veterinary Parasitology	Prof. S.C. Mandal	Professor	M.V.Sc., Ph.D.
	Dr. S. Baidya	Associate Professor	M.V.Sc., Ph.D.
	Dr. (Mrs.) R. Jas	Assistant Professor	M.V.Sc., Ph.D.
	Dr. S. Pandit	Assistant Professor	M.V.Sc., Ph.D.
	Dr. A. Nandi	Assistant Professor	M.V.Sc.
Veterinary Pathology	Prof. S. K. Mukhopadhyay	Professor	M.V.Sc., Ph.D.
	Dr. S. Pradhan	Assistant Professor	M.V.Sc., Ph.D.
	Dr. N. C. Patra	Assistant Professor	M.V.Sc., Ph.D.
	Dr. R. N. Hansda	Assistant Professor	M.V.Sc.
	Dr. S. Mondal	Assistant Professor	M.V.Sc., Ph.D.



Department	Name of Teacher	Designation	Qualification
Veterinary Pharmacology & Toxicology	Prof. T. K. Mandal	Professor	M.V.Sc., Ph.D.
	Dr. T. K. Sar	Sr. Lecturer	M.V.Sc., Ph.D.
	Dr. R.K. Dutta	Guest Teacher	M.V.Sc.
Veterinary Physiology	Prof. P. K. Das	Professor	M.V.Sc., Ph.D.
	Dr. P. R. Ghosh	Associate Professor	M.V.Sc., Ph.D.
	Dr. K. Das	Assistant Professor	M.V.Sc. Ph.D.
	Dr. D. Banerjee	Assistant Professor	M.V.Sc., Ph.D.
	Dr. J. Mukherjee	Assistant professor	M.V.Sc., Ph.D.
Veterinary Public Health	Dr. C. Debnath	Associate Professor	M.V.Sc., Ph.D.
	Dr. I. Samanta	Assistant Professor	M.V.Sc., Ph.D. (on transfer)
Veterinary Surgery & Radiology	Prof. D. Ghosh	Professor	M.V.Sc., Ph.D.
	Prof. S.K. Nandi	Professor	M.V.Sc., Ph.D.
	Prof. S. Hazra	Professor	M.V.Sc., Ph.D.
	Prof. S. Halder	Professor	M.V.Sc., Ph.D.
	Dr. A.K. Maji	Assistant Professor	M.V.Sc., Ph.D.
Veterinary & Animal Husbandry Extension Education	Prof. A. Goswami	Professor	M. V. Sc., Ph. D., D. Litt., FNAVS, FAST, FAPHV
	Dr. D. Ganguli	Assistant Professor	M.V.Sc., Ph.D.

### Faculty of Fishery Sciences

Department	Name of Teacher	Designation	Qualification
Aquaculture	Prof. S. K. Das	Professor	M. Sc, Ph. D
	Prof. T. K. Ghosh	Professor	M. Sc, Ph. D
	Dr. A. Mondal	Associate Professor	M.F. Sc, Ph.D.
Aquatic Animal Health	Prof. T. J. Abraham	Professor	M.F.Sc., Ph.D.
	Prof. G. Dash	Professor	M.F.Sc., Ph.D.
	Sri Prasenjit Mali	Assistant Professor	M.F.Sc.
Aquatic Environment Management	Prof. R. K. Trivedi	Professor	M.F.Sc., Ph.D.
	Prof. B.K. Das	Professor (on Lien)	M.Sc., Ph.D.
	Prof. S. K. Rout	Professor	M.F.Sc., Ph.D.
Fishery Economics & Statistics	Prof. S. Sahu	Professor	M.Sc, M.B.A., Ph.D.
Fishery Engineering	Prof. N.A. Talwar	Professor	M.F.Sc., Ph.D.
Fishery Extension	Prof. S. S. Dana	Professor	M.V. Sc., Ph.D.
	Dr. B. Saha	Associate Professor	M.Sc.(Ag.), Ph.D.
	Mrs. M. Ray Sarkar	Assistant Professor	M.F.Sc.

Department	Name of Teacher	Designation	Qualification
Fish Processing Technology	Prof. K.C Dora	Professor	M.F. Sc, Ph.D.
	Dr. S. Chowdhury	Associate Professor	M.F. Sc, Ph.D.
	Sri Prasanta Murmu	Assistant Professor	M.F.Sc.
Fishery Resources Management	Prof. S. K. Das	Professor	M.F.Sc.,Ph.D.,D.D.E.
	Prof. S. Behera	Professor	M.F.Sc., Ph.D.
	Prof. T.S. Nagesh	Professor	M.F.Sc., Ph.D

### Faculty of Dairy Technology

Department	Name of Teacher	Designation	Qualification
Dairy Chemistry	Prof. P.R.Ray	Professor	Ph.D. (DC)
	Dr. C. Chakraborty	Associate Professor	Ph.D. ( DC)
	Sri D. K. Panda	Contractual Teacher	M.Sc. (DC), PGDM
Dairy Engineering	Prof. P. Maiti	Professor	M.Tech., Ph.D.
	Prof. S.K. Bag	Professor	M.Tech., Ph.D.
	Dr. P. K. Roy	Associate Professor	M.Tech., Ph.D.
	Dr. K. Halder	Assistant Professor	M.Tech.
Dairy Microbiology	Prof. S. Mandal	Professor	M.Sc (DM),Ph.D (DM)
	Dr. L. Haldar	Associate Professor	M.Tech(DM),Ph.D (DM)
	Dr. A.K. Barman	Assistant Professor	M.Sc ( DM)
Dairy Technology	Dr. A. Debnath	Assistant Professor	Ph.D. (DT)
	Prof. Malay Kumar Sanyal	Guest Professor	Ph.D. ( DT)
	Sri G.K. Das	Contractual Teacher	M.Sc. (DT)
	Sri A. Sarkar	Contractual Teacher	M.Sc. (DT)

## II.8. STATE PUBLIC INFORMATION OFFICER

The mandate of Right to Information Act 2005 is timely response to citizen requests for government information. It is an initiative taken by Department of Personnel and Training, Ministry of Personnel, Public Grievances and Pensions to provide a– RTI Portal Gateway to the citizens for quick search of information on the details of first Appellate Authorities, PIOs etc.

Information can be sought by any citizen of India as per the Act. The University has appointed Dr. S Das, Scientist, DREF, WBUAFS as the State Public Information Officer of the University. Sri A K Chakraborty, Secretary, Faculty Council is the Appellate Authority under this system of providing information. The unit is functional since 2005.

## II.9. SC/ST (BCW) CELL

WBUAFS has established SC/ST (BCW) Cell for monitoring & implementation of the reservation policies for the State of West Bengal vide Notification No. WBUAFS/Admn/S-6(Pt-I)/0787 dated 20/09/2012 from the office of the Registrar, WBUAFS. The cell comprises of the following members :

Sl. No.	Name	Position
1.	Prof. P. Biswas, Vice-Chancellor	Chairman
2.	Finance Officer	Liaison Officer
3.	Registrar	Member
4.	Secretary, BCW Dept	Member
5.	Secretary, ARD Dept.	Member
6.	Sri Tarun Saha, Councillor	Member
7.	Sri Sujit Barua, Calcutta University	Member
8.	Dr. Pankaj Kumar Biswas, Deputy Registrar	Member
9.	Dr. B.K. Biswas, Scientist	Member
10.	Prof. Samar Halder	Member
11.	Prof. (Mrs.) Kalyani Ray	Member
12.	Prof. S.K. Bag	Member
13.	Prof. N.A. Talwar	Member
14.	Sri Kishalaya Mandal, Jr. Store Keeper	Member
15.	Sri Ramesh Baskey, Farash	Member
16.	General Secretary, SU, F/OVAS,FS&DT	Member

## II.10. COMPLAINTS COMMITTEE FOR PREVENTION OF SEXUAL HARASSMENT AT WORKPLACE

Sexual harassment at workplace violates the rights and opportunities of women to seek, obtain and hold employment without discrimination. West Bengal University of Animal & Fishery Sciences is always alert to provide a safe work environment to their women employees and include both preventive and remedial measures to make the work environment safe for women employees.

There exists a committee for this purpose in the University since 2004, which is reconstituted from time-to-time. The latest committee was reconstituted vide Notification No. WBUAFS/Admn/N-2/2316 dt. 03/10/2013 with 12 members including Presiding Officer Smt. Aparajita Biswas, Computer Programmer, DREF, WBUAFS and a third party NGO member.

### III. FINANCIAL

#### Report of Finance & Accounts Section, WBUAFS for financial year 2016-17 & 2017-18:

Financial transactions handled by WBUAFS are mainly based on input from State Govt. Funds (both plan & non-plan and capital), Development Grants from ICAR and finance from outside agencies including Govt. of India. The pictures regarding inflow and outflow are depicted as below :

Sl. No.	Heads	Receipt (Rs. in Lakhs)	
		2016-17	2017-18
1.	<b>State Govt. Grant</b>		
	a) Plan	59.24	170.83
	b) Non-Plan	3313.86	3569.94
2.	<b>ICAR Grant – Plan</b>	367.12	498.77
3.	<b>Other Funding Agency</b>	403.33	764.86
4.	<b>Internal Resources</b>	213.68	279.70
<b>Total</b>		4357.23	5284.10

Sl. No.	Heads	Expenditure % of Total Allocation	
		2016-17	2017-18
1.	<b>Teaching</b>	37.15	32.82
2.	<b>Research</b>	19.10	18.67
3.	<b>Extension</b>	3.36	6.80
4.	<b>Education</b>	19.85	21.45
5.	<b>Administration</b>	14.20	14.71
6.	<b>Infrastructural Developments</b>	6.33	5.56



## IV. ACADEMIC

### IV.1. ACADEMIC PROGRAMMES (FACULTY WISE)

The West Bengal University of Animal and Fishery Sciences follows the syllabus framed by Veterinary Council of India (VCI) for the Faculty of Veterinary and Animal Sciences. The courses of Faculty of Fishery Sciences follow the syllabus adopted from Indian Council of Agricultural Research (ICAR) and the courses under Faculty of Dairy Technology are carried out following AICTE, New Delhi guidelines.

Courses offered by the University in the three faculties are as follows:

<b><i>Faculty of Veterinary and Animal Sciences :</i></b>				
	<b><i>Name of Course</i></b>	<b><i>Duration</i></b>	<b><i>Student 2016-17</i></b>	<b><i>Intake 2017-18</i></b>
i)	DVP	2 years Diploma in Vety. Pharmacy	30	29
ii)	B.V.Sc. & A.H.	5 years Bachelor's degree	78	77
iii)	M.V.Sc.	2 years Master's degree	21	39
iv)	Ph. D.	3 years Doctoral degree	16	19

<b><i>Faculty of Fishery Sciences :</i></b>				
	<b><i>Name of Course</i></b>	<b><i>Duration</i></b>	<b><i>Student 2016-17</i></b>	<b><i>Intake 2017-18</i></b>
i)	B.F.Sc.	4 years Bachelor's degree	38	43
ii)	M.F.Sc.	2 years Master's degree	23	25
iii)	Ph.D.	3 years Doctoral degree	6	14

<b><i>Faculty of Dairy Technology :</i></b>				
	<b><i>Name of Course</i></b>	<b><i>Duration</i></b>	<b><i>Student 2016-17</i></b>	<b><i>Intake 2017-18</i></b>
i)	B.Tech. (DT)	4 years Bachelor's degree	43	34
ii)	M. Tech. / M.Sc.	2 years Master's degree	4	7
iii)	Ph. D.	3 years Doctoral degree	1	---

The course curricula undergo modification from time to time following the recommendations of ICAR, VCI and AICTE.

### IV.2. ADMISSION

#### IV.2.1. ADMISSION SCHEDULE

Admission to Undergraduate courses starts generally immediately before or soon after the publication of results of Higher Secondary Examination results conducted by the West Bengal Council of Higher Secondary Education.

In case of postgraduate and Ph.D. courses, admission takes place after qualifying in the Entrance Examinations. 15% seats are filled up by the ICAR nominees.

Academic Session	Begins During
Diploma Course (DVP)	July
UG Courses	July
PG Courses	August – September
Ph.D Courses	November – December

#### **IV.2.2. ADMISSION REQUIREMENTS/PROCEDURE FOR TWO YEAR DIPLOMA COURSE IN VETERINARY PHARMACY**

Candidates seeking admission to the Diploma in Veterinary Pharmacy (DVP) course must secure minimum of 55% marks in Physics, Chemistry, Biology/Mathematics in the 10+2 examination. The admission of the students is on the basis of merit and the intake capacity for the course is 30 containing General and Reserved Category as per the Government rules. The course is run at Mohanpur campus, district. Nadia under Faculty of Veterinary and Animal Sciences.

#### **IV.2.3. ADMISSION REQUIREMENTS / PROCEDURE FOR UNDERGRADUATE STUDIES**

Candidates seeking admission to the B.V.Sc. & A.H. course must qualify in the West Bengal Joint Entrance Examination conducted for entrance to B.V.Sc. & A.H. course. The candidates qualified in the West Bengal Joint Entrance examination conducted for entrance into the Engineering/Technology courses are considered for entry to the B. Tech. (D.T.) course. For B.F. Sc. course application forms are generally available from few branches of UCO Banks as notified in the local daily newspapers. After 15 days of last date of receipt of application forms merit list is generally published on the basis of the marks obtained in the 10+2 Examinations.

The Undergraduate candidates must secure minimum 50% marks altogether in Physics, Chemistry, Biology, English and Vernacular in Higher Secondary or equivalent (10+2) examinations. The candidatures of other Board/Council (10+2) level passed from Institutions in West Bengal are considered provided that the candidate is a domicile of West Bengal. The Scheduled caste / scheduled tribe candidates must secure 40% marks instead of 50% marks altogether in Physics, Chemistry, Biology, English and Vernacular in Higher Secondary or equivalent (10+2) examinations.

22% of seats are reserved for SC and 6% for ST students out of the total number of seats. There is also a reservation of (10% + 7%) for the OBC candidates as per the State Govt. Norms. 15% seats are reserved for VCI nominees for the BVSc & AH course and 4 seats are reserved for BFSc and B.Tech (DT) courses each for ICAR nominees. 3% of seats are reserved for physically challenged candidates for each course.

#### **IV.2.4. ADMISSION REQUIREMENTS FOR MASTER'S DEGREE STUDIES**

The candidates for Master's degree courses must have passed B.V.Sc.&A.H. / B.Sc. (D.T.) / B. Tech. (D.T.) / B. F. Sc. from a recognized University with 55% marks in aggregate (50% marks for SC/ST candidates) in traditional system or with a minimum 6.2 OGPA (6.0 for SC/ST candidates) in 10 point scale. Selection of candidates are carried out by University constituted Selection Committees for the purpose and admitted on the basis of merit and performance in the interview. The merit is decided on the basis of percentage of marks obtained in aggregate or OGPA in Bachelor's Degree Examinations as well as OGPA in subject concerned in which admission is sought. The relative weight-age on overall performance in Bachelor's Degree and in the subject concerned for Master's degree studies is given in the ratio of 2:1. Reservation is followed as per State Govt. rules. One seat is reserved for ICAR nominees.

#### **IV.2.5. ADMISSION REQUIREMENTS FOR DOCTORAL (PhD) STUDIES**

The candidates for Doctorate of Philosophy (Ph.D.) must have passed two years Master's Degree in Veterinary and Animal Sciences, Dairy Science/Dairy Technology, Fishery Science securing 55% marks in aggregate or

. Sc. &amp; A. H./ B.

Tech. (D.T.) / B. F. Sc. from any recognized University or National Institute. Candidates seeking admission to PhD course in a subject shall have passed Master's Degree in the same subject and also have done sufficient courses in the proposed major field of specialization within the subject.

In Ph.D. program of a department total no. of seats in an academic year is set on a ratio of 1:1 (Teacher eligible to guide a student : Number of students) and to a maximum of 3 seats in a department. Again, the reservation of seats is as per State Govt. rules.

## IV.2.6. INTAKE OF STUDENTS

### Academic Year 2016-2017

Courses	Level	General		SC		ST		OBC-A		OBC-B		PwD		Others		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DVP	Diploma	13	4	5	1	2	0	2	1	1	1	0	0	0	0	23	7
B.V.Sc. & AH	UG	30	3	13	5	5	0	8	0	6	0	2	0	4	2	68	10
M.V.Sc.	PG	12	4	4	0	1	0	0	0	0	0	0	0	0	0	17	4
Ph.D. in Vety. & Animal Sciences	Ph.D	12	4	0	0	0	0	0	0	0	0	0	0	0	0	12	4
B.Tech. (DT)	UG	20	5	7	3	1	0	4	0	2	1	0	0	0	0	34	9
M.Tech. (DT)	PG	0	3	1	0	0	0	0	0	0	0	0	0	0	0	1	3
Ph.D. in Dairy Technology	Ph.D	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
B.F. Sc.	UG	11	9	4	5	3	0	3	0	2	1	0	0	0	0	23	15
M.F. Sc.	PG	12	5	4	1	0	1	0	0	0	0	0	0	0	0	16	7
Ph.D. in Fishery Sciences	Ph.D	1	5	0	0	0	0	0	0	0	0	0	0	0	0	1	5

### Academic Year 2017-2018

Courses	Level	General		SC		ST		OBC-A		OBC-B		PwD		Others		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
DVP	Diploma	14	2	6	0	1	1	3	0	1	1	0	0	0	0	25	4
B.V.Sc. & AH	UG	30	2	17	1	4	0	8	0	5	0	2	0	7	1	73	4
M.V.Sc.	PG	16	5	4	3	0	0	0	0	0	0	0	0	7	4	27	12
Ph.D. in Vety. & Animal Sciences	Ph.D	7	5	1	1	1	0	0	0	0	0	0	0	2	2	11	8
B.Tech. (DT)	UG	17	4	3	2	0	1	3	0	4	0	0	0	0	0	27	7
M.Tech. (DT)	PG	3	3	0	1	0	0	0	0	0	0	0	0	0	0	3	4
Ph.D. in Dairy Technology	Ph.D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B.F. Sc.	UG	15	5	7	2	1	1	4	0	2	2	0	1	0	3	29	14
M.F. Sc.	PG	11	7	2	0	1	0	0	0	0	0	0	0	3	1	17	8
Ph.D. in Fishery Sciences	Ph.D	5	5	0	2	0	0	0	0	0	0	0	1	1	0	6	8

### IV.3. OUT-TURN OF STUDENTS

Programme	Course Name	2016-17	
U.G.	B.V.Sc. & A.H.	29	77
	B.F.Sc.	30	
	B.Tech. (D.T.)	18	
P.G.	M.V.Sc.	37	65
	M.F.Sc.	20	
	M.Tech.	08	
Ph.D.	Veterinary Sciences	12	17
	Fishery Sciences	04	
	Dairy Technology	01	
Total			159

### IV.4. ACADEMIC AWARDS FOR THE STUDENTS

Following recognitions are being awarded to the passed-out students of the three faculties as Gold Medals by the University :

#### Faculty of Veterinary & Animal Sciences

- ❖ University's Gold Medal  
(For securing Highest marks in B.V.Sc. & A.H.)
- ❖ Smt. Mira Mallik Gold Medal  
(For securing Highest marks in B.V.Sc. & A.H.)
- ❖ Prof. D.B. Mukherjee Gold Medal  
(For securing Highest marks in Vety. Surgery & radiology in B.V.Sc. & A.H.)
- ❖ First Batch (1953) B.V.Sc. Student Gold Medal  
(For securing Highest marks in 5<sup>th</sup> & 6<sup>th</sup> Semester in B.V.Sc. & A.H.)
- ❖ Dr. S.N. Roy Gold Medal  
(For securing Highest marks in Livestock Farm Management in B.V.Sc. & A.H.)
- ❖ Dr. B.N. Dey Memorial Endowment Gold Medal  
(For securing Highest marks in Vety. Gynaecology & Obstetrics in B.V.Sc. & A.H.)
- ❖ Dr. Subir Kr. Sinha Memorial Gold Medal  
(For securing Highest marks in Vety. Medicine, Ethics & Jurisprudence in B.V.Sc. & A.H.)
- ❖ Dr. D.K. Biswas Gold Medal  
(For securing Highest marks in Poultry Production Management in B.V.Sc. & A.H.)
- ❖ Dr. G.L. Sharma Endowment Gold Medal  
(For securing Highest marks in Vety. Public Health in B.V.Sc. & A.H.)
- ❖ Dr. B.N. Mukherjee Gold Medal  
(For securing Highest marks in Vety. Epidemiology & Preventive Medicine in B.V.Sc. & A.H.)
- ❖ Charu Chandra Koley Gold Medal  
(For securing Highest marks in Animal Genetics & Breeding in B.V.Sc. & A.H.)
- ❖ Dinesh Chandra De and Sova De Memorial Gold Medal  
(For securing Highest marks in 5<sup>th</sup> Composite Annual Examination in B.V.Sc. & A.H.)



- ❖ Dr. (Mrs.) Gita Biswas Gold Medal  
(For securing Highest marks in Vety. Parasitology in B.V.Sc. & A.H.)
- ❖ Dr. Animesh Kumar Chakraborty Gold Medal  
(For securing Highest marks in Vety. Pharmacology & Toxicology in B.V.Sc. & A.H.)
- ❖ Prof. G.C. Banerjee Gold Medal  
(For securing Highest marks in Animal Nutrition in B.V.Sc. & A.H.)
- ❖ Dr. P. Bhattacharya Gold Medal  
(For securing Highest OGPA in Animal Production & Management in M.V.Sc.)
- ❖ Prof. Rathindra Nath Ghosh Gold Medal  
(For securing Highest marks in Vety. Pharmacology & Toxicology in M.V.Sc.)
- ❖ 1972 Batch B.V.Sc. & A.H. Students Gold Medal  
(For securing Highest Marks in B.V.Sc & A.H.]
- ❖ Prof. K. L. Bhowmick & Prof A.K. Majumdar Memorial Gold Medal  
(For securing Highest Marks in Veterinary A.H. Extension Education in B. V. Sc. & A. H.)

#### Faculty of Dairy Technology

- ❖ University's Gold Medal  
(For securing Highest marks in B.Tech. (D.T.)
- ❖ Prof. Sukumar De Gold Medal  
(For securing Highest marks in B.Tech. (D.T.)
- ❖ Smt. Tirthamayee Ganguli Gold Medal  
(For securing First Position in M.Tech. (D.T.)
- ❖ Prof. N. C. Ganguli Memorial Gold Medal  
(For securing First Position in M.Tech. (D.C.)

#### Faculty of Fishery Sciences

- ❖ University's Gold Medal  
(For securing Highest marks in B.F.Sc.)
- ❖ Smt. Lakshmi Das & Sri Kasi Nath Das Gold Medal  
(For securing Highest marks in B.F.Sc.)
- ❖ Smt. Manju Biswas & Dr. K.P. Biswas Gold Medal  
(For securing Highest marks in Fishery Engineering in B.F.Sc.)

During the academic year 2016, 25 (twenty five) passed-out students respectively received different Gold Medals offered by the University.

#### List of the Gold Medal Winners for the year 2016 are as follows :

Sl. No.	Name of Medal & Course	Recipient
		<b>2016-17</b>
1	University Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
2	Smt. Mira Mallik Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
3	Prof. D. B. Mukherjee Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>
4	Dr. S. N. Roy Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>

<b>Sl. No.</b>	<b>Name of Medal &amp; Course</b>	<b>Recipient</b>
		<b>2016-17</b>
5	First Batch(1953) B.V.Sc Students' Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
6	Dr. B. N. Dey Memorial Endowment Gold Medal B.V.Sc & A.H.	<b>Dipak Kumar Banerjee</b>
7	Dr. B. N. Mukherjee Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
8	Charu Chandra Koley Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>
9	Dinesh Chandra De and Sova De Memorial Gold Medal B.V.Sc & A.H.	<b>Subhamoy Ghosh</b>
10	Dr. Subir Kr. Sinha Memorial Gold Medal B.V.Sc & A.H.	<b>Dipak Kumar Banerjee</b>
11	Dr. D. K. Biswas Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>
12	Dr. G. L. Sharma Endowment Gold Medal B.V.Sc & A.H.	<b>Dipak Kumar Banerjee</b>
13	Dr. (Mrs.) Gita Biswas Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>
14	Dr. Animesh Kumar Chakraborty Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
15	Dr. G. C. Banerjee Gold Medal B.V.Sc & A.H.	<b>Lhendup Bhutia</b>
16	1972 Batch B.V.Sc. & A.H. Students Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
17	Prof. K. L. Bhowmick & Prof A.K. Majumdar Memorial Gold Medal B.V.Sc & A.H.	<b>Sujoy Tamang</b>
18	Dr. P. Bhattacharya Gold Medal M.V.Sc.	<b>Tridib Debnath</b>
19	Dr. Rathindranath Ghosh Gold Medal, M.V.Sc.	<b>Sujoy Dasgupta</b>
20	University Gold Medal B.F.Sc.	<b>Arnab Bandyopadhyay</b>
21	Smt. Lakshmi Das & Sri Kasi Nath Das Gold Medal, B.F.Sc.	<b>Arnab Bandyopadhyay</b>
22	Smt. Manju Biswas & K. P. Biswas Gold Medal, B.F.Sc.	<b>Tenji Pem Bhutia</b>
23	University Gold Medal B.Tech. (DT)	<b>Ronit Mandal</b>
24	Prof. Sukumar De Gold Medal B.Tech. (DT)	<b>Ronit Mandal</b>
25	Smt. Tirthamayee Ganguli Gold Medal M.Tech. (DT)	<b>Jaba Roy</b>

#### IV.5. HOSTEL

The University provides hostel facilities to the students admitted to different courses of the University. There are nine hostels, out of which six hostels are ear-marked for boys and three hostels are being used by the girl students.

#### IV.6. SCHOLARSHIPS

Merit Scholarships are being granted every year to the meritorious students of the University for the Undergraduate courses as per approval and guidelines issued by the State Government.

#### IV.7. CONVOCATION

**IV.7.1.** Eleventh Convocation of the University took place on 15<sup>th</sup> June, 2017 at University Headquarters, Belgachia Campus, Kolkata. His Excellency, the Governor of West Bengal and Chancellor of the University Hon'ble Sri Keshari Nath Tripathi inaugurated the convocation and presided over the ceremony.

*A total of 17 students were awarded Ph.D degree, while 65 and 77 students received Master's and Bachelor's degree, respectively covering all the three faculties of the University.*

Faculty wise degrees were awarded to the students for the year 2016 as follows :

<i>Degree in the Faculties</i>	<i>No. of Students</i>
<u>Faculty of Veterinary &amp; Animal Sciences</u>	
<b>B.V.Sc. &amp; A.H.</b>	<b>29</b>
<b>M.V.Sc.</b>	<b>37</b>
<b>Ph.D.</b>	<b>12</b>
<u>Faculty of Fishery Sciences</u>	
<b>B.F.Sc.</b>	<b>30</b>
<b>M.F.Sc.</b>	<b>20</b>
<b>Ph. D.</b>	<b>04</b>
<u>Faculty of Dairy Technology</u>	
<b>B.Tech. (D.T)</b>	<b>18</b>
<b>M.Tech. (D.T)/ M.Sc.</b>	<b>08</b>
<b>Ph.D.</b>	<b>01</b>

#### IV.4. EMPLOYMENT OF THE STUDENTS

University Officials as well as the Faculty members always keep in touch with the passed out students for their counseling towards employment and placement in a job. The alumni also take care of the situation for those going in for employment. Students of this University are being absorbed in different developmental sectors in the State, Country and abroad as well.

The main industrial sectors /sectors absorbing the faculty-wise out-turns of the University are as follows :-

##### IV.8.1.Faculty of Veterinary & Animal Sciences :

- (i) State Govt. Department of Animal Resource Development,
- (ii) Livestock and poultry biological, medicine producing Private companies,
- (iii) Broiler poultry producing Private Companies,

- (iv) Animal feed producing Private Companies,
- (v) State Govt. Administrative services,
- (vi) Bank and P.O. etc.

#### **IV.8.2.Faculty of Dairy Technology :**

The students passed out from the Faculty get employment in National and Multi-national milk & dairy product producers under Govt., Semi Govt. and Private Companies like,

- |   |                                       |                            |
|---|---------------------------------------|----------------------------|
| (i) Glaxo Smithkline,                         | (viii) Amul,                          | (xiv) ITC (Food Division), |
| (ii) Nestle India Ltd.,                       | (ix) Hindustan Lever,                 | (xv) Almarai, Riyadh,      |
| (iii) Perfetti Van-Melle,                     | (x) Fonterra New Zealand Corporation, | (xvi) IBM,                 |
| (iv) Dynamix Dairy Industries Ltd.,           | (xi) NDDB,                            | (xvii) TCS,                |
| (v) Mother Dairy, Kolkata,                    | (xii) Sudha,                          | (xviii) WCMF Ltd.,         |
| (vi) Metro Dairy, Kolkata,                    | (xiii) Verka                          | (xix) ITC Infotech,        |
| (vii) National Food Corporation Ltd., Jeddah, |                                       | (xx) Paras Foods, etc.     |

#### **IV.8.3.Faculty of Fishery Sciences**

The passed out students of the faculty were placed at different Government, Non-Government organizations, Semi-Government organizations, Private Institutes, viz.,

- (i) State Govt. Department of Fishery and other Administrative services,
- (ii) Bank & PO,
- (iii) Central Govt. Research Services,
- (iv) Teaching in different SAUs,
- (v) Animal and fish feed producing Private Companies,
- (vi) KVKs etc.

#### **IV.9. PLACEMENT CELL**

The University has established a Placement Cell since February, 2006. This cell works towards the placement of the passed out students of the three Faculties of the University. Majority of the passed out students get employment through different Competitive examinations in the Government, Semi-Government and Private sector organizations.

#### **IV.10. ANTI RAGGING COMMITTEE**

There exists an anti-ragging committee in the University to prevent ragging in the University.



**IV.11. Award of PG/Ph.D. degree to students for the year 2016:****IV.11.1. List of Ph. D. students awarded :-****A. Faculty of Veterinary & Animal Sciences**

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Nayan Kumar Batul	1907 of 2003-2004	Veterinary Medicine, Ethics & Jurisprudence	8.22	2016
2	Sanjay Kumar Rewani	5231 of 2011-2012	Veterinary Animal Husbandry & Extension Education	8.03	2016
3	Kezhavituo Vupru	2010 of 2003-2004	Veterinary Physiology	8.75	2016
4	Lalita Sharma	5043 of 2010-2011	Veterinary Epidemiology & Preventive Medicine	8.30	2016
5	Suman Podder	1707 of 2002-2003	Veterinary Gynaecology & Obstetrics	7.53	2016
6	Munmun De	4322 of 2005-2006	Veterinary Surgery & Radiology	7.99	2016
7	Nibash Debbarma	5510 of 2013-2014	Livestock Production Management	7.63	2017
8	Bikas Chandra Debnath	5508 of 2013-2014	Animal Nutrition	8.70	2017
9	Subhash Kumar Verma	5071 of 2010-2011	Livestock Products Technology	8.24	2017
10	Sushma Kumari	5511 of 2013-2014	Livestock Products Technology	8.66	2017
11	Reshma Saikhom	5028 of 2010-2011	Animal Genetics Breeding	8.11	2017
12	Rajesh Paul	447 of 1995-1996	Animal Genetics Breeding	8.31	2017

**B. Faculty of Fishery Sciences**

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Ranjit Bordoloi	5380 of 2012-2013	Fish Processing Technology	8.64	2016
2	Amit Mandal	4417 of 2007-2008	Aquaculture	8.75	2017
3	Bhanu Prakash Ch.	5381 of 2012-2013	Aquaculture	8.36	2017
4	Amitava Ghosh	5515 of 2013-2014	Fishery Extension	8.93	2017

**C. Faculty of Dairy Technology**

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Bipin Kumar Singh	1235 of 1999-2000	Dairy Technology	7.89	2017

#### IV.11.2. List of PG students awarded :

##### A Faculty of Veterinary & Animal Sciences

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Sayod Ahmed Barlaskar	5485 of 2013-2014	Veterinary Pathology	8.21	2016
2	Sapath Acharjee	5638 of 2014-2015	Animal Nutrition	8.72	2016
3	Pawan Kumar	5639 of 2014-2015	Animal Nutrition	8.68	2016
4	Rajkapur Tripura	5636 of 2014-2015	Veterinary Biochemistry	8.88	2016
5	Sujata Dey	5642 of 2014-2015	Livestock Production Management	7.68	2016
6	Tridib Debnath	5641 of 2014-2015	Livestock Production Management	7.78	2016
7	Pratik Sharma	5494 of 2014-2015	Veterinary Medicine, Ethics & Jurisprudence	8.14	2016
8	Srijita Ghosh	5489 of 2013-2014	Veterinary Medicine, Ethics & Jurisprudence	7.80	2016
9	Mamoni Das	4792 of 2009-2010	Veterinary Parasitology	8.79	2016
10	Sarath Chandra Reddy K.	5635 of 2014-2015	Veterinary Physiology	8.41	2016
11	Sujoy Dasgupta	5637 of 2014-2015	Veterinary Pharmacology & Toxicology	8.79	2016
12	Apurba Debbarma	5648 of 2014-2015	Veterinary Parasitology	8.36	2016
13	Meenakshi Pradhan	5643 of 2014-2015	Livestock Production Management	7.54	2016
14	Suedenla Tshering Bhutia	4831 of 2009-2010	Veterinary Surgery & Radiology	8.22	2016
15	Souradeep Adhikary	4800 of 2014-2015	Veterinary Surgery & Radiology	7.93	2016
16	Ramesh Kumar Jha	5646 of 2014-2015	Veterinary Surgery & Radiology	8.42	2016
17	Susmita Pal	4843 of 2009-2010	Veterinary Microbiology	8.59	2016
18	Abhiroop Banerjee	4657 of 2008-2009	Veterinary Microbiology	8.83	2016
19	Rohit Raj	5645 of 2014-2015	Veterinary Gynaecology & Obstetrics	8.00	2016
20	Arpita Bera	4809 of 2009-2010	Veterinary Medicine, Ethics & Jurisprudence	8.66	2016
21	Yab Mate	5640 of 2014-2015	Veterinary Medicine, Ethics & Jurisprudence	8.19	2016
22	Sandeep Singh	5644 of 2014-2015	Livestock Products Technology	8.60	2016

23	Onkar Nath Bhaskar	4842 of 2009-2010	Livestock Products Technology	7.90	2016
24	Sagarika Das	5651 of 2014-2015	Veterinary Public Health	8.45	2016
25	Subhankar Baidya	5647 of 2014-2015	Veterinary Epidemiology & Preventive Medicine	8.49	2016
26	Zuchamo Tongoe	5650 of 2014-2015	Veterinary & A.H. Extension Education	7.26	2016
27	Prabhat Kumar	5649 of 2014-2015	Veterinary & A.H. Extension Education	6.59	2016
28	Vinay Kumar Singh	5486 of 2013-2014	Animal Nutrition	8.03	2016
29	Dileep Kumar	5490 of 2013-2014	Veterinary Gynaecology & Obstetrics	7.85	2016
30	Jyotirmay Adhikary	4647 of 2008-2009	Veterinary Anatomy & Histology	8.14	2016
31	Nayana De	4640 of 2008-2009	Livestock Products Technology	8.74	2016
32	Gofur Mondal	4787 of 2009-2010	Veterinary Surgery & Radiology	7.99	2017
33	Bishnu Prasad Sinha	4631 of 2008-2009	Veterinary Pharmacology & Toxicology	8.50	2017
34	Nani Punu	5484 of 2013-2014	Veterinary Pathology	8.06	2017
35	Bhanu Jyoti Sarkar	4810 of 2009-2010	Veterinary Anatomy & Histology	8.11	2017
36	Sujay Karmakar	4805 of 2009-2010	Livestock Products Technology	8.44	2017
37	Yusuf Ahmed	4815 of 2009-2010	Livestock Products Technology	8.18	2017

## B Faculty of Fishery Sciences

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Namrata Gohain	5667 of 2014-2015	Fishery Economics	8.62	2016
2	Durba Pal	5663 of 2014-2015	Fish Processing Technology	8.59	2016
3	Shilpisikha Das	5668 of 2014-2015	Fishery Economics	8.51	2016
4	Baijnath Kumar Sahni	4743 of 2009-2010	Fishery Extension	7.79	2016
5	Snigdha Baksi	4902 of 2010-2011	Fisheries Resource Management	8.53	2016
6	Ipsita Biswas	4916 of 2010-2011	Fisheries Resource Management	8.55	2016
7	Olik Jomang	5665 of 2014-2015	Fisheries Resource Management	8.08	2016

8	Saoni Tripathy	4890 of 2010-2011	Fish Processing Technology	8.54	2016
9	Supradhnya Namdeo Meshram	5658 of 2014-2015	Aquatic Animal Health	8.06	2016
10	Beryl. Julinta ,R	5656 of 2014-2015	Aquatic Animal Health	8.69	2016
11	Debadutyi Biswas	4917 of 2010-2011	Aquatic Animal Health	8.62	2016
12	Tausif Ahmad	5657 of 2014-2015	Aquatic Animal Health	8.59	2016
13	Sanjula Swarnkar	5659 of 2014-2015	Aquaculture	8.24	2016
14	Tulika Mohanta	4904 of 2010-2011	Aquaculture	8.54	2016
15	Ipsita Mondal	4914 of 2010-2011	Aquaculture	8.43	2016
16	Sheetal A.	5654 of 2014-2015	Aquatic Environment Management.	7.90	2016
17	Meenaka Lavanya	5661 of 2014-2015	Fish Processing Technology	7.62	2016
18	Sandeep Kumar Sahu	5653 of 2014-2015	Aquatic Environment Management	7.82	2016
19	Dipanwita Biswas	4910 of 2010-2011	Aquatic Environment Management	7.98	2016
20	Manobita Roy Mondal	4911 of 2010-2011	Aquatic Environment Management	8.13	2016

### C. Faculty of Dairy Technology

Sl. No.	Name	Regn. No.	Subject	O.G.P.A.	Year
1	Anamika Biswas	4938 of 2010-2011	Dairy Microbiology	8.06	2016
2	Rajulagari Madhavi	5670 of 2014-2015	Dairy Microbiology	8.11	2016
3	Biraj Kumar Roy	4778 of 2009-2010	Dairy Engineering	6.89	2016
4	Karmveer Suman	4781 of 2009-2010	Dairy Engineering	6.35	2016
5	Jaba Roy	4615 of 2008-2009	Dairy Technology	7.85	2016
6	Abhisek Kar	4924 of 2010-2011	Dairy Engineering	7.27	2016
7	Nitish Kumar Swain	4944 of 2010-2011	Dairy Technology	6.87	2016
8	Pratigya Pradhan	4943 of 2010 -2011	Dairy Chemistry	7.93	2016



**IV.11.3. List of UG students awarded :****A. Faculty of Veterinary & Animal Sciences**

Sl. No.	Name	Regn. No.	O.G.P.A.	Division	Year
1	Atanu Biswas	5077	6.73	Second Division	2016
2	Debabrata Mallick	5081	6.98	Second Division	2016
3	Dipak Kumar Banerjee	5084	8.28	First Division with Distinction	2016
4	Dipanjana Mondal	5085	7.48	First Division	2016
5	Indrajit Bera	5087	7.94	First Division	2016
6	Kanai Pathak	5088	7.32	First Division	2016
7	Lhendup Bhutia	5089	8.30	First Division with Distinction	2016
8	Matangini Saren	5090	7.49	First Division	2016
9	Md Mofijul Islam	5092	7.22	First Division	2016
10	Mrinmoy Nath	5095	7.53	First Division	2016
11	Pranabesh Mishra	5097	7.93	First Division	2016
12	Prasanna Pal	5098	7.95	First Division	2016
13	Pratyush Batabyal	5099	8.20	First Division with Distinction	2016
14	Pritam Biswas	5100	7.23	First Division	2016
15	Rahul Deb Mukherjee	5102	7.19	First Division	2016
16	Saurav Naskar	5106	7.28	First Division	2016
17	Subhagata Dey	5111	7.33	First Division	2016
18	Suchitra Bhujel	5113	7.86	First Division	2016
19	Sujoy Tamang	5114	8.32	First Division with Distinction	2016
20	Suman Bepari	5115	6.56	Second Division	2016
21	Swarup Singh	5116	6.78	Second Division	2016
22	Amal Sarkar	5120	6.56	Second Division	2016
23	Debabrata Khamrai	5121	7.26	First Division	2016
24	Indranil Karmakar	5122	6.90	Second Division	2016
25	Ramiz Mondal	5125	6.89	Second Division	2016
26	Samina Parveen	5126	7.30	First Division	2016
27	Saumyak Mahata	5127	6.79	Second Division	2016
28	Subhamoy Ghosh	5128	7.99	First Division	2016
29	Sudip Adhikary	5129	7.49	First Division	2016

**B. Faculty of Fishery Sciences**

Sl. No.	Name	Regn. No.	O.G.P.A.	Year
1	Arnab Bandyopadhyay	5293	8.30	2016
2	Arpita Bhagat	5312	7.33	2016

3	Avijit Biswas	5313	7.49	2016
4	Biswadeep Dey	5314	7.98	2016
5	Bratin Mitra	5315	7.44	2016
6	Debanjan Bhattacharyya	5294	7.96	2016
7	Gourab Kumar Panda	5295	8.01	2016
8	Indrajit Mandal	5296	7.48	2016
9	Joydip Majumdar	5297	8.19	2016
10	Kasturi Chattopadhyay	5323	8.29	2016
11	Koyel Sinha	5298	7.58	2016
12	Madhumita Dey	5316	7.89	2016
13	Manas Kumar Maiti	5317	7.61	2016
14	Mosaraf Hossain	5300	8.01	2016
15	Rajdip Gupta	5322	7.45	2016
16	Riyas Rahman P K	5292	8.27	2016
17	Sambit Kisore Das	5302	7.81	2016
18	Sanchita Naskar	5303	8.04	2016
19	Sandipan Mondal	5318	7.59	2016
20	Sayani Dey	5319	8.19	2016
21	Soumyadip Purkait	5304	7.83	2016
22	Sourav Maiti	5305	7.96	2016
23	Subir Kumar Pradhan	5320	7.32	2016
24	Suchismita Saha	5321	7.89	2016
25	Suman Das	5306	7.91	2016
26	Suman Das	5307	7.79	2016
27	Sutanu Karmakar	5308	8.26	2016
28	Suvendu Saha	5309	7.74	2016
29	Tenji Pem Bhutia	5310	8.10	2016
30	Tuhin Pramanik	5311	7.55	2016

### C. Faculty of Dairy Technology

Sl. No.	Name	Regn. No.	O.G.P.A.	Year
1	Ronit Mandal	5342 of 2012-13	8.24	2016
2	Partha Pratim Debnath	5339 of 2012-13	8.21	2016
3	Payal Karmakar	5340 of 2012-13	8.13	2016
4	Shilpa Maity	5334 of 2012-13	8.12	2016
5	Shamim Hossain	5325 of 2012-13	7.94	2016
6	Milan Mandal	5329 of 2012-13	7.84	2016
7	Abhijit Roy	5331 of 2012-13	7.63	2016
8	Satyam Rai	5324 of 2012-13	7.62	2016
9	Kuntal Roy	5328 of 2012-13	7.50	2016
10	Sudeep Sagar Patra	5343 of 2012-13	7.50	2016
11	Maumita Adhikary	5338 of 2012-13	7.35	2016

12	Anish Biswas	5335 of 2012-13	7.34	2016
13	Rakesh Kumar	5333 of 2012-13	7.34	2016
14	Jimi Roy Sarkar	5336 of 2012-13	7.25	2016
15	Rahul Kar	5341 of 2012-13	7.10	2016
16	Shuvojit Ghosh	5330 of 2011-12	6.96	2016
17	Niloy Biswas	5171 of 2011-12	6.59	2016
18	Rabi Sankar Roy	5189 of 2011-12	6.47	2016

**IV.12. Achievements/ recognitions of the students :** The students of WBUAFS take part in several co-curricular activities, such as sports, quiz, All India Agricultural Festival (Agriunifest), Youth Festivals etc. throughout the year. Regular activities such as, Annual Sports and Cultural meets are also organized by the University. Besides this, some other remarkable events that took place in the different campuses of the University are as follows :

**IV.12.1. Personality Development Programme (IGNITE YOUNG MINDS) :** The program was undertaken during 21<sup>st</sup> – 24<sup>th</sup> March, 2017 at Mohanpur campus and at the Headquarters in WBUAFS for BVSc. BfSc. & BTech.(DT) students. Main focus of the training was to develop overall personality of the students.

**IV.12.2. World Yoga Day Celebration :** International Yoga Day was celebrated at the three faculties in the three campuses of the University on 21<sup>st</sup> June, 2016. Around 150 students participated in the programme.

**IV.12.3. Celebration of Agricultural Education Day :** The Indian Council of Agricultural Research has decided to celebrate the birthday (3<sup>rd</sup> December) of the first Indian Union Agriculture Minister and the First President of Independent India, Dr. Rajendra Prasad, as **Agricultural Education Day** in India. Accordingly, Students Welfare Committee, West Bengal University of Animal and Fishery Sciences celebrated Agriculture Education Day, with around sixty five persons including students from Veterinary and Dairy faculty at Mohanpur campus, Nadia. Dr. Uttam Sarkar and Dr. Ananta Kumar Das highlighted about origin of ICAR, need of agriculture educations and challenges faced by agricultural education in India. A quiz programme was also organised for the students to create knowledge about existing scenario in the agriculture sector in India.



In Faculty of Fishery Sciences the programme was chaired by Prof. B.K. Das, Dean of the Faculty. Prof. T. S. Nagesh, In-Charge Students' Welfare was present along with other faculty members, students and supporting staff of the Faculty. Quiz and Extempore competitions were held in which students participated with full enthusiasm and at the end of the program winners were awarded prizes.

**IV.12.4. XVIII All India Agriculture University Sports and Games Meet, 2017-18 (Agri Unisports):** The event was held from 30<sup>th</sup> January, 2018 to 3<sup>rd</sup> February, 2018 at GKVK, UAS, Bengaluru. Thirteen number of students of WBUAFS participated in the different track and field events and volleyball. Dr. Prasanta Murmu, Assistant Professor from the Faculty of Fishery Sciences was the team manager of the above meet.

**IV.12.5. 18<sup>th</sup> All India Inter-Agricultural Universities Youth Festival – 'AgriUniFest 2017-18' :** The festival was hosted by Sri Venkateswara Veterinary University, Tirupati, Chittoor from 12<sup>th</sup> to 16<sup>th</sup> February 2018. It was a colourful event reflecting the culture and traditions of almost all states of India and talents of the students in true sense. 14 Students alongwith the Team Manager, Dr Kunal Batabyal from WBUAFS participated. Diptomoy Bhattacharya, student of BTech Dairy Technology of our university got 4<sup>th</sup> Prize in the Light Vocal (Indian) category.



### Some other Highlights of the year :

1.	The Veterinary Physiology Quiz was organized at Mohanpur campus in which 50 under graduate students participated on 24 <sup>th</sup> October, 2016. One team comprising of two students were selected at the University level for participation at Eastern zone level at OUAT, Bhubneswar on 28 <sup>th</sup> October, 2016. Team grabbed the 2 <sup>nd</sup> prize.
2.	Sri Soumyadip Purkait of M.F.Sc (Fishery Economics) of our University was conferred with Gold Medal in the 3 <sup>rd</sup> Young convention on 23 <sup>rd</sup> -24 <sup>th</sup> February, 2018 organised by Assam Agricultural University, All India Agricultural Students' Association (AIASA) and Indian Council of Agricultural Research at Jorhat.
3.	A workshop was organized with an intention of Faculty Development entitled “Increase Teaching effectiveness” for the faculty members during 24 <sup>th</sup> -25 <sup>th</sup> March, 2018 at Belgachia campus, Kolkata. Forty faculty members from three faculties participated in the above said Workshop.
4.	<ul style="list-style-type: none"> <li>Six numbers of B. F. Sc. students were awarded ICAR- JRF. Mr. Krishna Pada Singha was ranked first in India.</li> <li>One M. F. Sc. student, Ms Canciyal Johnson of the Dept. of Fisheries Resource Management was selected as ARS Scientist and posted at ICAR-Central Inland Fisheries Research Institute (CIFRI), Barrackpore, Kolkata</li> <li>Six numbers of M. F. Sc. students were awarded NET-2017 among them <b>five have qualified ASRB-ICAR-NET-2017</b> and one <b>qualified the UGC-NET-2017</b>.</li> </ul>

### Different Camps / Programmes attended by the students:

Sl. No.	Held on	Location	Student Participation	Camps
1.	20/04/16 to 21/04/16	Chandanpiri, Namkhana, South 24 Pgs	50 Nos. of students alongwith 5 teachers	Health cum Vaccination Camp
2.	15/08/16	Plantation Programme at Mohanpur campus	55 Nos. of students alongwith 19 teachers	Plantation
3.	16/09/16 - 17/09/16	13 <sup>th</sup> National Dairy Food Products Judging & 9th National Dairy & Food Quiz Contest at AAU, Anand	4 Nos. of students along with one teacher of F/o-DT	Quiz Contest
4.	11/11/16	Blood Donation Camp at Mohanpur campus	50 Nos. of Blood Donors and 40 Nos. Volunteers involved	Blood Donation
5.	24/02/17 - 26/02/17	Rangabelia, Gosaba, 24 Pgs. (S)	60 Nos. of BVSc. & AH students alongwith 5 Nos. teachers	Training, Health cum Vaccination Camp
6.	04/03/17- 06/03/17	All India Fishery students' Convention at CIFE, Mumbai	15 Nos. of BFSc. students from Faculty of Fishery Sciences.	Cultural and Poster Competition



## V. RESEARCH

Research activities on various aspects of Veterinary & Animal Husbandry, Dairy Technology and Fishery Sciences, is a continuous process besides the Academic activities in West Bengal University of Animal & Fishery Sciences. Various research projects are being handled by the faculty members of academic departments, scientists and research workers under the supervision and guidance of the Directorate of Research, Extension & Farms.

Faculty members and scientists of the University develop new technologies for the farmers and entrepreneurs of the state through research and extension centre in various agro-climatic zones of the state. The technical knowledge gained from the projects is later disseminated to the livestock owners and fish farmers of the state. The University has always tried to identify priority research areas and set up its own research strategies keeping an eye on eco-friendly, farmer friendly and small farming unit based technologies.

At present the University is conducting 26 various research projects/schemes with a fund allocation of Rs. 1456.27 lakhs sponsored by different funding agencies like ICAR, State Govt. departments, DBT, DST and other institutes of repute.

Fund is being provided to WBUAFS by the State Govt. under two RKVY Programmes. One for the livelihood development of the tribal people of Jhargram Block of West Midnapore and the other for Extension of Animal Health Care Services in Remote Areas of West Bengal. Two Niche Area of Excellence programmes funded by ICAR on “Surveillance of diseases of aquaculture finfish and shellfish in West Bengal and development of disease management strategies” and “Animal Disease Registry and Tissue Bank” have been completed successfully during the last year. Two numbers of 'All India Network Project' on Mariculture and Fish Health are currently ongoing in the Fishery Faculty of the University. 'Establishment of Biotech-KISAN Hub' has recently been granted by DBT, Ministry of Science & Technology, Government of India which enacts as a feather in the cap of the University.

### V.1. FACULTY-WISE DISTRIBUTION OF RESEARCH PROJECTS

<i>Sl.No.</i>	<i>Faculty</i>	<i>No. of projects</i>	<i>Fund allocation</i>
1	Veterinary and Animal Sciences	21	1293.31 lakhs
2	Fishery Sciences	3	154.93 lakhs
3	DREF	2	8.03 lakhs
	<b>Total</b>	<b>26</b>	<b>1456.27 lakhs</b>

### V.2. FACULTY-WISE COMPLETED RESEARCH PROJECTS

<i>Sl.No.</i>	<i>Faculty</i>	<i>No. of projects</i>	<i>Fund allocation</i>
1	Veterinary and Animal Sciences	8	147.75 lakhs
2	Fishery Sciences	2	500.90 lakhs
	<b>Total</b>	<b>10</b>	<b>648.65 lakhs</b>

### V.3. TYPE OF ON-GOING PROJECTS AND FUNDING AGENCIES

<i>Sl.No.</i>	<i>Type of Project</i>	<i>Funding Agency</i>	<i>Numbers</i>
1	All India Coordinated Research Project (AICRP)	ICAR	1
2	All India Network Project (AINP)	ICAR	3
3	RKVY	Govt. of Wb	2
4	Outreach programme	ICAR	2
5	Tribal Sub Plan (TSP)	ICAR	1
6	Ministry of Agriculture, Govt. of India (AH & DF, NBFGR-NFDB etc.)	GOI	1
7	Department of Biotechnology (DBT)	Govt. of India	6
8	Department of Science and Technology (DST)	Govt. of India	2
9	Department of Science and Technology (DST)	Govt. of Wb	3
10	Project Directorate on Poultry, Hyderabad	ICAR	1
13	ICAR project	ICAR	1
14	ARDD, GoWB (PBGSBS)	Govt. of Wb	1
15	Industry	Private	1
16	ICMR, Ministry of Health	GOI	1
		<b>Total</b>	<b>26</b>

### V.4. BRIEF LISTING OF ON-GOING PROJECTS

#### V.4.1. FACULTY OF VETERINARY AND ANIMAL SCIENCES

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
1	AICRP on Goat Improvement Black Bengal Field Unit- Kolkata	ICAR	Dr. M. Roy, Animal Genetics Breeding	52.99 (2016-18)	2000
2	Poultry Seed Project	ICAR,	Prof. A.K. Sahoo, Animal Genetics Breeding	269.89 (12 <sup>th</sup> 5 Yr. Plan)	2008
3	Role of phytobiotics as alternative to antibiotic growth promoters on performance of weanling pig and poultry	DBT, Gov. of India	Dr. G.P. Mandal, Animal Nutrition	19.07	2014

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
4	Evaluation of IFD Newgen DDGS as alternative protein source in commercial broiler chicken	IFB, India	Prof. B. Roy, Animal Nutrition	9.72	2017
5	RKVY Project on Livelihood Improvement of Poor and Tribal People through Livestock Based Enterprises under Selected Villages of Jhargram Block	RKVY ARD Dept., Govt. of West Bengal	Dr. M.C Pakhira, Livestock Farm Complex	950.00	2014
6	Molecular characterization and study of disease resistance genes of indigenous sheep in West Bengal	DBT, GOI	Dr. A. Pal, Livestock Farm Complex	52.00	2014
7	Livelihood Improvement of Poor and Tribal people through Livestock Based Enterprises of Selected villages of West Bengal	Tribal Sub Plan, ICAR	Dr Santanu Bera (upto 28/01/2018) VCC Dr. K.C. Dhara (from 29/01/2018), DREF	104.00 (2016-18)	2017
8	New dimension in Agricultural Marketing and Rural employment generation through value added duck meat products	Ministry of State, DST, Govt. of W.B	Prof. S. Biswas, Livestock Products Technology	17.25	2015
9	Isolation and characterization of osteogenic and neurogenic potential from adipose tissue and its application in canine	ICMR, Ministry of Health, Govt. of India	Prof. S.K. Guha, Vety. Clinical Complex	33.00	2017
10	RKVY Project on Extension of Animal Health Care Services in Remote Areas of West Bengal through Mobile Veterinary Clinic (MVC)	RKVY ARD Dept., Govt. of West Bengal	Dr. Partha Sarathi Jana, Vety. Epidemiology Preventive Medicine	240.80	2015
11	All India Network Programme on Bluetongue	Network programme, ICAR	Dr. S. N. Joardar, Vety. Microbiology	109.76	2001
12	Studies on antimicrobial and anti-biofilm activities of medicinal plant extracts obtained from North Eastern India against pathogenic bacteria isolated from pigs, cattle and poultry of NER India; and cattle, poultry and ducks of West Bengal	DBT, GOI	Dr. S. N. Joardar, Vety. Microbiology	30.36	2017

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
13	Potentiality of phytobiotics to counter prevalent bacteria vis-a-vis to replace use of antibiotics in poultry diet in West Bengal	DST, Ministry of Science & Technology Govt. of WB	Dr. I. Samanta, Vety. Microbiology	17.95	2017
14	Outreach Programme on “Monitoring of Drug Residues and Environmental Pollutants”	Outreach, ICAR	Dr. T.K. Mandal, Vety. Pharmacology & Toxicology	88.00	2010
15	Study of physio-biochemical profile and the effect on heat synchronization of indigenous cow reared traditionally in West Bengal	ARDD, GoWB (PBGSBS)	Prof. P. K. Das, Vety. Physiology	4.19	2016
16	Outreach Programme on Zoonotic Diseases (Dermatophytosis and Cryptococcosis in Animals and Their Public Health Importance).	Outreach, ICAR	Dr. Chanchal Debnath, Veterinary Public Health	71.48	2009
17	North East Silk Based Bio-engineered Vascular Conduits	DBT, GOI	Dr. S. K. Nandi, Vety. Surgery & Radiology	15.70	2017
18	Influence of corneal nerve regeneration on wound healing and its therapeutic modulation	DST, GOI	Dr. Sarbani Hazra, Vety. Surgery & Radiology	52.00	2014
19	Delivery of drugs and cells to the cornea using silk protein-A novel therapeutic approach”	DBT, GOI	Dr. Sarbani Hazra, Vety. Surgery & Radiology	83.40	2014
20	Developing nanoformulation of crystalline protein for rendering neuroprotection and cytoprotection to cornea and retina	DST, GOI (Nanomission)	Dr. Sarbani Hazra, Vety. Surgery & Radiology	78.40	2017
21	Developing new strategies for prevention of corneal blindness in dogs	DBT, GOI	Dr. Sarbani Hazra, Vety. Surgery & Radiology	35.00	2017

#### **V.4.2. FACULTY OF FISHERY SCIENCES**

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
1	Development of Surveillance Programme for Aquatic Animal Diseases in West	NFDB	Dr. Gadadhar Dash, Aquatic Animal Health	76.43	2013

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
	Bengal in collaboration with National Bureau of Fish Genetic Resources (NBFGR), ICAR, Lucknow, Uttar Pradesh, (National Co-ordinator)				
2	All India Network Project on Fish Health	ICAR	Dr. T. J. Abraham, Aquatic Animal Health	58.50	2015
3	Development of Seed Bank and Propagation of Cage Culture of Asian Seabass and Mullet in Coastal West Bengal (AINP on Mariculture)	ICAR	Dr. B. K. Das, Aquatic Environment Management	65.30	2014

#### **V.4.3. DIRECTORATE OF RESEARCH, EXTENSION & FARMS**

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
1	National Information System on Agriculture Education network in India (NISAGENET)	ICAR	Dr. (Mrs.) S. Das, Scientist, DREF	6.58	2005
2	Tilapia Farming in Aquaponics System for Biocontrol of Mosquito-borne diseases and Biopurification of Water with special reference to Duckweed Control	DST, Govt. of WB	Dr. (Mrs.) S. Das, Scientist, DREF	4.95	2016

#### **V.5. BRIEF LISTING OF COMPLETED PROJECTS (2016-18)**

##### **V.5.1. FACULTY OF VETERINARY AND ANIMAL SCIENCES**

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
1	In-situ Conservation on Animal Genetic Resources (Haringhata Black Chicken)	ICAR	Dr. U. Sarkar, Animal Genetics Breeding	21.50	2014-2017
2	Influence of 'THREONINE' (South-East Asia Pvt. Ltd.) on Mucin Biology for better gut health in Commercial Broiler Chicken".	Evonik (South-East Asia Pvt. Ltd.)	Prof. B. Roy, Animal Nutrition	7.50	2015-2017



<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
3	All India Network programme on gastrointestinal Parasitism	Network programme, ICAR	Dr. R. Jash, Vety. Parasitology	13.50	2000-2017
4	Development of Animal cartilage for surgical implantation in Microtia and Rhinoplasty of human patient	DBT, GOI	Dr. S. K. Nandi, Vety. Surgery & Radiology	44.66	2013-2016
5	Development of novel tissue engineered silk biomaterial based wound dressing patch for diabetic foot ulcers	DBT, GOI	Dr. S. K. Nandi, Vety. Surgery & Radiology	14.01	2014-2017
6	Multi-layer Customized Skin Graft for Full Thickness Wound	DBT, GOI	Dr. S. K. Nandi, Vety. Surgery & Radiology	1.585	2014-2017
7	Modernization of Belgachia and Mohanpur Clinics	RKVY, Govt. of WB	Prof. D. Ghosh, Vety. Surgery & Radiology	25.00	2015-2017
8	Establishment of stem cell laboratory	ICMR & RKVY, Govt. of WB	Prof. S. Guha, Vety. Surgery & Radiology	20.00	2015-2018

#### **V.5.2. FACULTY OF FISHERY SCIENCES**

<i>Sl. No</i>	<i>Title of the Project</i>	<i>Funding Agency</i>	<i>Principal Investigator and Department</i>	<i>Fund Sanctioned (In lakhs)</i>	<i>Year of initiation</i>
1	Niche Area of Excellence on Surveillance of diseases of aquacultured finfish and shellfish and development of disease management strategies	ICAR	Dr. T. J. Abraham, Aquatic Animal Health	488.97	2012 - 2016
2	Assessment of Extent of Community Dependence on the Coastal Ecologically Sensitive Areas (ESAS) in Sundarban, West Bengal and Bhitarkanika, Odissa	NCSCM Ministry of Environment & Forests Govt. of India	Prof. R. K. Trivedi, Aquatic Environment Management	12.00	2015-2016

## V.6. SALIENT ACHIEVEMENTS OF ON-GOING PROJECTS

### V.6.1. HIGHLIGHTS OF THE PROJECTS CONDUCTED IN THE FACULTY OF VETERINARY AND ANIMAL SCIENCES

#### 1. AICRP on 'Goat improvement, Black Bengal (Field unit)'

The Project had four growth centers in 2012-13 (Ayeshpur, Doluipur, Ganguria, Rangabelia-Jatirampur) in the project "AICRP on Goat Improvement - Black Bengal Field Unit". Presently it has been spread to five clusters in 2017-18 covering 11 village centres distributed in five different districts viz. Sundarban Delta (partially tribal based), Jhargram (mostly tribal based), Nadia (partially minority based), Murshidabad (partially Scheduled Caste based), and Dhupguri (Scheduled Caste based). The number of registered doe, stakeholders as well as population of Black Bengal Goat in adopted areas is increased about 54.47%, 103.15% and 27.82% respectively. Significant improvement in body weight has also been achieved from birth to adult (i.e. at birth 7.59 %, at 3 month 9.60 %, at 6 month 2.74 %, at 9 month 7.48 % and at 12 month 3.73 %) by using more number of superior bucks. About 58% milk production has also enhanced in Black Bengal Goat within an average 60 days lactation period. Physiological response (i.e. Heart rate, Respiration rate and Rectal temperature) has been improved which is reflected by better growth and production performance. The reproductive efficiency has also been shown maintained at its peak level like previous years. The average litter size is maintained at a standard level (around 1.8) in all the years with maximum twinning (54 %), followed by singlet (30 %), triplet (14 %), quadruplet and above (2 %). The average flock strength of the farmers is maintained around 5.94 and number of farmers belonging to the group having 5 to 8 nos. of goat has increased indicating the increased interest in goat rearing. Annual mortality rate (6.55 %) and morbidity rate (43.07 %) has also reduced as compared to previous years. Sale of goat has increased with 58.31% more annual income generation from goat rearing in 2017-18 than last three years along with 17.35 % more income per doe per year basis. Some superior bucks and does having high breeding capacity as well as mosquito net and umbrella have been distributed to tribal farmers. Goat exhibition and competition has also been organized in all adopted areas with suitable prize to the winner goat keepers. Linkages have been made with Government bodies, KVK and NGO's for better implementation of the project jobs. At present, the activities of AICRP on Goat Improvement is successful enough to create awareness among the goat farmers about identification and record keeping, disadvantages of early breeding of young goats, regular vaccination and deworming, importance of giving supplementary feed to goats, optimum age and weight of goats for sale with expected market rate, first aid treatment etc through organization of several health and vaccination camps along with other extension activities like meeting, interactive sessions, training etc.

#### 2. Role of phytochemicals as alternative to antibiotic growth promoters on performance of weanling pig and poultry

Minimum inhibitory concentrations and antibacterial properties of plant extracts (water and methanol extract of Garlic bulb, Clove bud, cinnamon bark, Tulsi leaf, Tamarind leaf and bark, Bougainvillea leaf, Black pepper seed, Black cumin seed and Ajwain seed) and oils (Cinnamon bark, Clove bud, Garlic bulb and Ajwain seed oils) against major poultry pathogens such as *E. Coli* and *Salmonella Gallinarum* were investigated. Cinnamon bark oil showed lowest MIC against *E. coli* (0.98-1.56 µl/ml) and *Salmonella Gallinarum* (1.56-1.95 µl/ml) which was followed by Ajwain seed oil (1.562-1.953 µl/ml against both bacteria) and Clove bud oil (6.25-7.81 µl/ml against *E. coli* and 3.125-3.91 µl/ml against *Salmonella*

Gallinarum). Cinnamon bark oil and Ajawan seed oil produced highest zone of inhibition against *E. coli* (23 mm, 25 mm) and *Salmonella* Gallinarum (33 mm, 27 mm) which is even more than common antibiotics. The zone of inhibition for clove bud oil and garlic bulb oils was 17 and 9 mm, respectively against *E.coli* and 15 and 8 mm, respectively against *Salmonella* Gallinarum. It is concluded that Cinnamon bark oil, Ajwain seed oil and clove bud oils showed antibacterial properties against major poultry pathogens such as *E. Coli* and *Salmonella* Gallinarum.

### **3. RKVY on Livelihood Improvement of Poor and Tribal People through Livestock Based Enterprises under Selected Villages of Jhargram Block**

- a) 400 nos of women from landless, marginal and S.T. (Sabar/Santhal) beneficiaries were selected for distribution of Livestock divided in three different interventions i.e. Goat+Pig; Pig+Poultry; Poultry+Goat for Entrepreneurship development.  
22 nos of Vermi Compost pit were prepared at farmer's house for income generation among tribal women to increase the soil fertility as well as crop production.
- b) 1 no of Farmers Training programme involving 60 nos of women farmers were organized on Kitchen Gardening and Vermicompost at Panchayet level.
- c) 6 nos of Farmers Training programme involving 623 nos of women farmers were organized on Housing, Management and basic treatment of Goat, Pig & Poultry at Panchayet level.
- d) 94 nos of Health and Vaccination camp organized at 50 nos of villages under Aguiboni, Lodhasuli, Patashimul G.P.s, Jhargram, West Medinipore
- e) 1450 nos of Black Bengal Goat, 450 nos of Ghoongroo Piglets, 9267 nos of Vanaraja Chicks were distributed to the selected beneficiaries.
- f) Vaccination done against PPR (3502 dose), Goat Pox (1254 dose), FMD (1467 dose), HSBQ (375 dose), RD (8954)
- g) Area specific mineral mixture and Balanced Livestock Feed were supplied.
- h) Veterinary aids at farmers doorstep based upon farmer's need provided on regular basis.
- i) Marketing of processed and frozen chicken from Vonraja has been initiated through WBLDC.

#### **Achievements For the Year 2017-18:**

- a) 200 nos of women from landless, marginal and S.T. (Sabar/Santhal) beneficiaries were selected for distribution of Livestock divided in three different interventions i.e. Goat+Pig; Pig+Poultry; Poultry+Goat for Entrepreneurship development
- b) 6 nos of Farmers Training programme for 2 days involving 655 nos of women farmers were organized on Housing, Management and basic treatment of Goat, Pig & Poultry at Panchayet level.
- c) 85 nos of Health and Vaccination camp organized at 50 nos of villages under Aguiboni, Lodhasuli, Patashimul G.P., Jhargram, Paschim Medinipore
- d) 550 nos of Black Bengal Goat, 300 nos of Ghoongroo Piglets were distributed to the selected beneficiaries.
- e) Vaccination done against PPR (3412 dose), Goat Pox (1212 dose).
- f) Area specific mineral mixture and Balanced Livestock Feed were supplied.
- g) Veterinary aids at farmers' doorstep based upon farmer's need provided on regular basis.
- h) Marketing of processed and frozen chicken from Vonraja has been initiated through WBLDC.





Beneficiary with Vonaraja bird



A progressive livestock farmer



Interaction among beneficiaries with Hon'ble Vice-Chancellor



Farmer's Training at village level

#### 4. Molecular characterization and study of disease resistance genes in indigenous sheep of West Bengal

Under the project, documentation of a new breed of sheep from the dry arid region of West Bengal was done which is designated as **Birbhum sheep**. The unique feature identified for the breed observed was to be more resistant to common diseases and highly prolific compared to other sheep breeds of West Bengal. The University has proposed to procure some animals to Livestock farm for Student's demonstration purpose. Genetic characterization was conducted with biomorphometric tests and cluster analysis (Hierarchical and K-means) and principal component analysis were employed to reveal distinct genetic identity of this breed. The immune response genes or disease resistant genes were characterized for Birbhum sheep. Molecular Genetic Characterization were conducted with mitochondrial genes, microsatellite genotyping and finally NGS studies were employed to prove the genetic distinctness of this breed.

#### 5. New dimension in Agricultural Marketing and Rural employment generation through value added duck meat products

##### Observations & findings of the Project :

1. Nugget, meat ball and pickles prepared from duck meat were standardized and thereafter shelf-life of these products was analyzed including microbiological studies.
2. Acceptability of these products among consumers is to be assessed and for that consumer's survey relevant questionnaires are being prepared and almost ready for taking the feedback from the panel.
3. Two field survey had been conducted in Nadia and South 24 pgs districts among the duck farmers especially women folk to select the groups. These groups were surveyed on various socio-economical

parameters including the knowledge of duck meat consumption and marketing by a set of questionnaire.

4. 50 nos of women duck raisers were identified and given hands on training at two places, Mohanpur University campus, Nadia and Nimpith KVK, south 24 pgs with exposures visit to duck rearing farms.
5. Consumers market survey were conducted on the acceptability of duck meat and duck meat products in different places of Nadia, South 24 pgs, North 24 pgs and Murshidabad Districts among 240 consumers (60 from each District).
6. Results were statistically analyzed with different socio-economic parameters.
7. Further refinements of products preparation were also taken up for complete standardization of each product namely Duck Meat Ball, Duck meat Nuggets and Duck Meat Pickles.
8. Some trials were conducted for product preparations where combination of culled chicken meat and culled duck meat were combined to judge the different product quality character including sensory acceptability.
9. The results are still inconclusive to draw a final decision.

### **Product Preparation and Standardization**



**Duck Meat pickle**



**Duck Meat ball**



**Duck Meat nugget**



**Hands on Training for products preparation**





**Farmers' hands on Training at Dairy Faculty**



**ASCI Training Programme organized by DREF, WBUAFS**



**Farmers' Training at Faculty of Fishery Sciences**

#### **6. RKVY Project on Extension of Animal Health Care Services in Remote Areas of West Bengal through Mobile Veterinary Clinic (MVC)**

**Major findings during 2016-18 are as follows :**

- (i) Extension of facilities of free on-spot diagnosis, treatment and vaccination of animal and birds in remote areas of the district.
- (ii) Correction of infertility problems of livestock and awareness generation regarding breeding and management of infertility
- (iii) Creation of awareness on scientific animal husbandry practices among the farmers.



**Animal health camp at Garhbeta-II block under RKVY on MVC**



**Animal health camp at Jamboni block under RKVY on MVC**

#### **7. All India Network Programme on 'Bluetongue disease'**

Some of the achievements of this Network project during 2016-18 are depicted below:

- Serum samples of sheep, goat and cattle were thoroughly screened and anti-BT antibodies was detected for the first time in ruminants of Bihar, Mizoram and Sikkim state.

- Studies were carried out to detect mixed infections of PPR and bluetongue in goats, if any, using goat serum samples of West Bengal, Bihar, Tripura and Sikkim. Anti-PPR and anti-BT antibodies both were detected in several serum samples (more than 15%) indicating co-infection of BT and PPR.
- One BTV isolate (WB/G/Nad-6), was generated from goat blood collected from Nadia District (New Alluvial zone) and one BTV isolate (P-26) from goat blood of Purulia District (Red latterite agro-climatic zone) of West Bengal.
- *Culicoides oxystoma* was identified as major species of Culicoides midges West Bengal by morphological characteristics and molecular method.
- Six (6) BT awareness camps organized in different districts of West Bengal, Tripura and Manipur that attended more than 400 animal farmers of the state.

#### **8. Studies on antimicrobial and anti-biofilm activities of medicinal plant extracts obtained from North Eastern India against pathogenic bacteria isolated from pigs, cattle and poultry of NER India; and cattle, poultry and ducks of West Bengal**

**Important observations during 2016-18 are as follows :**

- EHEC O157, a major food-borne pathogen was detected in duck in West Bengal
- Biofilm producing *E. coli* and *Salmonella* isolates were detected for the first time in poultry and ducks of West Bengal
- AmpC gene was detected as most prevalent antimicrobial resistance genes among the studied ESBL and AmpC genes in *E. coli* and *Salmonella* isolates followed by CTX-M in cattle in West Bengal
- A positive correlation between biofilm associated gene (*csgA*) and antimicrobial resistance gene (*bla<sub>AmpC</sub>*) was observed in *E. coli* isolated from cattle in West Bengal

#### **9. Potentiality of phytobiotics to counter prevalent bacteria vis-a-vis to replace use of antibiotics in poultry diet in West Bengal**

- AmpC gene was detected as most prevalent antimicrobial resistance genes among the studied ESBL and AmpC genes in *E. coli* and *Salmonella* isolates followed by CTX-M in poultry in West Bengal
- A positive correlation between biofilm associated gene (*csgA*) and antimicrobial resistance gene (*bla<sub>AmpC</sub>*) was observed in *E. coli* isolated from poultry in West Bengal

#### **10. Outreach Programme on “Monitoring of Drug Residues and Environmental Pollutants”**

Collection of biological samples to determine pesticide and antibacterial residue in egg, chicken, chevon and milk samples from the districts of Purulia and West Midnapore under the state of West Bengal and districts of Baleswar and Mayurbhanj under the state of Odisha.

Analysis of pesticides and antibacterials were done in collected animal samples using Gas Liquid Chromatography and High Performance Liquid Chromatography.

δ-HCH was present in 20.3% of chicken sample while δ was detected in 44.5% of chicken samples and Alachlor could be detected in 46.8% of chicken samples. All these values were below MRL. No other pesticides and anti bacterials could be detected in chevon, egg and milk samples collected from different districts.

#### **11. Outreach Programme on Zoonotic Diseases (Dermatophytosis and Cryptococcosis in Animals and their Public Health Importance).**

The collaborating centre in West Bengal is working on “*Dermatophytosis and Cryptococcosis in animals and their public health importance*”. Salient achievements of the project at this centre is as follows :

**Cryptococcosis:**

- Study among the different caged wild birds of Alipore Zoological Garden, Kolkata revealed the presence of the pathogen in 5.59% of the birds. 81.82% (18/22) of the total isolates were genetically confirmed as *C. neoformans* var. *neoformans* by PCR amplification of CNLAC1 OUTER gene (1.2kbp) of *C. neoformans* var. *neoformans*.
- Antifungal sensitivity of 18 PCR confirmed *Cryptococcus* isolates revealed that 1 isolate (5.55%) showed their resistance to ketoconazole, 5 isolates (27.78%) were found resistant to fluconazole, 1 (5.55%) isolate was found resistant to itraconazole, 2 isolates (11.11%) were found to be resistant to flucytosine, 1 isolate (5.55%) was found resistant to caspofungin and 6 isolates (33.33%) showed their resistance to amphotericin B.
- A comprehensive in vivo and in vitro pathogenicity study with 14 selected isolates of *Cryptococcus neoformans* distributed in 4 distinct RAPD fingerprint patterns revealed that two isolates namely CNI (Pattern I) and CN9 (Pattern IV) were more pathogenic than that of the other RAPD Types. There was a marked difference in potency of virulence factors of the *C. neoformans*. Melanin was detected for having higher pathogenic effect and more essential to produce infection than the urease. Cystic lesion formed initially in liver and brain changed to granuloma in liver at later stage but remained unchanged in brain.

**Dermatophytosis:**

- The prevalence of dermatophytic fungal infection detected in humans, dogs and cats was 25.21%, 18.72% and 41.96% respectively.
- In case of dog, young animals were found significantly more susceptible than the adults
- In case of humans, the most occurrence of dermatophytes age group was 31-40 years.
- Zoophilic dermatophytes were mostly recovered from the human cases and from rural area with contact group.
- The occurrence of both human and animal dermatophytoses was comparatively high in the period from April and May, when average monthly rainfall, average monthly temperature and average monthly humidity in the region are also high.
- The antifungal susceptibility test by broth micro-dilution assay concluded that, an almost similar pattern of susceptibility was observed to each antifungal agent tested. The MICs (Minimal Inhibitory Concentration) of 6 antifungal agents for 173 dermatophytes isolates were evaluated. 21 (16.03%) dermatophyte strains (9 *T. mentagrophytes*, 7 *M. canis* and 5 *M. gypseum*) had MICs of Fluconazole of 64 µg/ml. 12 (9.16%) dermatophyte strains (8 *T. rubrum* and 4 *T. mentagrophytes*) had MICs of Ketoconazole of 2 µg/ml. Again 32 *M. canis* isolates had MICs of 4 µg/ml for Griseofulvin. These findings obviously indicate the development of a kind of resistance of the above-mentioned dermatophytes against those antifungal agents. However, most of the isolates showed low MIC values of 0.03 µg/ml for Itraconazole, Miconazole and Amphotericin-B.

## V.6.2. HIGHLIGHTS OF THE PROJECTS CONDUCTED IN THE FACULTY OF FISHERY SCIENCES

### 1. Surveillance of Freshwater Fish and Shellfish Diseases in West Bengal (NSPAAD)

- Sur. of diseases had been identified among them, bacterial 08, parasitic 15, viral 01, fungal 01, Nutriveillance of 17 different cultured food fishes and 3 cultured shrimp/prawn species (economically important) and 10 different freshwater ornamental fish species.
- Documented the prevalence of OIE listed disease (WSV) and diseases of National concern such as Myxoboliasis, Argulosis, Thelohanellosis, Trichodiniasis, Dactylogyrosis, Ichthyophthiriasis,



### Aeromoniasis and Vibriosis in West Bengal.

- Three different types of vertebral deformities such as lordosis, scoliosis and fish opercula deformity syndrome (FODS)
- Total 34 nos of disorders 06, Stress mediated diseases 03.
- 4 districts (5 blocks each) fully covered under active surveillance.
- 6 districts (approx. 10 blocks) covered under passive surveillance.
- 7 nos of gene sequence (16S rRNA/18S rRNA) submitted to NCBI Gen Bank.
- Total 34 nos of awareness programmes were conducted
- Total 24 nos of trainings (Officer's & farmer's level) were made.
- Total 7 nos of research papers were published in various journals of National & International repute under NSPAAD programme.
- 7 nos of leaflets and 5 nos of training manuals were published in regional languages.
- 4 nos of PG students successfully completed their thesis work under NSPAAD programme
- A total of 58 Farmers training programmes and Awareness Camps have been completed, benefitting 6000 numbers of fish/Shrimp farmers and 58 Fishery Extension Officers.
- Submitted 443 nos of baseline data out of which (216 nos active and 227 nos passive), 305 nos of biological information sheets and 03 nos of disease outbreaks information and 174 nos of Hatchery information sheets to the NSPAAD website for development of **National Database**. These information includes both fish and shellfish.
- Farm Advisory services through Whatsapp, messages, e-mail, TV programmes & over telephone to the farmers/hatchery personnel's/NGOS/Private entrepreneurs through which a strong rapport has been developed among the fish/shrimp farming community and also with the Govt. Machinery.



PI delivering talk on fish disease management to the farmers at Moyna, East Midnapore



Field demonstration of indentifying and planktons to the famers of different zones of West Bengal at Chakgaria campus, led by the officials of FFRTC, Kalyani, Nadia

## 2. All India Network Project on Fish Health

- *Oreochromis niloticus* challenged with *A. hydrophila* and *A. caviae* was able to elicit similar systemic pathogenesis both on the external body parts and internal organs

- Treatment with OTC gave better results as it reduced tilapia mortalities significantly in all challenge trials with *Aeromonas hydrophila* and *A. caviae* compared to control.
- The histopathological findings suggested marked improvement in the kidney, liver and muscle tissues of *A. hydrophila* and *A. caviae* infected *O. niloticus* upon OTC treatment.
- No traces of OTC residues were detected in bath treated *O. niloticus* fries on and after 15 day post-OTC treatment, as analyzed by ELISA kit, thus conforming the regulatory guidelines.
- The biosafety of OTC was evaluated by feeding tilapia with OTC feeds containing 0-10 times the approved dose (80 mg/kg fish) and also on monosex tilapia fries with OTC baths containing 0-10 times the approved dose (700 mg/L) for 10, 20 and 30 days.
- The OTC at lower dose (40 mg/kg fish) had a growth promoting effect on tilapia.
- The kidneys of 10 20 and 30 days OTC fed tilapia at 800 mg/kg fish had glomerulopathy and nephropathy, and liver had severe fatty changes in hepatic parenchyma.
- Detectable levels of OTC residues were noted in tissues by LC/MS/MS even after 22 days of cessation of OTC feeding, which may have negative impacts on fish and public health.
- The following awareness programmes were conducted during the reporting period
  - i. Fish disease awareness camp at Ramsagar, Bankura Dt on December 2016
  - ii. BMP in shrimp culture during the Bengal Aqua Expo-2017 at Contai, Midnapur (E) Dt on January 2017
  - iii. BMP in shrimp culture at Haldia, Midnapur East Dt on January 2017
  - iv. Fish disease awareness camp Dhaniakali, Hooghly Dt on February 2017
  - v. Awareness programme on Acute Hepatopancreatic Necrosis Disease (AHPND) at Hasnabad Block, North 24 Parganas District in collaboration with ICAR-CIFRI, Barrackpore and Department of Fisheries, Govt of West Bengal, Kolkata on 03.03.2018.
- Prevalence of transboundary aquatic animal diseases such as white spot disease, myonecrosis, Enterocytozoon hepatopenaei, running mortality syndrome and white faecal syndrome in shrimp, and Cyprinid herpesvirus 2 in gold fish were noticed during the reporting period.
- The information on the “Usage pattern of aquadugs and chemicals in aquaculture” was collected from 706 fish and shrimp farms spreading over 13 districts of West Bengal.

### 3. All India Network Project on Mariculture

The Faculty of Fishery Sciences of West Bengal University of Animal and Fishery Sciences, Chakgaria has successfully implemented an “All India Network Project on Mariculture” funded by ICAR-Central Marine Fisheries Research Institute, Cochin at Digha in the existing Experimental Prawn Hatchery Complex of the Department of Fisheries, Govt. of West Bengal with active co-operation of the Department of Fisheries, Govt. of West Bengal.

The main objective of the project is to culture economically and commercially important fin-fishes like Bhetki or Asia Sea Bass (*Lates calcarifer*), Pompano etc. in open sea Cages for enhancing marine fish production. The project was launched simultaneously in the Five (05) Fisheries Colleges under the State Agriculture Universities (SAUs) and six (06) CMFRI Institute of the country with same objective but on different species available in that locality. It is a unique effort for enhancing the fish production particularly in marine environment. In West Bengal, the marine capture fisheries have been declined day by day. In this situation, the project will be given a new light to the coastal fisher folks for enhancing their income and livelihood.





**Cage Culture**

### **V.6.3. HIGHLIGHTS OF THE PROJECT CONDUCTED IN THE DIRECTORATE OF RESEARCH, EXTENSION & FARMS**

#### **1. National Information System in Agricultural Education Network of India (NISAGENET)**

The National Information System on Agricultural Education Network in India (NISAGENET) portal is under continuous monitoring at the Central Server of IASRI, New Delhi under the supervision of NISAGENET team, IASRI. The main objective of this project is to generate different types of reports on agricultural education in India. The nodes are provided with unified information system for collection, compilation and modification of data which are later analysed and compiled at the Central unit to portray about the activities of the agricultural education system in India. The portal provides a wide spectrum of information relevant to the SAUs and Deemed universities under ICAR.

NISAGENET Cell was established at West Bengal University of Animal and Fishery Sciences in January, 2005 to update and upload information about the University on the NISAGENET portal server.

The NISAGENET system as a whole works on collection, compilation and analysis of information about the activities of the agricultural education system in India. It provides all the information as desired by National Statistical Commission (NSC-2001) from the data available at Central Server. The statistical data is also being provided to Ministry of HRD from IASRI, New Delhi, as per requirement from time to time.

#### **2. Tilapia Farming in Aquaponics System for Biocontrol of Mosquito-borne diseases and Biopurification of Water with special reference to Duckweed Control**

An aquaponics unit has been established at Mohanpur campus. In this unit, 3 types of mechanisms have been adopted. The aquaponics system, i.e. cultivation of vegetables without soil is being established where the water containing fish excreta is pumped to the vegetable-cultivating containers. Three types of systems are developed. One is floating raft-system, second is vegetable cultivation in pipes through which the water rich in fish excreta is passed and the third one is the containers/plastic tubs with gravels where vegetables are grown and the water containing fish excreta is supplied to the containers and recycled to the fish cultivating FRP tanks after de-nitrification by the plants. We have used tilapia fish in the project. We have grown vegetables like cauliflower, cabbage, brinjal, paddy-plant, corn plant, tomato, etc. It is totally an

organic system of culture where, ammonia-rich fish excreta is used as the manure for the crops. This system is also a water-saving culture system where same water is recycled for fish cultivation.



As a part of the project, we have already trained 26 framers of North 24 pgs district in a two –day long training programme, where along with theoretical classes, they were trained with practical session at the project site.

### 1. **Livelihood Improvement of Poor and Tribal people through Livestock Based Enterprises of Selected villages of West Bengal**

Livelihood Improvement of Poor and Tribal people through Livestock Based Enterprises in the selected villages of West Bengal under TSP is one of the flagship extension activities of ICAR implemented in West Bengal under West Bengal University of Animal and Fishery Sciences during 2016-17 and 2017-18. The Project aims at various extension activities including Training, Health care and providing best quality of **Black Bengal Goat, Ghongroo Pig, Garole Sheep and Banraja poultry** along with input distribution like feed, mineral mixture, vaccination etc. to the needy farmers belonging to Schedule Tribes community in six cluster areas (six districts) of West Bengal for improvement of livelihood of these farmers. 183 farmers in the year 2016-17 and 246 farmers in the year 2017-18 have been covered by the project. Extensive training (both Institute level and Village level) have been provided to more than 1857 farmers (out of which 55.47% are women farmerfolk) of different clusters viz Habra-I & II North 24 Parganas, Illambazar, Birbhum, Lodhasuli, Jhargram, Bandowan, Purulia, Purbashali-I, East Burdwan and Bali, Gosaba, South 24 Parganas under the project.



**Photograph of Training at Institute level and Village level Training**



**Economic success** by distribution of best quality of animal breeds among the tribal farmers from the year 2016-17 are some of the glimpses of success of the project in terms of economic benefit as reflected compared to the earlier year response and experience. Upliftment and inclusion of tribals in mainstream is one of the cherished goal of such policy. Two women farmers **Smt. Renuka Sardar** and **Smt Sumitra Sardar** of **Bali, Gosaba, South 24 Parganas Cluster** has achieved some success through the inputs provided

to them under this project. Their family income rose 1.5 times and they opened a new bank account where they have deposited Rupees 9,500/- generated out of sale price of Kids produced from Sheep

and Goat they had received originally. **Rupali Mallick** of **Lodhasuli, Jhargram Cluster** has also achieved some economic benefit through sale of Ghongroo Piglet produced out of the distributed animal and he has earned more than Rs 6,000/-. Such type success stories will be achieved as the project progress as the return from livestock based



entrepreneurship is time consuming. However, by seeing the economic encouragement, neighbouring farmers are also interested to avail the benefit under TSP for Livestock Based Enterprises.



## VI. EXTENSION & OUTREACH ACTIVITIES

The aim of Extension activity in WBUAFS is to ensure enhancement in productivity from the animal and fishery sectors through generation of employment and in turn increment of income. Such extension activities also help in gathering feed-back from the beneficiaries. These feedbacks help in the design of future research and education activities, such as setting up farmers' need based training modules. In WBUAFS, outreach activities are basically farmers' enrichment programme by the scientists and extension educationists, along with the support and initiative from the Government and non-government organisations. So farmers' or their representative's participation is a must in such extension activities. The extension system is designed keeping in mind socio-economically weak farming community, which is larger in size. It is always being tried to extend helping hands towards the farmers with either small or no landholdings thus demanding for lesser infrastructural requirement for their development.

### VI.1. EXTENSION EDUCATION

Directorate of Research, Extension & Farms manages planning and execution of all the extension activities of the University in close consultation and co-operation of the faculty members through the Deans of the faculties. It also plays an important role in collaborating and coordinating the research findings and outreach programmes with the State Govt. Department of Animal Resource Development, Fishery Development and other Govt. and Non-Govt. organizations. The Directorate also organizes different types of seminars, symposium, training programmes, workshops and refresher courses etc. at regular intervals. Another important extension activity is publication of periodicals, farm journals, newsletters, research highlights, leaflet, booklets etc. to create awareness amongst the farmers on latest technological advancements in the field of Veterinary, Dairy and Fishery Sciences. The department is also responsible for arranging awareness camps, production of documentary films, participation in technology demonstration fairs and exhibitions, radio and TV shows at frequent intervals. It also coordinates several programs with the aim to disseminate knowledge evolved through technologies developed in the University to the rural mass. The Directorate also provides guidance and supervises the activities of the different KVKs under its control. Moreover, it monitors the extension of knowledge and information about the activities of the University through media, be it either in print or electronic form or through web.

### VI.2. CONFERENCE/WORKSHOP/SYMPOSIUM/SEMINAR/TRAINING PROGRAMMES ORGANISED BY DIFFERENT DEPARTMENTS OF WBUAFS :

#### Faculty of Veterinary & Animal Sciences

Sl. No	Title	Program Type	Organizing Dept.	Venue	Date/ Duration	Participants
1.	Farmers Training Programme organized by Project under TSP (2 days)	Training	Livestock Production Management	a) Mohanpur Campus, WBUAFS b) Lodhasuli, Jhargram c) Purbasthali-I, East Bardwan d) Bali-I, South 24 Parganas	15 <sup>th</sup> -16 <sup>th</sup> March, 2017 18 <sup>th</sup> -19 <sup>th</sup> March, 2017 21 <sup>st</sup> -22 <sup>nd</sup> March, 2017 24 <sup>th</sup> -25 <sup>th</sup> March, 2017	Farmers
2.	Summer Training for B. Tech. (Biotechnology) students on 'Immuno-biochemical Techniques'	Training	Veterinary Bio-Chemistry	Belgachia, WBUAFS	June-July, 2016	Students

3.	Refresher's training programme for the field veterinarians on Electrocardiographic technique for assessing the health status of the animal	Refresher Course	Veterinary Physiology	Polyclinic, Burdwan	May, 2016	Field Veterinarians
4.	Training on Rural Backyard Poultry	Training	Veterinary Physiology	Mohanpur Campus, WBUAFS	28 <sup>th</sup> February, 2017	Farm Women (SHG)

### Faculty of Fishery Sciences

Sl. No	Title	Program Type	Organizing Dept.	Venue	Date/ Duration	Participants
1.	Advances on Fish/ Shrimp Health Management	Training	Aquatic Animal Health	Government Fisheries Technological Station, Junput, Midnapore (E). Dept of Fisheries, Western zone, Govt. of West Bengal	20 <sup>th</sup> -22 <sup>nd</sup> September, 2016 (3 days)	Farmers
2.	Prevention and Management of Fish and Shrimp Diseases	Training	Aquatic Animal Health	Barasat Meen Bhawan, Barasat, N-24 Pgs.	20 <sup>th</sup> -22 <sup>nd</sup> September, 2016 (3 days)	Farmers
3.	Assessment of Extent of Community Dependence on the Coastal Ecologically Sensitive Areas (ESAs) in Bhitarkanika, Odisha	Training	Aquatic Environment Management	Pattamundai, Bhitarkanika	19 <sup>th</sup> -22 <sup>nd</sup> April, 2016 (4 days)	Enumerators
4.	Basic procedures on Fish Processing and Post Harvest Handling during a 5-day Training Program organized by FFRTC, Kulia, Kalyani, Government of WB	Exposure visit- cum demonstration	Fish Processing Technology	Faculty of Fishery Sciences, Chakgaria	8 <sup>th</sup> June, 2017	Fish Farmers
5.	One month Hands on Training programme	Training	Fish Processing Technology	Faculty of Fishery Sciences, Chakgaria	June-July 2016	5 students of B.Tech (Food Engineering and Technology)



**Directorate of Research, Extension & Farms**

Sl. No	Title	Program Type	Organizing Dept.	Venue	Date/ Duration	Participants
1	Toxicological Effects of Polycyclic Aromatic Hydrocarbons (Pahs) In Mammalian Reproductive Cell	Seminar lecture by Prof (Dr.) Samir S. Ray-choudhury, Dean, School of Science, Technology, Engineering and Maths. (STEM) & Professor Deptt of Biology, Chemistry and Env. Health Science, Benedict College, USA	DREF, WBUAFS	Meeting room of Hon'ble Vice-Chancellor, WBUAFS	25 <sup>th</sup> November, 2016	Students, Members, Officers Faculty of the University
2	Train the Trainer Programmes on Animal Health Worker, Aquaculture Worker and Dairy Farmer Job roles	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	19 <sup>th</sup> -21 <sup>st</sup> December, 2016	ASCI Trainers
3	Enhancement of Livelihood security through sustainable development of livestock and Fishery sectors sponsored by NFDB, Govt. of India	National Symposium	DREF, WBUAFS	WBUAFS, Kolkata	10 <sup>th</sup> -11 <sup>th</sup> January, 2017	Students, Faculty Members, Officers of the University
4	Management of Grazing Land- The Tragedy of the Common	Seminar lecture by Dr. Nityananda Das, Principal Scientist & Incharge, PME Cell, IGFR, Jhansi	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	27 <sup>th</sup> January, 2017	Students, Faculty Members, Officers of the University
5	On-Campus Interview for recruitment of Veterinary Graduates for Veterinary Field-Related marketing	On-Campus Interview	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	14 <sup>th</sup> February, 2017	Students of the University

6	Skill upgradation of fisher folks on Aquaculture practices and Post Harvest Techniques	Farmers' training cum awareness programme	DREF, WBUAFS	Faculty of Fishery Sciences, Chakgaria	7 <sup>th</sup> -9 <sup>th</sup> March, 2017	Fish Farmers, SHGs
7	Empowerment of Rural Women through traditional Dairy Food Processing in the Development of Entrepreneurship	Training cum awareness programme	DREF, WBUAFS	Faculty of Dairy Technology, Mohanpur, Nadia	15 <sup>th</sup> -17 <sup>th</sup> March, 2017	Women Farmers, SHGs
8	One day interface meeting with the WBCS officers (Veterinarians), Deputy Director & PO, ARD, Govt. of West Bengal, Officers and Head of the Department of WBUAFS and Programme Coordinator and Subject Matter Specialists of all disciplines from Krishi Vigyan Kendras	Interface Meeting	DREF, WBUAFS	VCI meeting Room, Kolkata	18 <sup>th</sup> March, 2017	WBCS officers (Veterinarians), Deputy Director & PO, ARD, Govt. of WB, Officers and Head of the Dept. of WBUAFS and Programme and Subject Matter Specialists of all disciplines from Krishi Vigyan Kendras in West Bengal
9	Refresher and Hands on Training Course on Advanced Diagnostic Imaging in Veterinary Practices	Refresher and Hands on Training Course	DREF, WBUAFS & Dept. of Vety. Surgery and Radiology	Farmers' Hostel, DREF WBUAFS, Kolkata	17 <sup>th</sup> -21 <sup>st</sup> April, 2017	Veterinarians from field and students
10	5 days exposure visit programme under ATMA scheme 2016-17	Exposure Visit of Farmers	DREF, WBUAFS	University Campus Belgachia, Kolkata	25 <sup>th</sup> -29 <sup>th</sup> April, 2017	25 nos farmers of Farakka Block, Murshidabad
11	Three Review Meetings of all the PCs, SMS of all disciplines and other technical staff from three KVKs under WBUAFS	Review Meetings	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	27 <sup>th</sup> June, 2017, 12 <sup>th</sup> September 2017 and 3 <sup>rd</sup> January, 2018	PCs, SMS of all disciplines and other technical staff from three KVKs
12	Role of KVK: in institutional building vis-à-vis resource generation	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	28 <sup>th</sup> -30 <sup>th</sup> June, 2017	PC, SMS and other technical staff of all disciplines from KVKs

13	3 days exposure visit programme of the farmers and Pranimitras	Exposure Visit of Farmers & Pranimitras	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	22 <sup>nd</sup> -24 <sup>th</sup> August, 2017	52 nos farmers and Pranimitras of Murshidabad District
14	Conservation of indigenous breeds of small ruminants in their respective tracts	ICAR Sponsored 10 days' Short Course	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	18 <sup>th</sup> -27 <sup>th</sup> July, 2017	Veterinarians from field & University
15	Master Trainer Training programme funded by Agriculture Skill Council of India (ASCI)	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	3 <sup>rd</sup> -4 <sup>th</sup> August, 2017	Faculty members and officers of WBUAFS
16	Effective Extension Methodology in Dissemination of Technology through KVK system	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	13 <sup>th</sup> -15 <sup>th</sup> September, 2017	PC, SMS and other technical staff of all disciplines from KVKs
17	Ten days training program for Animal Health Workers, Small Poultry Farmers and Dairy Farmers under Train the Trainer programmes sponsored by Agriculture Skill Council of India (ASCI)	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	2 <sup>nd</sup> -11 <sup>th</sup> November, 2017	Master Trainers of the respective disciplines
18	West Bengal State Rural Livelihood Mission (WBSRLM) Sponsored 3 days' Residential Workshop for the State Resource Team	Workshop	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	11 <sup>th</sup> – 13 <sup>th</sup> December, 2017	State Resource Team, WBSRLM
19	Capacity building on Aquaculture practices and Post Harvest Techniques	Farmers' training cum awareness programme	DREF, WBUAFS	Faculty of Fishery Sciences, Chakgaria	13 <sup>th</sup> -15 <sup>th</sup> December, 2017	Fish Farmers, SHGs
20	“Krishaker Mukhomukhi” on the theme of “Role of Farmers -Scientist and Agri-print and electronic media for Agricultural development and convergence	Interface Meeting of University & KVK Officials with Farmers - Scientist and Agri-reporter/ Journalist/ Editors	DREF, WBUAFS	VCI Auditorium, Belgachia Campus	4 <sup>th</sup> January, 2018	Farmers - Scientist and Agri-reporter/ Journalist/ Editors

21	5 days Training Program entitled “Control & Prevention of Livestock Diseases of Economic Importance” in collaboration with MANAGE, Hyderabad	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	15 <sup>th</sup> -19 <sup>th</sup> January, 2018	Veterinary Officers involved in extension activities under the Mobile Veterinary Clinics in West Bengal
22	Orientation Training - cum- Refresher Course for the KVK personnel sponsored by ICAR-ATARI, Kolkata	Training cum Refresher Course	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	30 <sup>th</sup> January to 6 <sup>th</sup> February, 2018	KVK personnel of different disciplines under ICAR-ATARI, Kolkata
23	Training programme on “Aquaponics”	Training	DREF, WBUAFS	North 24 Parganas KVK and Project site, Mohanpur, WBUAFS	7 <sup>th</sup> – 8 <sup>th</sup> February, 2018	25 farmers
24	Entrepreneurship Development on Dairy Products	Training cum awareness programme	DREF, WBUAFS	Faculty of Dairy Technology, Mohanpur, Nadia	19 <sup>th</sup> -21 <sup>st</sup> February, 2017	Women Farmers, SHGs
25	Integrated farming: adopting organic farming practices	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	19 <sup>th</sup> -21 <sup>st</sup> March, 2017	PC, SMS and other technical staff of all disciplines from KVKs
26	Farmers' training programme under the project Livelihood Improvement of Poor and Tribal people through Livestock Based Enterprises of Selected villages of West Bengal	Training	DREF, WBUAFS	Six Districts under TSP Project	12 <sup>th</sup> -25 <sup>th</sup> February, 2018	1857 farmers (out of which 55.47% are women farmers) different clusters under TSP from viz Habra-I & II North 24 Parganas, Illambazar, Birbhum, Lodhasuli, Jhargram, Bandowan, Purulia, Purbashali-I, East Burdwan and Bali, Gosaba, South 24 Parganas

27	Two days' farmers' training programme (183 participants out of which 132 are women) under the project Livelihood Improvement of Poor and Tribal people through Livestock Based Enterprises of Selected villages of West Bengal under TSP	Training	DREF, WBUAFS	Farmers' Hostel, DREF WBUAFS, Kolkata	12 <sup>th</sup> -19 <sup>th</sup> March, 2018	183 farmers
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### Photographs of different programs organized by the different Faculties and DREF, WBUAFS



**Celebration of the Foundation Day, 2018**



**Inaugural programme on the occasion of Farmers' Training at the Dairy Faculty**



**Glimpses from different Training Programmes at DREF, WBUAFS**





### VI.3. CONSULTANCY CELL AND ADVISORY SERVICES

The Extension wing of the Directorate of Research, Extension and Farms provides Consultancy and Farm Advisory services to the stakeholders in the fields of livestock farming, dairy product processing and fish farming. Faculty members and officials/scientists of the University render their expertise through field visits, farm or home visits, face-to-face discussions, over telephone, e-mails and postal communications. During 2016-2018, several livestock owners and farmers were rendered technical advises through this Directorate. The Extension wing also provides consultancy on animal husbandry, dairy technology and fishery related laboratory and field services. Livestock owners approach the cell to provide with projects / schemes etc. designed for establishment of livestock, dairy and fishery farms as well as other food products processing units of animal origin. Such schemes help them to receive financial assistance from the funding agencies. Additionally, need based self-financing training programmes are conducted when sufficient number of farmers turn-up in requirement of such programmes. Extension literature, books, booklets etc. are provided to the beneficiaries in turn of nominal prices under such Advisory and Consultancy services.

### VI.4. DOCUMENTARY FILMS PRODUCED

Two Documentary Video film have been produced by WBUAFS utilizing the funds received by the University during 2016-18, which are enlisted below :

Sl.No.	Title	Language	Topic
1.	<b>PragatirPathe</b>	Bengali	Activities of the Directorate of Research, Extension & Farms
2.	<b>Kusum</b>	Bengali	Farming of Poultry and Duckery
3.	<b>Balika Bela</b>	Bengali	Self employment for “Kanyashree”

Copies of other Six Farming and Animal Husbandry related documentaries produced earlier are available for sale through the Extension wing of the Directorate of Research, Extension & Farms.

### VI.5. ORGANIZATION OF ANIMAL / FISH HEALTH CAMPS

The West Bengal University of Animal & Fishery Sciences is continuously working towards livelihood development of the rural poor people of the State. Directorate of Research, Extension and Farms always looks forward to provide extension services on behalf of the University to the farming community residing at remote villages, where conventional aid/systems are yet not available. Some of the teaching departments of the Veterinary and Animal Sciences faculty alongwith the Extension wing of the Directorate of Research, Extension and Farms including the Krishi Vigyan Kendras under WBUAFS regularly organize treatment camps or vaccination camps free of cost against major livestock diseases at different corners of the State. During the reporting period, a total of nearly 18 animal health camps have been organized throughout the State.

In the similar fashion, the faculty of Fishery Sciences also organizes fish health camps and extends advisory services free of cost to the practicing fishermen/fisherwomen inhabiting at different remote areas of the State.

### VI.6. WOMEN EMPOWERMENT

It is a good practice in the Indian households that the majority of the activities of livestock rearing are carried out by the women folk of the farmer families. The same is also true for indigenous dairy product preparation and fishery operations. The State is involved in the activities of boosting up the social as well as financial status of rural women. Since its inception, the University is also involved in improvement of the womenfolk through the overall development of their socio-economic status. The University organizes awareness camps, skill development training programmes, sensitization camps, capacity building programmes etc. for the self-help groups regularly for the improvement of the condition of farming women. The Krishi Vigyan Kendras at Murshidabad, North 24 Parganas and Jalpaiguri districts under the aegis of WBUAFS, also organize specific women empowerment programmes frequently throughout the year.

## VI.7. PUBLICATIONS

The publication of newsletters, extension literature like leaflets, booklets, pamphlets, handouts etc. are published regularly by the Extension wing of Directorate of Research, Extension & Farms. It also monitors publication of research papers and scientific popular articles in different print, electronic and web media as released by the faculty members, scientists and officials of the University. Various reports on research findings, practical class manuals, training programme compendiums are also being prepared by the departments of the faculties under the active supervision of the Directorate of Research, Extension and Farms. The extension literatures are circulated amongst the stakeholders through the Extension wing of the Directorate.

### VI.7.1. PUBLICATION OF ACADEMIC, SCIENTIFIC AND EXTENSION LITERATURES (2016-18):

1. WBUAFS Newsletter	3
2. University Annual Report	1
3. Research Project Annual Reports	3
4. Status Report of KVKs under WBUAFS	3
5. Course Practical Manuals	17
6. Laboratory Manuals	13
7. Text Books and other Books	14
8. Extension Book/Booklets/Pamphlets(Bengali)	14
9. Manual for trainees	5
10. Folder English/Bengali	1
12. Compendium of Training Programmes	5

## VI.8. OTHER EXTENSION ACTIVITIES UNDERTAKEN

Sl. No.	Job Undertaken	Faculty / Dept
1.	Routine Biochemical and Hematological Tests from clinical samples are done regularly on payment basis.	Dept. of Vety. Bio-Chemistry, F/O VAS

## VI.9. ACTIVITIES OF KRISHI VIGYAN KENDRAS

The Krishi Vigyan Kendras (KVK) are front-line extension centres, meant for extension activities in agriculture and allied sectors, financed by ICAR. They actually form a network of pioneering science based institution, primarily working to exert an influence on the extension system of the district, caters to the training needs of the farmers and extension functionaries. It also facilitates the expansion of technologies tailored to the needs of farming community. It works on the principle of “Teaching by Learning” and “Learning by Doing” methods.

At present there are three KVKs under West Bengal University of Animal & Fishery Sciences functioning in the districts of Jalpaiguri, Murshidabad and North 24 Parganas. A glimpse of information about these KVKs for 2016-18 are as under :

Sl. No.	Information on	KVK Jalpaiguri	KVK Murshidabad	KVK North 24 Parganas
1.	Funding	ICAR ATARI Kolkata, Zone - V		
2.	SAC Meeting Dates	16 <sup>th</sup> February, 2017 27 <sup>th</sup> February, 2018	30 <sup>th</sup> January, 2017 12 <sup>th</sup> March, 2018	28 <sup>th</sup> June, 2016 30 <sup>th</sup> November, 2017 9 <sup>th</sup> March, 2018
3.	Several Programs and Days Celebrated	1. Vaccination Camp 2. Mahila Kisan Diwas 3. Swachh Bharat Mission -Campaign on Swachhta-Hi-Seva 4. Sankalp Se Siddhi' Programme 5. Aranya Saptaha 6. World Environment Day 7. World Soil Day 8. DAESI Program 9. World water Day 10. Trainings 11. Training cum Exposure Visit Program 12. Technology Week	1. Swachh Bharat Programme 2. Mahila Kisan Diwas 3. Sankalp Se Siddhi' Programme 4. Technology Week 5. World Soil Day 6. DAESI Program 7. Trainings 8. Training cum Exposure Visit Program	1. Swachh Bharat Programme 2. Mahila Kisan Diwas 3. Sankalp Se Siddhi' Programme 4. Technology Week 5. World Soil Day 6. DAESI Program 7. Trainings 8. Training cum Exposure Visit Program

Brief report of the activities of these KVKs are as hereunder :

## VI.9. 1. KRISHI VIGYAN KENDRA, JALPAIGURI

### 1. TECHNICAL ACHIEVEMENTS

Details of target and achievement of mandatory activities by KVK during 2016-18

OFT				FLD			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
13	11	156	151	39	36	585	653

Training				Extension activities			
Number of Courses		Number of Participants		Number of activities		Number of participants	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
291	352	6394	7492	400	361	20000	19182

Seed production (q)		Planting material (Nos.)	
Target	Achievement	Target	Achievement
59	53	200000	155635

**2. Award received by Farmers from the KVK district (2016-18)**

Sl. No.	Name of the Award	Name of the Farmer	Year	Conferring Authority	Amount	Purpose
1	Recognition	Sri Ratan Barui	2017	West Bengal University of Animal & Fishery Sciences, Kolkata	Rs.5000.00 with Certificate & Memento	Contribution in the field of Horticulture (Cultivation and area extension of exotic vegetables- Broccoli )
2	MATI SANMAN	Sri Mihir Ch. Roy	9 <sup>th</sup> January, 2017	Govt. of West Bengal at MATI UTSAV, Burdwan	Rs. 25,000/- with Certificate & Memento	Adoption & Dissemination of new technology, Lead Farmer
3	Recognition	Sri Kamal Sharma	2018	West Bengal University of Animal & Fishery	Rs.5000.00 with Certificate	Contribution in the Diversified & Memento Agriculture Sciences, Kolkata
4	Krishi Ratna	Mantu Mandal	2018	Govt. of West Bengal, Malbazar Block	Rs.10000.00 with Certificate	Adoption of protected & Memento cultivation
5	Krishi Ratna	Dhiraj Roy	2018	Govt. Of West Bengal, Maynaguri Block	Rs.10000.00 with Certificate & Memento	Adoption of Off season and Mushroom cultivation

**VI.9. 2. KRISHI VIGYAN KENDRA, MURSHIDABAD****1. TECHNICAL ACHIEVEMENTS**

A. Details of target and achievement of mandatory activities by KVK during the year (2016-18)

OFT						FLD					
No. of technologies:						No. of technologies:					
Number of OFTs		Number of farmers				Number of FLDs		Number of farmers			
Target	Achievement	Target	Achievement			Target	Achievement	Target	Achievement		
			SC/ST	Others	Total				SC/ST	Others	Total
9	9	89	49	74	123	25	21	413	195	305	500

Training						Extension Activities					
Number of Courses						Number of activities					
Number of Participants		Number of participants				Number of participants		Number of participants			
Target	Achievement	Target	Achievement			Target	Achievement	Target	Achievement		
			SC/ST	Others	Total				SC/ST	Others	Total
126	115	3410	863	2558	3421	1776	1670	12010	4895	7341	12236

Seed Production (q/nos.)		Planting Material (Nos.)	
Target (crop/fish/animal) (130 q)	Achievement (166.29 q)	Target (8900 nos.)	Achievement (14619 nos.)
Paddy (10q)	13.39q	Lime seedlings (100 nos.)	209 nos.
Ground nut(2q )	2q	Mango seedlings (100 nos.)	110 nos.
Elephant Foot yams(5q)	10q	Chilli seedlings (3,000 nos.)	6000 nos.
Maize as fodder(35q )	55 q	Tomato seedlings ( 2,700 nos)	4300 nos.
Moong	0.4q	Brinjal seedlings (3,000 nos.)	4000 nos.
Jute	1.5q		
Mustard (1q )	2q		
Turmeric (2q )	2q		
Oats as fodder(75q )	80q		
<b>Total</b>	<b>166.29 q</b>	<b>Total</b>	<b>14619 nos.</b>

Livestock strains and fish fingerlings produced (in lakh)*		Soil, water, plant, manures samples tested (in lakh)	
Target (7522254 nos.)	Achievement (8546239 nos.)	Target	Achievement
Poultry (1200 nos.)	1210 nos.	Soil Sample Analyze (360 nos.)	196 nos.
Duck (1000 nos.)	975 nos.		
Goat (4 nos.)	4 nos.		
Quail (50 nos.)	50 nos.		
Fish fingerling production (IMC and exotic carps) (70 lakh)	8487500 nos.		
Ornamental fishes (20,000 nos.)	51500 nos.		
Vietnam koi fry production(5 lakh)	5000 nos.		
<b>Total</b>	<b>8546239 nos.</b>	<b>Total</b>	<b>196 nos.</b>

## PERFORMANCE OF INFRASTRUCTURE IN KVK

Performance of demonstration units (Other than instructional farm)

Sl. No.	Name of demo Unit	Year of Estb.	Area (Sq.mt)	Details of production			Amount (Rs.)		Remarks
				Variety/ breed	Produce	Qty.	Cost of inputs	Gross income	
1.	Duck Unit	2011-2012	42	Khaki Campbell	Live duck-ling	670 nos.	-	33849.00	17 (rest 305 nos of ducks distributed through FLD programme & also in Demo farm)
2.	Poultry	2011-2012 Financial Year	53	RIR + Vanaraja	Live chicks	440 nos.	-	17160.00	3 (rest 770 nos of poultry distribute through OFT programme & also in Demo farm)
3.	Quail	Use Poultry Unit-	53	Japanese Quail	Live birds	50 nos.	-	-	In Demo Unit
4.	Carp hatchery	From the beginning	0.065 ha	IMC and other exotic carps	Finger-lings	8487500 nos.	10000.00	24000.00	Rest of fish seed stock in our KVK pond
	Total		0.065 ha/148			8488660 nos.	10000.00	75009.00	-



## Performance of Instructional Farm (Crops)

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.(q)	Cost of inputs	Gross income	
Summer ground nut	16.3.17	28.7.17	0.06	TG37A	Seed	1.95q	8398	11700	
Elephant foot yam	27.4.17	12.12.17	0.26	Kavur	Seed	10q	10000	7000	Kept for future use also
Turmeric	19.6.17	-	0.12	PCT-11	Seed	-	6345	-	Standing crop
Kharif paddy	2..8.17	8.12.17	0.26	GS-3	Seed	13.39q	10132	16000	
Mustard	14.11.17	8.2.18	0.13		Seed	2q	3800	5000	
Oats as fodder	20.11.17	13.2.18	0.17	Kent	Fodder	80q	1950	2530	
Lentil	3.4.17	21.8.17	0.12	Maïtri	Seed	1.08q	3285	4900	

## Performance of instructional farm (Livestock and Fisheries Production)

Sl. No.	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1.	IMC and other exotic carps	Indian Major Carps and Exotic carps	Fingerlings	8487500 nos.	10000.00	24000.00	Rest of fish seed stock in our KVK pond
2.	Vietnam koi	<i>Anabas cobojus</i> (Native to Vietnam)	Spawn	5000 nos.	8000.00	-	Fish seed stock in our KVK pond for brooder production
3.	Ornamental fishes	Guppy, Molly, Barb, Danio etc	Different size	51500 nos.	-	-	Not to be sale

## Award received by Farmers from the KVK district :

Sl. No.	Name of the Award	Name of the Farmer	Year	Conferring Authority	Amount (Rs.)	Purpose
1.	Innovative Farmers	Mr. Subal Sur	2018	ICAR, research complex for eastern region, Patna	-	Production of Vietnam Koi in pond
2.	Best farmers	Md. Ikbali Hossain	2018	W. B. University of Animal & Fishery Sciences	5000.00	Development of low cost poultry incubator

## Status of revolving fund (Rs. in lakh) for last two years

Year	Opening balance as on 1 <sup>st</sup> April	Income during the year	Expenditure during the year	Net balance in hand as on 1 <sup>st</sup> April of each year (Kind + cash)
2016-17	1275645	1954961	1714445	1516161
2017-18	1516161	569142	107347	1977956

## Details of entrepreneurship development

Entrepreneurship development	
Name of the enterprise	Hatching Incubator
Name & complete address of the entrepreneur Role of KVK with quantitative data support: during power cut to maintain temperature of	Md. Ikbal Hossain; Beldanga, Murshidabad Low cost Hatching Incubator; Use cooking gas Incubator
Timeline of the entrepreneurship development	6 months after consultation with KVK personal
Technical Components of the Enterprise	Long term Vocational training prog; advice regarding site and location of Mother Unit; vaccination done against different diseases; formulation of Ration for Mother & poultry
Status of entrepreneur before and after the enterprise age of birds	Sold 1000 nos of quail, 200 nos of ducklings in every month in different rate depending with the
Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	Live Quail & Duck: 800 & 100 nos; Labour: self & 1 labour; Preference: throughout the year; Marketing product: sold as live per piece basis
Horizontal spread of enterprise	-

### VI.9.3. KRISHI VIGYAN KENDRA, NORTH 24 PARGANAS

Since its inception in July, 2005, the North 24 Parganas Krishi Vigyan Kendra, Ashokenagar, is committed to the identification and satisfaction of the technological needs of the farming community of this district. This KVK is functioning under the aegis of the Directorate of Research, Extension and Farms, West Bengal University of Animal and Fishery Sciences (WBUAFS). The activities of this KVK mainly centre on its aim and objectives keeping the mandates in view. This KVK is working in the fields of research, extension and development (RE&D) in agriculture and allied sectors like animal husbandry, fishery and women empowerment. To achieve a sustainable production system and improve the socioeconomic status of the farmers, this KVK is focusing on natural resource management i.e. soil health, water conservation and environment management practices through introduction of improved varieties/HYVs of major crops, improved livestock, poultry birds and their sustainable productivity improvement practice, promotion of improved orchard and high value horticultural crops in the upland area, scientific livestock and poultry farming practices for increasing productivity and better livelihood security of rural stakeholders, scientific composite fish culture practices, promotion of indigenous, endangered fish and production and supply of quality seeds and planting materials of major crops for availability of standard inputs.

In the recent few years this KVK has worked in different blocks covering 32 villages. During the year 2016-17, the KVK has conducted 11 nos. of On Farm Trails (OFT), 13 nos. of demonstration covering 612 nos. of beneficiaries. And in the year 2017-18, 10 nos. of On Farm Trails (OFT), 13 nos. of demonstration has been conducted covering 533 nos. of beneficiaries. More over 217 training courses covering 6465 nos. of participants has been followed up and all total 10871 nos. of farmers attended in the different extension activities from April, 2016 to March, 2018. From 2016-18, KVK has conducted Cluster Front Line Demonstration of Pulse and Oil seeds covering 240 ha with around 1200 beneficiaries. Total 50 quintal seed and 40000 nos. of planting material has been produced and supplied or marketed in both the years.

#### Achievements of Technologies:

1. Application of Zinc in the form of  $\text{ZnSO}_4$  significantly increases the yield of Aman paddy in three split doses i.e. 20 kg/ha of  $\text{ZnSO}_4$  as soil application, 2.5 kg/ha as foliar application at 30 DAT and 2.5 kg/ha

- as foliar application at 45 DAT resulted maximum no of yield (61.43 q/ha) and a benefit cost ratio of 1.73.
2. Foliar application of Boron (0.5%) in three intervals i.e. at 15, 40 DAS and at flower initiation stage significantly increases the yield of lentil resulted maximum no of harvestable pod (46 per plant) as well as yield (11.93 q/ha) and a benefit cost ratio of 2.40.
  3. Brown manuring significantly increases the yield (5.75 t/ha) of aman paddy as well as minimize the external nitrogen application rate by 25 % and a benefit cost ratio of 1.82.
  4. Application of 60 kg Phosphate along with Phosphate Solubilizing Bacteria (PSB) significantly increases the yield (10.9 q/ha) of lentil over control and a benefit cost ratio of 2.17.
  5. (Pheromone trap 6 nos./ bigha) + clippings of infect branches/parts from the lower parts of the plant from the beginning up to 45 days + spraying of spinosad 45 % sc at 45 DAT and 60 DAT recorded highest yield of 19.18 t/ha of brinjal.
  6. In the irrigated medium land situation of the district, application of Boron as micronutrient resulted maximum number of harvestable fruit and quality yield of Papaya with a B:C of 2.36.
  7. In composite fish farming of IMC, replacement of rohu by "*Jayanti rohu*" resulted yield 4.17/ha with a B:C ratio of 2.26.
  8. IMC (5250 fingerlings/ ha)\* + Magur- (*Clarias batrachus*) (25000 fingerlings/ ha) Excluding mrigal fish, provided best result with a B:C of 2.10.
  9. Supplementation of mineral mixture @10g/animal/day along with normal grazing resulted better growth, low mortality with a B:C ratio 1.94.
  10. Supplementation of Azolla as such @80g/bird/day along with normal grazing resulted better growth with B:C ratio 1.39 and recommended for poultry rearing in backyard system.
  11. By field level demonstration the following technologies has been successfully initiated in farmer's field.
    - a) Introduction of sesame variety "Savitree" replacing the traditional variety.
    - b) Introduction of mustard variety by "YSH-0401" replacing the traditional variety.
    - c) Introduction of blackgram variety by "Sulata (WBU 109)" replacing the traditional variety.
    - d) Introduction of Maize variety by "Rajkumar" in existing cropping sequence.
    - e) Introduction of disease resistant paddy variety by "Triguna".
    - f) Introduction of Kharif onion Variety: Agrifound Dark Red in existing cropping sequence.
    - g) Introduction of Swamp taro Variety: Bidhan Latika in existing cropping sequence.
    - h) Banana bunch covering by 20% perforated polythene.
    - i) Coconut root feeding if insecticide.
    - j) Farming of Desi magur in composite fish farming.
    - k) Faming of Chital fish with Tilapia.
    - l) Application of lime in split dose in composite fish farming
    - m) Area specific mineral mixture (UAFSMIN-P) supplementation in cattle.
    - n) Rearing of Banaraja Birds as a replacement of desi poultry.
    - o) Health management of goat by improved cell culture PPR vaccination.
    - p) Health management of cow by improved oil adjuvant FMD vaccination.

### **Tribal sub plan:**

For the tribal sub plan programme Metiagacha (Situating in Habra II block) village have been adopted. Poultry shed, thresher, conoweeder, sprayer, fishing pot, and FM radio distribution programme are taken for upliftment of livelihood.

### **Training Achievements:**

1. Total 217 nos. of trainings courses of farmers and farm women has been conducted covering 6465 participants in which 1981 SC, 412 ST and others 3735 numbers of participants were present in 2016-17 and 2017-18.
2. 12 nos. of Rural Youth training had been conducted covering 360 participants.
3. Two numbers of Coconut Development Board sponsored training “Friends of Coconut Tree”, fifteen numbers of NABARD sponsored training has been conducted and four numbers of Farm Mechanization training has been conducted sponsored by Govt. Of W.B.

### **Extension Achievements:**

1. In 2016-17 and 2017-18 total 41 nos. of Field days, 630 nos. of diagnostic service, 22 nos. of Clinic days, vaccination camp etc. mandated extension activities has been done. 945 nos of participants in Pradhan Mantri Fasal Bima Yojana and 500 nos of participants in Rabi Kishan Samellan. Total 1099 extension activities done for the direct benefit of the farmers. 13 nos. of extension literature (Namely Indigenous fish farming, Wetland fishery and its management, Shrimp farming, Care and management of pregnant cow and new born calf, Integrated fish cum duck farming, PPR in Goat and Tetanus in Ruminants, Nona jale bagda Chingir chas, Bile Mach chas, Deshi chota Macher Chas, Sabji chaser Adhunik Krishi Prajukti, Moumachi palan, Tissue culture Kola chas) has been published and circulated.

### **Universalization of Soil Health Card programme:**

Under the USHC programme, North 24 Parganas KVK has been analyzed 1000 number of soil samples in grid with distribution of soil health card among the farmers in different programme like World soil day, Pre-Rabi Kissan Sammelan etc.

### **KVK Farm and Poly-house Activities:**

In the year 2016-17 and 2017-18, KVK produce different seeds namely paddy (var. Heera) aromatic rice like Gobinobhog, oil seeds (sesame var. *Savitree*, Mustard var. YSH 0401), Pulses (like lentil var. *Moitree*, Field pea var. *Prakash*, Chickpea var. *Jaki9218*) turmeric var. Saguna, Elephant Footyam var. Bidhan Kusum and planting materials (capsicum, chilli, cherry tomato, cabbage, cauliflower etc.) in KVK Farm and Poly-house, respectively.

The newly established office of this KVK at its present location is currently catering to the training needs of the farmers ultimately leading to the remarkable progress in the rural agrarian economy.

## **VI.10. TRANSFERABLE TECHNOLOGIES DEVELOPED**

Certain useful technologies have been generated / evolved through various research programmes undertaken by the three faculties and the Directorate of Research, Extension & Farms of the University. The technologies, so developed, are lying ready for distribution to the grass root level. The developed and tested technologies might be of immense help to the State farmers for enhancement of their livelihood and income. These technologies may also be applied to the other regions of the country after going through proper refinement, thus in turn benefiting the vast farming community of the country. The technologies developed during the research works carried out in 2016-18 are as follows :

1. Development of live attenuated thermostable lentogenic Newcastle disease vaccine from local isolate for chicken by Dr. Chanchal Guha, Dr. Ujjwal Biswas and Dr. Partha Sarathi Jana from Dept. of



- Veterinary Epidemiology and Preventive Medicine, Faculty of Veterinary & Animal Sciences. Patent has been filed for the technology.
2. Oligonucleotide primer pair usable for performing RT-qPCR. Developed by Dr. L. Ralte, Scholar under the guidance of Prof. S. C. Mandal, Prof. P. K. Senapati, Prof. S. Batabyal, Prof. S.N. Joardar, Dr. S. Baidya and Dr. (Mrs.) R. Jas of Dept. of Veterinary Parasitology, Faculty of Veterinary & Animal Sciences. Technology is at present lying in the laboratory. Patent filing process has been initiated.
  3. Development of vaccine by nanoencapsulation of H11 antigen of *Haemonchus contortus*. Developed by Dr. M. Bachhan, Scholar under the guidance of Dr. S. Baidya, Prof. S. C. Mandal, Prof. S. Batabyal, Prof. S.N. Joardar, Dr. (Mrs.) R. Jas, Dr. S. Pradhan and Dr. S. Pandit of Dept. of Veterinary Parasitology, Faculty of Veterinary & Animal Sciences. Technology is at present lying in the laboratory. Patent filing process has been initiated.
  4. Molecular detection of haemoprotozoa (*Babesia* spp. and *Hepatozoon canis*) and haemo-rickettsial organisms (*Ehrlichia* spp. and *Mycoplasma* spp.) in dogs and their carriers (*Rhipicephalus sanguineus*). Developed by Dr. A. Jena, Scholar under the guidance of Dr. S. Baidya, Prof. S. C. Mandal, Dr. (Mrs.) R. Jas, Dr. I. Samanta, Dr. C. Debnath, Dr. S. Pandit and Dr. S. Chaudhuri of Dept. of Veterinary Parasitology, Faculty of Veterinary & Animal Sciences. Technology is at present lying in the laboratory. Patent filing process has been initiated.
  5. A process for preparing animal choncal cartilage for transplantation” developed by Dr. Samit Kumar Nandi, Dr. S. N. Joardar, Dr. B. K. Biswas, Dr. S. Batabyal of WBUAFS and Dr. R. N. Bhattacharya, R. G. Kar Medical College and Hospital, Kolkata. Indian Patent has been filed vide No. 249/kol/2015 from WBUAFS and awaits grant of the same.
  6. Bioactive compound(s) from marine gastropod mollusc (*Telescopium telescopium*) as potential anticancer/ antiproliferative agents developed by Subhasis Roy, Uttam Datta, Samit Kumar Nandi, Partha Sarathi Dasgupta, Debaki Ghosh and Uttio Roy Chowdhury. Indian patent Granted [Patent No-291906 Date of Grant-19.01.2018].
  7. Technology of “Biodegradable coated Mg based bone plate for orthopaedic surgery” has been generated in the Veterinary Surgery & Radiology Dept., WBUAFS.
  8. Use of tea extract as an antimicrobial and antioxidant agent in fish preservation developed by Dept. of Fish Processing Technology, Faculty of Fishery Sciences, WBUAFS during 2017-2018. Black and Green tea extract can be used as an antimicrobial and antioxidant agent in preservation of fish fillet or steaks.
  9. Use of pomegranate peel extract as an antimicrobial and antioxidant agent in shrimp preservation developed by Dept. of Fish Processing Technology, Faculty of Fishery Sciences, WBUAFS during 2017-2018. Pomegranate peel extract was used as an antimicrobial and antioxidant agent for extension of shelf life of headless shrimps.
  10. Use of *Moringa oleifera* leaf extract as a preservative for minced fish developed by Dept. of Fish Processing Technology, Faculty of Fishery Sciences, WBUAFS during 2017-2018. *Moringa oleifera* leaf extract contains essential oils having antimicrobial and antioxidant properties. It can be used in extension of shelf life of minced fish.
  11. Development of dry surimi powder from *Pangasianodon hypophthalmus* by Dept. of Fish Processing Technology, Faculty of Fishery Sciences, WBUAFS during 2017-2018. Dry surimi powder is prepared from *Pangasianodon hypophthalmus* which can effectively be used for fortification of cereal based food products.

## VII. PUBLICATION ON RESEARCH FINDINGS

### VII.1. RESEARCH PUBLICATIONS OF FACULTY OF VETERINARY & ANIMAL SCIENCES

#### VII.1.1. Department of Animal Genetics and Breeding

Sl. No.	Scientific Research Publication in Journals
1.B.	Sarkar, K. Ray and U. Sarkar (2016). Prevalence of uterine infection in relation to certain haematological and biochemical changes of blood serum in dairy cows. Indian Journal of Animal Research. 50 (4): 557-560. NASS rating: 6.09.
2.	Ahlawat, Sonika., Sharma, Rekha., Roy, Manoranjan., Mandakmale, Sanjay., Prakash, Ved. and Tantia, M.S. (2016): Genotyping of novel SNPs in BMP1B, BMP15 and GDF9 genes for association with prolificacy in seven Indian Goat Breeds. Animal Biotechnology, 2016, 27 (3): 199-2017. NASS rating: 6.69.
3.	AK Das, S Kumar, A Rahim, LS Kokate and AK Mishra (2016). Assessment of body conformation and feed efficiency characteristics in CARI-Debandra crossbred grower chicken. Indian Journal of Animal Sciences 86 (12): 1472-75. NASS rating: 6.19.
4.	AK Das, S Kumar and A Rahim (2016). Genetic analysis of layer performances in a selected line of Rhode Island Red chicken. Indian Journal of Animal Sciences 86 (11): 1291-95. NASS rating: 6.19.
5.	AK Das, S Kumar, AK Mishra, A Rahim and LS Kokate (2016). Estimating genetic parameters of immunocompetent traits in Rhode Island Red chicken. Indian Journal of Animal Sciences 86 (9): 1015-20. NASS rating: 6.19.
6.	AK Das, S Kumar, A Rahim and LS Kokate (2016). Association study between microsatellite genotypes and layer performances in Rhode Island Red chicken. Indian Journal of Animal Sciences 86 (9): 1021-24. NASS rating: 6.19.
7.	Ananta Kumar Das, S Kumar, AK Mishra, A Rahim, LS Kokate (2017). Genetics of body weights in a control line of Rhode Island Red grower chicken. Indian Journal of Animal Sciences, 87(8):1042-45. NASS rating: 6.19.
8.	Ananta Kumar Das, S Kumar, A Rahim, LS Kokate (2017). Genetic and non-genetic parameters of grower and layer performances in CARI-Sonali chicken. Indian Journal of Animal Sciences, 87(6):786-89. NASS rating: 6.19.
9.	Ananta Kumar Das, AK Mishra, S Kumar, A Rahim, LS Kokate (2017). Characterizing grower performance, body conformation and morphology in crosses of RIR and Indian native chicken genotypes. Indian Journal of Animal Sciences, 87(6):782-85. NASS rating: 6.19.
10.	A Rahim, S Kumar, J Debnath, R Yadav, Ananta Kumar Das, A S Yadav (2017). Fold changes in relative mRNA expression of immune response genes in lymphoid tissues of Rhode Island Red chicken. Indian Journal of Animal Sciences, 87(6):772-74. NASS rating: 6.19.
11.	LS Kokate, S Kumar, A Rahim and Ananta Kumar Das (2017). Estimating serological immune response against Newcastle disease vaccine in Aseel, Kadaknath and White Leghorn chicken by haemagglutination test. Indian Journal of Animal Sciences, 87(2): 136-38. NASS rating : 6.19.
12.	LS Kokate, S Kumar, A Rahim and Ananta Kumar Das (2017). Kinetics of serum antibody response to Newcastle disease vaccine in Aseel, Kadaknath and White Leghorn chicken using ELISA. Indian Journal of Animal Sciences, 87 (2): 168-70. NASS rating : 6.19.
13.	LS Kokate, S Kumar, A Rahim and Ananta Kumar Das (2017). Investigating immunocompetence in Aseel, Kadaknath and White Leghorn chicken. Indian Journal of Animal Sciences, 87(1): 35-38. NASS rating : 6.19.
14.	P Ghosh, A Mohanti, I Samanta, SN Joardar, K Batabyal, S Dey, S Taraphder and DP Isore (2017). Occurrence of extended-spectrum cephalosporine producing Escherichia Coli in broiler birds. Veterinarski Archives, 87 (6): 745-57. NASS rating : 6.30.

**VII.1.2. Department of Animal Nutrition**

Sl. No.	Scientific Research Publication in Journals
1.	Ghosh, A., G.P. Mandal, A. Roy and A.K. Patra, 2016. Effects of supplementation of manganese with or without phytase on growth performance, carcass traits, muscle and tibia composition and immunity in broiler chickens. <i>Livestock Science</i> , 191, 80-85. NASS rating: 7.38
2.	Patra, A.K., and M. Lalhriatpuii, 2016. Predicting enteric methane emission in sheep using linear and non-linear statistical models from dietary variables. <i>Animal Production Science</i> 56: 574-584. NASS rating: 7.37
3.	Pathak, M., Mandal, G. P., Patra, A., Samanta, I., Padhan., S and Haldar, S. 2017. Effects of dietary supplementation of cinnamaldehyde and formic acid on growth performance, intestinal microbiota and immune response in broiler chickens, <i>Animal Production Science</i> , 57: 821-827. NASS rating: 7.37.
4.	Kumar, A., Kumar, K., Kumar, K., Chandramoni, Sinha, R.R.K., Paswan, J.K. and Mandal, G.P. 2017. Effect of feeding different level of <i>Moringa oleifera</i> leaf meal on growth performance, lipid profile and meat fatty acid composition of Vanaraja chicken in tropics, <i>Indian Journal of Animal Science</i> , 87:644-648. NASS rating: 6.19
5.	Patra, A.K., T. Park , M. Kim , and Z. Yu, 2017. Rumen methanogens and mitigation of methane emission by anti-methanogenic compounds and substances. <i>Journal of Animal Science and Biotechnology</i> , 8, DOI: 10.1186/s40104-017-0145-9. NASS rating: 8.05.
6.	Jayaraman, S., Das, P., Saini, P., Roy, B. and Chatterjee, P.N. 2017. Use of Bacillus Subtilis PB6 as a Potential Antibiotic Growth Promoter Replacement in Improving Performance of Broiler Birds. <i>Poultry Science</i> , 96:2614-2622. NASS rating: 7.91.
7.	Pal, A., Chatterjee, P.N., Das, S., Battobyal, S., Biswas, P. And Sharma, A. 2017. Biodiversity among sheep and goat reared under different agroclimatic regions of West Bengal, India. <i>Indian Journal of Animal Sciences</i> , 87(1): 80-86. NAAS rating : 6.19.
8.	Kumar, P., Patra, A.K., Mandal, G.P., Samanta, I. and Pradhan, S. 2017. Effect of black cumin seeds on growth performance, nutrient utilization, immunity, gut health and nitrogen excretion in broiler chickens. <i>Journal of the Science of Food and Agriculture</i> , 97: 3742-3751. NASS rating : 8.46.
9.	Kumar, P and Patra, A.K. 2017. Beneficial uses of black cumin ( <i>Nigella sativa</i> L.) seeds as a feed additive in poultry nutrition. <i>World's Poultry Science Journal</i> , 73:872-885. NASS rating : 7.04
10.	Chowdhuy, S., Mandal, G.P. and Patra. 2018. Different essential oils in diets of chickens: 1. Growth performance, nutrient utilisation, nitrogen excretion, carcass traits and chemical composition of meat. <i>Animal Feed Science and Technology</i> , 236: 86-97. NASS rating : 7.76
11.	Chowdhuy, S., Mandal, G.P., Patra, A.K., Kumar, P., Samanta, I., Padhan, S. and Samanta, A.k. 2018. 2. Gut microbes and morphology, immune response, and some blood profile and antioxidant enzymes, <i>Animal Feed Science and Technology</i> , 236: 39-47. NASS rating : 7.76

**VII.1.3. Department of Livestock Farm Complex**

Sl. No.	Scientific Research Publication in Journals
1.	Pal, A., Chatterjee, P.N., Das, S., Batobyal, S., Biswas, P. and Sharma, A. 2017. Biodiversity among sheep and goat reared under different agroclimatic regions of West Bengal, India. <i>Indian Journal of Animal Science</i> , 87 (1): 80-86. NAAS rating : 6.19

#### VII.1.4. Department of Livestock Production Management

Sl. No.	Scientific Research Publication in Journals
1.	Biswas J, Mandal A, Pal M, Chakraborti A, De A and Pan S (2016) Effect of crenellation on different semen characteristics of cattle <i>Indian Journal of Animal Sciences</i> 86 (3), 294-297. NAAS rating : 6.17
2.	Debnath T, Bera S, Deb S, Pal P, Debbarma N, Das Choudhury D and Haldar A (2016) Real-time monitoring of peripheral body temperature using noninvasive, self-powered, sensor based radio-frequency device in goats ( <i>Capra hircus</i> ) <i>Small Ruminant Research</i> , 144:135-139. NAAS rating : 7.08

#### VII.1.5. Department of Livestock Products Technology

Sl. No.	Scientific Research Publication in Journals
1.	Das Sudip Kumar, Biswas, O., Biswas, S.(2016): Shelf life extension of restructured fish nuggets from low-value cuts of Wallago attu by aqueous extract of Ferula asa-foetida. <i>Fleischwirtschaft Internationala</i> . 31 (6); 64-69 NAAS rating : 6.172 (IF-0.172)
2.	Rajkumar.V, Verma A.K, Patra.G, Pradhan, S, Biswas. S, Chauhan. P, Das, A.K (2016): Quality and Acceptability of Meat Nuggets with Fresh Aloe vera Gel. <i>Asian-Australasian journal of animal sciences</i> 29(5); 702 NAAS rating: 6.756 IF (0.756)
3.	Arun K Das, Vincent Rajkumar, Pramod K Nanda, Pranav Chauhan, Soubhagya R Pradhan, Subhasish Biswas. (2016) Antioxidant Efficacy of Litchi (Litchi chinensis Sonn.) Pericarp Extract in Sheep Meat Nuggets. <i>Antioxidants.</i> , 5(2);16 NAAS rating : 8.69 (IF-2.69)
4.	Keshab Chandra Dhara, Nita Ray, Prabir K Bandopadhyay, Subhasish Biswas, Arunasish Goswami (2016). Influence of Gastrointestinal Parasites on Productive and Reproductive Performances of Black Bengal Goat under Farm Condition. <i>International Journal of Livestock Research</i> 6(2); 25-36 NAAS rating: 6.677 (IF-0.677)
5.	R. Rai, D. Bhattacharyya, P. K. Praveen , S. Ganguly ,N. Dalai, S. Shekhar, (2016): Evaluation of various cooking methods on the nutritional and biochemical attributes and consumer appeal of chevon. <i>International journal of science, environment and technology.</i> , 5(3); 1520-1529. NAAS rating : 6.765 IF (0.765)

#### VII.1.6. Department of Veterinary Anatomy & Histology

Sl. No.	Scientific Research Publication in Journals
1.	Panigrahy, K.K., Behera, K., Mandal, A. K., Sethy, K. and Panda, S. (2017). Effect of age and sex in determining cognitive ability in Vanaraja chickens. <i>British Poultry Science</i> , 58 (5) : 1-5, DOI : 10.1080/00071668.2017.1373388. NAAS rating : 6.93.
2.	Gupta, S.K., Behera, K., Pradhan, C.R., Mandal, A.K., Sethy, K., Behera, D., and Panigrahy, K.K. (2017). Cognitive performance for 2 strains of broiler birds in homogeneous and mixed grouping system. <i>Journal of Veterinary behavior Clinical Applications and Research</i> , 20(4) : 109-115. NAAS rating : 7.37.
3.	Ranjan, R. and Das, P. (2018). Gross Anatomy and Histoarchitecture of Rabbit stomach. <i>International Journal of advance Research</i> . 6(1) : 647-653, IF 2.54.



**VII.1.7. Department of Veterinary Biochemistry**

Sl. No.	Scientific Research Publication in Journals
1.	Pal A, Chatterjee PN, Das S, Batabyal S, Biswas P and Sharma A. (2017). Biodiversity among sheep and goat reared under different agroclimatic regions of West Bengal, India. <i>Indian Journal of Animal Science</i> . 87 (1): 80-86. NAAS rating : 6.17
2.	Kar D, Bandyopadhyay, Dimri U, Mondal D, Nanda PK , Das AK, Batabyal S, Dandapat P and Bandyopadhyay S. (2016). Antibacterial effect of silver nanoparticles and capsaicin against MDR-ESBL producing <i>Escherichia coli</i> : An in vitro study. <i>Asian Pacific Journal of Tropical Disease</i> . 6 (10): 807-810. NAAS rating : Nil (SINP: 0.747

**VII.1.8. Department of Veterinary Clinical Complex**

Sl. No.	Scientific Research Publication in Journals
1.	Nandi SK, Bandyopadhyay S, Das P, Samanta I, Mukherjee P, Roy S and Kundu B. (2016). Understanding osteomyelitis and its treatment through local drug delivery system. <i>Biotechnology Advances</i> . 34 (8): 1305-1317. NAAS rating : 16.60
2.	Halder T, Datta U, Basu S and Mukherjee P (2016). Is lithium essential for epididymal sperm maturation? <i>Medical Hypotheses</i> . 96(2016): 48-50. NAAS rating : 7.5
3.	Khan PK, Mahato A, Kundu B, Nandi SK, Mukherjee P, Datta S, Sarkar S, Mukherjee J, and Nath S. (2016). Influence of single and binary doping of strontium and lithium on in vivo biological properties of bioactive glass scaffolds. <i>Scientific Reports</i> . 6 (32964): 1-18. NAAS rating : 10.26

**VII.1.9. Department of Veterinary Epidemiology & Preventive Medicine**

Sl. No.	Scientific Research Publication in Journals
1.	Pradhan N, Mukherjee J, Biswas U, Jana P S and Guha C (2017): Effect of peripartum micronutrient supplementation on postpartum udder health in high-yielding crossbred cattle. <i>Indian J. Animal Sciences</i> . 87(9): 1095-1096 (NAAS Rating- 6.19)
2.	Debbarma A, Pandit S, Jas R, Baidya S, Mandal S C and Jana P S (2017). Prevalence of hard tick infestations in cattle of West Bengal, India. <i>Biological Rhythm Research</i> . (Impact Factor- 0.624)

**VII.1.10. Department of Veterinary Gynaecology & Obstetrics**

Sl. No.	Scientific Research Publication in Journals
1.	Mukherjee KP, Basu S, Sahoo A K, Datta U, Ray K, Chattaraj S (2016). Cryoprotective effect of EDTA, lactose, ascorbic acid and L-cysteine as additives on garole ram ( <i>Ovis aries</i> ) semen. <i>Int. J. Adv. Res. Biol. Sci.</i> (2016). 3(7): 92-98. Impact factor: 6.433
2.	Sarkar, B, Ray K and Sarkar U. (2016). Prevalence of uterine infection in relation to certain haematological and biochemical changes of blood serum in dairy cows. <i>Indian J. Anim. Res.</i> , 50 (4) 2016: 557-560. NAAS rating : 6.09
3.	Patra M K, Hajra D K, Das R K, Sarkar P and Deka B C (2017): Effect of season on growth and reproduction performance of improved backyard poultry on North Eastern Hill Region. <i>Indian J. Anim. Res.</i> (DOI: 10.18805/ijar.v0iOF.9122). NAAS rating: 6.15

### VII.1.11. Department of Veterinary Medicine, Ethics & Jurisprudence

Sl. No.	Scientific Research Publication in Journals
1.	Chandan Kumar Jena, Amit Raj Gupta and Ramesh Chandra Patra (2016). Osteo-dental fluorosis in cattle reared in villages on the periphery of the aluminium smelter in Odisha, India. <i>Fluoride</i> 49 (4 Pt 2):488-493. NAAS 2018 Rating 7.34.

### VII.1.12. Department of Veterinary Microbiology

Sl. No.	Scientific Research Publication in Journals
1.	Koovapra S, Bandyopadhyay S, Das G, Bhattacharyya D, Banerjee J, Mahanti A, Samanta I, Nanda PK, Kumar A, Mukherjee R, Dimri U and Singh RK (2016): Molecular signature of extended spectrum $\beta$ -lactamase producing <i>Klebsiella pneumoniae</i> isolated from bovine milk in eastern and north-eastern India. <i>Infection, Genetics and Evolution</i> 44: 395-402. NAAS rating: 8.89
2.	Adikesavalu H, Paul P, Priyadarsani L, Banerjee S, Joardar SN and Abraham TJ (2016): Edwardsiellatardainduces dynamic changes in immune effector activities and endocrine network of <i>Pangasius pangasius</i> (Hamilton, 1822). <i>Aquaculture</i> 462: 26-29. Impact Factor (ISI)-1.893, NAAS rating: 8.33
3.	Bhattacharya D, Banerjee J, Bandyopadhyay S, Mondal B, Nanda PK, Samanta I, Mahanti A, Das A K, Das G, Dandapat P and Bandyopadhyay S (2016): First Report on Vancomycin-Resistant <i>Staphylococcus aureus</i> in Bovine and Caprine Milk. <i>Microbial Drug Resistance</i> 22(8): 675-681. NAAS rating: 8.31
4.	Dash JR, Sar TK, Samanta I and Mandal TK (2016): Effects of herbal extract of <i>Ocimum sanctum</i> as supportive therapy with intravenous ceftriaxone in experimentally induced staphylococcal chronic mastitis in goat. <i>Small Ruminant Research</i> 137: 1-8. NAAS rating: 6.97
5.	Debnath C, Mitra T, Kumar A and Samanta I (2016). Occurrence of Dermatophytosis in healthy companion cats and dogs in Eastern India. <i>Iranian Journal of Veterinary Research</i> 17 (1): 20-24. NAAS rating: 6.17
6.	Debnath C, Mitra T, Kumar A and Samanta I (2016): Evaluation of healthy farm and companion rabbits as carriers of dermatophytes. <i>Veterinarski Arhiv</i> 86(6): 805-813. NAAS rating: 6.30
7.	Kumar R, Sar TK, Patra PH, Samanta I, Mishra A and Mandal TK (2016) : Disposition kinetics of ceftiozime in acute mastitis in Murrah buffaloes. <i>Indian Journal of Animal Sciences</i> 86(2): 140-142. NAAS rating: 6.16
8.	Aich R, Batabyal S and Joardar SN, Kesh SS and Chattopadhyay S (2016): Immunobiochemical characterization of purified beta-lactoglobulin of cow milk origin. <i>Indian Journal of Animal Sciences</i> 86 (6): 729-731. NAAS rating: 6.16
9.	Bandyopadhyay S, Mahanti A, Samanta I and Batabyal S (2016): Isolation and characterization of enterovirulent <i>Escherichia coli</i> from yaks with diarrhoea. <i>Indian Journal of Animal Research</i> 50(4): 544-550. NAAS rating: 6.15
10.	Das M, Isore I, Joardar SN, Samanta I and Mukhopadhyay SK (2016): Immunomodulatory effect of levamisole on PPR vaccine in goats and change in haematological profile. <i>Indian Journal of Animal Research</i> 50 (3): 411-414. NAAS rating: 6.15
11.	Aich R, Batabyal S and Joardar SN (2016): Immunochemical characterization of purified buffalo beta-lactoglobulin. <i>Buffalo Bulletin</i> 35(2): 269-275. Impact Factor (ISI)-0.03, NAAS rating: 6.03
12.	Mukhopadhyay E, Mazumder A, Joardar SN, Saha G K and Banerjee D (2016): An annotated checklist of <i>Culicoides</i> Latreille, 1809 (Insecta: Ceratopogonidae: Diptera) with incorporation of a vector species list from India. <i>Journal of Vector Ecology</i> 41(2): 279-284. Impact Factor (ISI)-1.42
13.	Kumar P, Patra AK, Mandal GP, Samanta I and Pradhan S (2017): Effect of black cumin seeds on growth performance, nutrient utilization, immunity, gut health and nitrogen excretion in broiler chickens. <i>Journal of the Science of Food and Agriculture</i> 97(11):3742-51. NAAS rating: 8.46

14.	Pathak M, Mandal GP, Patra AK, Samanta I, Pradhan S and Halder S (2017): Effects of dietary supplementation of cinnamaldehyde and formic acid on growth performance, intestinal microbiota and immune response in broiler chickens. <i>Animal Production Science</i> 57 (5): 821-825. NAAS rating: 7.37
15.	Ghosh P, Mahanti A, Samanta I, Joardar SN, Batabyal K, Dey S, Tarafdar S and Isore DP (2017): Occurrence of extended-spectrum cephalosporinase producing <i>Escherichia coli</i> in kuroiler birds. <i>Veterinarsky Arhiv</i> 87 (6): 745-757. Impact Factor (ISI)-0.3, NAAS rating: 6.32
16.	Banerjee S, Batabyal K, Joardar SN, Isore DP, Dey S, Samanta I, Samanta TK (2017): Mice pathology study of tox A and exo S genes bearing <i>Pseudomonas aeruginosa</i> isolated from bovine subclinical mastitis in West Bengal with their antibiogram. <i>Indian Journal of Animal Research</i> DOI:10.18805/ijar.B-3346. NAAS rating: 6.09
17.	Mahanti A, Ghosh P, Samanta I, Joardar SN, Bandyopadhyay, S., Bhattacharyya, Banerjee, J., Batabyal, S., Sar, T.K. and Dutta, T.K. (2017). Prevalence of CTX-M –producing <i>Klebsiella</i> spp. In broiler, kuroiler and indigenous poultry in West Bengal, India. <i>Microbial Drug Resistance</i> (in press). DOI: 10.1089/mdr.2016.0096 NAAS rating: 8.53
18.	Chowdhury S, Mandal GP, Patra AK, Kumar P, Samanta I, Pradhan S and Samanta AK (2018): Different essential oils in diets of broiler chickens: 2. Gut microbes and morphology, immune response, and some blood profile and antioxidant enzymes. <i>Animal Feed Science and Technology</i> 236: 39-47. NAAS rating: 7.76
19.	S. Murmu, C. Debnath, A.K. Pramanik, T. Mitra, S. Jana, S. Banerjee, D.P. Isore and K. Batabyal (2017). Characterization and anti-fungal susceptibility pattern of dermatophytes isolated from dogs, cats and pet owners in and around Kolkata, India. <i>Indian Journal of Animal Research</i> , 51(2): 336-339. NAAS rating: 6.15

### VII.1.13. Department of Veterinary Parasitology

Sl. No.	Scientific Research Publication in Journals
1.	Jas R., Ghosh J. D and Das K. (2016). Antigenic Cross-reactivity among <i>Haemonchus contortus</i> , <i>Oesophagostomum columbianum</i> and <i>Trichuris ovis</i> of Goat. <i>Iranian Journal of Parasitology</i> : 11(4):542-548. NAAS rating : 6.76.
2.	Jas R and Pandit S (2017). Seasonal variation in prevalence of gastrointestinal helminthoses in cattle of New Alluvial zone of West Bengal, India. <i>Biological Rhythm Research</i> : 48 (4): 631-637. NAAS rating : 6.70.
3.	Jas R., Kumar D., Bhandari A. and Pandit S. (2017). Seasonal alteration in prevalence and intensity of naturally occurring gastrointestinal helminth infection in goats of New Alluvial zone of West Bengal, India. <i>Biological Rhythm Research</i> : 48 (6): 867-876. NAAS rating 6.70.
4.	Debbarma A, Pandit S, Jas R, Baidya S, Mandal S C and Jana P S (2017). Prevalence of hard tick infestations in cattle of West Bengal, India, <i>Biological Rhythm Research</i> : DOI: 10.1080/09291016.2017.1395527. NAAS rating : 6.70.
5.	Ghosh S, Gupta S, Kumar A K G, Sharma A K, Kumar S, Nagar G, Kumar R, Paul S, Fular A, Chigure G, Nandi, A, Manjunathachar H V, Mohammad A, Verma M R, Saravanan B C, Ray D (2017). Characterization and establishment of a reference deltamethrin and cypermethrin resistant tick line (IVRI-IV) of <i>Rhipicephalus (Boophilus) microplus</i> . <i>Pesticide Biochemistry and Physiology</i> : 138: 66-70. NAAS rating : 8.59.
6.	Manjunathachar H V, Saravanan B C, Kumar B, Tamilmahan P, Sharma A K, Shinde S, Nandi A, Nagar G, Chigure G, Mohmad A, Fular, A, Kumar, S, Ghosh S (2017). Expression and determination of immunization dose of recombinant tropomyosin protein of <i>Hyalomma anatolicum</i> for the development of anti-tick vaccine. <i>Indian Journal of Animal Sciences</i> : 87 (3): 275–279. NAAS rating : 6.19.
7.	Nandi A, Sagar S V, Chigure G, Fular A, Sharma A K, Nagar G, Kumar S, Saravanan, B C, Ghosh S (2018). Determination and validation of discriminating concentration of ivermectin against <i>Rhipicephalus microplus</i> . <i>Veterinary Parasitology</i> 250: 30-34. NAAS rating : 8.36

8.	Ghosh S, Gupta S, Kumar A K G, Sharma A K, Kumar S, Nagar G, Kumar R, Paul S, Fular A, Chigure G, Nandi, A, Manjunathachar H V, Mohammad A, Verma M R, Saravanana B C, Ray D (2017). Characterization and establishment of a reference deltamethrin and cypermethrin resistant tick line (IVRI-IV) of <i>Rhipicephalus (Boophilus) microplus</i> . <i>Pesticide Biochemistry and Physiology</i> :138: 66-70. NAAS rating : 8.59.
9.	Manjunathachar H V, Saravanan B C, Kumar B, Tamilmahan P, Sharma A K, Shinde S, Nandi A, Nagar G, Chigure G, Mohmad A, Fular, A, Kumar, S, Ghosh S (2017). Expression and determination of immunization dose of recombinant tropomyosin protein of <i>Hyalomma anatolicum</i> for the development of anti-tick vaccine. <i>Indian Journal of Animal Sciences</i> : 87 (3): 275–279. NAAS rating : 6.19.
10.	Nandi A, Sagar S V, Chigure G, Fular A, Sharma A K, Nagar G, Kumar S, Saravanan, B C, Ghosh S (2018). Determination and validation of discriminating concentration of ivermectin against <i>Rhipicephalus microplus</i> . <i>Veterinary Parasitology</i> 250: 30-34. NAAS rating : 8.36.

#### VII.1.14. Department of Veterinary Pathology

Sl. No.	Scientific Research Publication in Journals
1.	Kumar, P., Patra, A.K., Mandal, G.P., Samanta, I. and Pradhan, S. (2017). Effect of black cumin seeds on growth performance, nutrient utilisation, immunity, gut health, and nitrogen excretion by broiler chickens: Black cumin seeds as feed additive in chickens. <i>J. Sci Food Agric.</i> ; NAAS 8.46
2.	Kar, I., Mukhopadhyay, S.K., Patra, A.k. and Pradhan, S. (2017). Bioaccumulation of selected heavy metal and histopathological and hematobiochemical alterations in backyard chickens reared in an industrial area, India. <i>Environmental Science and pollution</i> ; NAAS 8.74
3.	Chowdhury, S., Mandal, G.P., Patra, A.K., Kumar, P., Samanta, I., Pradhan, S., Samanta, A.K. (2017). Different essential oils in diets of broiler chickens: 2. Gut microbes and morphology, immune response, and some blood profile and antioxidant enzymes. <i>Animal Feed Science and Technology</i> ; NAAS 7.76

#### VII.1.15. Department of Veterinary Pharmacology & Toxicology

Sl. No.	Scientific Research Publication in Journals
1.	Dash, J.R., Sar, T.K., Samanta, I. and Mandal, T.K. (2016). Effects of herbal extract of <i>Ocimum sanctum</i> as supportive therapy with intravenous ceftriaxone in experimentally induced staphylococcal chronic mastitis in goat. <i>Small Ruminant Research</i> , 137: 1-8; NAAS rating : 6.95.
2.	Kumar, R., Sar, T.K., Patra, P.H., Samanta, I., Mishra, A. and Mandal, T.K. (2016). Disposition kinetics of ceftiozime in acute mastitis in Murrah buffaloes. <i>Indian Journal of Animal Sciences</i> , 86(2): 140-142; NAAS rating : 6.19.
3.	Nandi, S., Joardar, S.N., Samanta, I., Roy, B., Das, P.K., Sar, T.K. and Alam, S.S. (2016). Haringhata black chicken shows resistance to pathogenic <i>e. Coli</i> by high immune-effector activities. <i>Journal of Experimental Biology</i> , 4(2): 149-155; NAAS rating : 9.2

#### VII.1.16. Department of Veterinary Physiology

Sl. No.	Scientific Research Publication in Journals
1.	Vupru K, Das P K, Mukherjee J, Banerjee, Perumap P, Ghosh P R (2016). Infradian Rhythmicity in lactogenic hormone (prolactin, growth hormone, cortisol and thyroid hormone) secretion throughout the lactation cycle in mithun cows ( <i>Bos frontalis</i> ). <i>Biological Rhythm Research</i> 47 (6) (2016):841-850. NAAS rating : 6.62.
2.	Mukherjee S., Nandi S.K., Kundu B., Chanda A, Sen S., Das P.K. (2016). Enhanced bone regeneration with carbon nanotube reinforced hydroxyapatite in animal model, <i>Journal of the Mechanical Behaviour of Biomedical Materials</i> , 60: 243 – 255. Impact Factor: 3.239.



3.	Maity S, Das, P K, Ghosh P R, Banerjee D, Mukherjee J (2016). Infradian rhythmicity in egg production features in relation to antioxidant profiles of Rhode Island Red (RIR) birds reared at backyard in different agroclimatic zones of West Bengal during summer stress. <i>Biological Rhythm Research</i> 47 (5) (2016): 659-667. NAAS rating : 6.62.
4.	Alhussien M, Manjari P, Sheikh AA, Mohammed Seman S, Reddi S, Mohanty A K, Mukherjee J, Dang A K (2016). Immunological attributes of blood and milk neutrophils isolated from crossbred cows during different physiological conditions. <i>Czech J. Anim. Sci.</i> 61 (5) (2016): 223–231. NAAS rating : 6.74.
5.	Kujur K, Ghosh S, Batabyal S, Mukherjee J (2016). Effect of micronutrient supplementation on hormonal profile of local goat and sheep breeds of West Bengal. <i>Indian Journal of Animal Sciences</i> . 86(2) (2016):224-225. NAAS rating : 6.19.
6.	Kumar D, Baidya S, Jas R, Pandit S, Das P K (2017). Sero-prevalence of <i>Toxoplasma gondii</i> infection in backyard poultry birds of Tarai Zone of West Bengal, India; <i>Asian Pacific Journal of Tropical Disease</i> , 7 (9): 930 – 933. NAAS rating : 6.93.
7.	Parkunan T., Das A. K., Banerjee D., Mohanty N., Paul A., Nanda P. K., Biswas T. K., Naskar S., Bag S., Sarkar M., Mohan N. H., and Das B. C. (2017). Changes in expression of monocarboxylate transporters, heat shock proteins and meat quality of Large White Yorkshire and Ghungroo pigs during hot summer period; <i>Asian-Australas J Anim Sci.</i> , 30(2): 246–253. doi: 10.5713/ajas.16.0020. NAAS rating : 6.86.
8.	Mukherjee J, Chaudhury M, Dang A K (2017). Alterations in the milk yield and composition during different stages of lactation cycle in elite and non-elite Karan-Fries cross-bred cows (Holstein Fresian x Tharparkar). <i>Biological Rhythm Research</i> 48(4) (2017): 499-506. NAAS rating : 6.62.
9.	Mukherjee J, Chaudhury M, Dang A K (2017). Alterations in the relative abundance of Haptoglobin (Hp) transcripts in total milk somatic cells during different stages of lactation cycle in high yielding cross-bred cows. <i>Biological Rhythm Research</i> . 48(4) (2017) :577-581. NAAS rating : 6.62.
10.	Sharma (Buragohain) T, Reddy R C, Das P K, Ghosh P R, Banerjee D, Mukherjee J (2017). Correlation between in vitro activity of milk leukocytes with milk constituents in high yielding crossbred cows. <i>Indian Journal of Animal Sciences</i> 87 (5) (2017): 656–658. NAAS rating : 6.19.
11.	Pradhan N, Mukherjee J, Biswas U, Jana P S, Guha C (2017). Effect of peripartum micronutrient supplementation on postpartum udder health in high-yielding crossbred cattle. <i>Indian Journal of Animal Sciences</i> 87 (9) (2017): 1095–1096. NAAS rating : 6.19.

#### VII.1.17. Department of Veterinary Public Health

Sl. No.	Scientific Research Publication in Journals
1.	Debnath, C, Mitra T, Kumar A. and Samanta I. (2016). Evaluation Of Healthy Farm And Companion Rabbits As Carriers Of Dermatophytes. <i>Vet. Arhiv.</i> 86(6): 805-813; NAAS rating : 6.30
2.	Debnath C, Mitra T, Kumar A and Samanta I (2016). Occurrence of Dermatophytosis in healthy companion cats and dogs in Eastern India. <i>Iranian Journal of Veterinary Research</i> 17 (1): 20-24; NAAS rating : 6.17.
3.	Murmu S; Debnath C; Pramanik AK; Mitra T; Jana S; Banerjee S; Ishore DP and Batabyal K (2017). Characterization and Antifungal Susceptibility Pattern of Dermatophytes Isolated from Dogs, Cats and Pet Owners in and Around Kolkata, India. <i>Indian Journal of Animal Research</i> . 51(02): 336-339; NAAS rating : 6.15.
4.	Bhattacharya D, Banerjee J, Bandyopadhyay S, Mondal B, Nanda PK, Samanta I, Mahanti A, Das A K, Das G, Dandapat P and Bandyopadhyay S (2016): First Report on Vancomycin-Resistant <i>Staphylococcus aureus</i> in Bovine and Caprine Milk. <i>Microbial Drug Resistance</i> 22(8): 675-681; NAAS rating : 8.31.

5.	Pathak M, Mandal GP, Patra AK, Samanta I, Pradhan S and Haldar S (2017): Effects of dietary supplementation of cinnamaldehyde and formic acid on growth performance, intestinal microbiota and immune response in broiler chickens. <i>Animal Production Science</i> 57 (5): 821-825; NAAS rating : 7.37.
6.	Dash JR, Sar TK, Samanta I and Mandal TK (2016): Effects of herbal extract of <i>Ocimum sanctum</i> as supportive therapy with intravenous ceftriaxone in experimentally induced staphylococcal chronic mastitis in goat. <i>Small Ruminant Research</i> 137: 1-8; NAAS rating : 6.97.
7.	Koovapra S, Bandyopadhyay S, Das G, Bhattacharyya D, Banerjee J, Mahanti A, Samanta I, Nanda PK, Kumar A, Mukherjee R, Dimri U and Singh RK (2016): Molecular signature of extended spectrum $\beta$ -lactamase producing <i>Klebsiella pneumoniae</i> isolated from bovine milk in eastern and north-eastern India. <i>Infection, Genetics and Evolution</i> 44: 395-402; NAAS rating : 8.89.
8.	Kumar P, Patra AK, Mandal GP, Samanta I and Pradhan S (2017): Effect of black cumin seeds on growth performance, nutrient utilization, immunity, gut health and nitrogen excretion in broiler chickens. <i>Journal of the Science of Food and Agriculture</i> 97(11):3742-51; NAAS rating : 8.46.
9.	Mahanti A, Ghosh P, Samanta I, Joardar SN, Bandyopadhyay S, Bhattacharyya D, Banerjee J, Batabyal S, Sar TK and Dutta TK (2017): Prevalence of CTX-M-Producing <i>Klebsiella</i> spp. in Broiler, Kuroiler, and Indigenous Poultry in West Bengal State, India. <i>Microbial Drug Resistance</i> (in press); NAAS rating : 8.89.
10.	Ghosh P, Mahanti A, Samanta I, Joardar SN, Batabyal K, Dey S, Taraphder S and Isore DP (2017): Occurrence of extended-spectrum cephalosporinase producing <i>Escherichia coli</i> in kuroiler birds. <i>Veterinarski Arhiv</i> 87 (6): 745-757; NAAS rating : 6.30.
11.	Chowdhury S, Mandal GP, Patra AK, Kumar P, Samanta I, Pradhan S and Samanta AK (2018): Different essential oils in diets of broiler chickens: 2. Gut microbes and morphology, immune response, and some blood profile and antioxidant enzymes. <i>Animal Feed Science and Technology</i> 236: 39-47; NAAS rating : 7.76.
12.	Kumar R, Sar TK, Patra PH, Samanta I, Mishra A and Mandal TK (2016) : Disposition kinetics of ceftiozime in acute mastitis in Murrah buffaloes. <i>Indian Journal of Animal Sciences</i> 86(2): 140-142; NAAS rating : 6.19.
13.	Bandyopadhyay S, Mahanti A, Samanta I and Batabyal S (2016): Isolation and characterization of enterovirulent <i>Escherichia coli</i> from yaks with diarrhoea. <i>Indian Journal of Animal Research</i> 50(4): 544-550; NAAS rating : 6.15.
14.	Banerjee S, Batabyal K, Joardar SN, Isore DP, Dey S, Samanta I and Samanta TK (2017): Mice pathology study of <i>tox A</i> and <i>exo S</i> genes bearing <i>Pseudomonas aeruginosa</i> isolated from bovine Sub-clinical mastitis in West Bengal with their AntibioGram. <i>Indian Journal of Animal Research</i> (in press); NAAS rating : 6.15.

#### VII.1.18. Department of Veterinary Surgery & Radiology

Sl. No.	Scientific Research Publication in Journals
1.	Mukherjee, S., Nandi, S. K., Kundu, B., Chanda, A., Sen, S. and Das, P. K. 2016. Enhanced bone regeneration with carbon nanotube reinforced hydroxyapatite in animal model. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> 60:243-255. NAAS rating : 9.11.
2.	Bhattacharjee, P., Naskar, D., Maiti, T. K., Bhattacharya, D., Das, P., Nandi, S. K., and Kundu, S. C. 2016. Potential of non-mulberry silk protein fibroin blended and grafted poly ( $\epsilon$ -caprolactone) nanofibrous matrices for in vivo bone regeneration. <i>Colloids and Surfaces B: Biointerfaces</i> . 143:431-439. NAAS rating : 9.89.
3.	Prerak Gupta, Manishekhar Kumar, Nandana Bhardwaj, Jai Praveen Kumar, C.S Krishnamurthy, Samit Nandi and Biman B Mandal. 2016. Mimicking form and function of native small diameter vascular conduits using mulberry and non-mulberry patterned silk films. <i>ACS Applied Materials &amp; Interfaces</i> . 29;8(25):15874-88. NAAS rating : 13.50.

4.	Manishekhar, Deepak Jain, Nandana Bhardwaj, Prerak Gupta, Samit K Nandi and Biman B Mandal. 2016. Native honeybee silk membrane: A potential matrix for tissue engineering and regenerative medicine. RSC Adv. 6, 54394–54403. NAAS rating : 9.11.
5.	P Gupta, M Kumar, N Bhardwaj, JP Kumar, CS Krishnamurthy, SK Nandi, BB Mandal. 2016. Bioengineered silk vascular grafts for coronary artery bypass surgery. European Cells and Materials 31(Suppl. 1): P412. NAAS rating : 10.0.
6.	Dimple Couhan, Samit K. Nandi and Biman B. Mandal. Non-mulberry silk fibroin based smart nanofibrous wound dressing for chronic cutaneous ulcers. European cells & materials, 2016; 31:239. NAAS rating : 10.0.
7.	Pintu Kumar Khan, Arnab Mahato, Biswanath Kundu, Samit K. Nandi, Prasenjit Mukherjee, Someswar Datta, Soumya Sarkar, Jayanta Mukherjee, Shalini Nath, Vamsi K. Balla and Chitra Mandal. 2016. Influence of single and binary doping of strontium and lithium on in vivo biological properties of bioactive glass scaffolds. Sci. Rep. 6, 32964; doi: 10.1038/srep32964. NAAS rating :10.26
8.	S Ray, R Acharya, S Saha, A Islam, S Dey, S.K. Nandi, TK Mandal, Goutam Banerjee and Jui Chakraborty. 2016. Role of nitrogenous bisphosphonate (local delivery) incorporated vitreous coating (with/without polymer) on surgical grade SS316L implant material to improve fixation at the damaged tissue site. RSC Adv. 6 (92), 89467-89483. NAAS rating :9.11.
9.	Samit K Nandi, Samiran Bandhopadhyay, Piyali Das, Indranil Samanta, Prasenjit Mukherjee, Subhasis Roy and Biswanath Kundu. 2016. Understanding osteomyelitis and its treatment through local drug delivery system. Biotechnology Advances 34(8): 1305-1317. NAAS rating :16.60.
10.	Howa Begam, Samit Kr. Nandi, Biswanath Kundu and Abhijit Chanda. 2017. Strategies for delivering bone morphogenetic protein for bone healing”. Material Science Engineering C 70(1): 856–869. NAAS rating : 10.16.
11.	Dimple Chouhan, Bijayshree Chakraborty, Samit K Nandi and Biman B. Mandal. 2017. Role of nonmulberry silk fibroin in deposition and regulation of extracellular matrix towards accelerated wound healing. Acta Biomaterialia 48: 157-174. NAAS rating : 12.32.
12.	Howa Begam, Samit Kumar Nandi and Abhijit Chanda. 2017. Effect of bone morphogenetic protein on Zn-HAp and Zn-HAp/collagen composite: A systematic in vivo study. Res. Vet Sci. DOI 10.1016/j.rvsc.2017.01.012. NAAS rating :7.30.
13.	Howa Begam; Biswanath Kundu, Abhijit Chanda and Samit K Nandi. 2017. MG63 osteoblast cell response on Zn doped hydroxyapatite (HAp) with various surface features. Ceramic International. 43 (4), 3752-3760. NAAS rating : 8.99.
14.	Bhattacharjee, P., Maiti, T. K., Bhattacharya, D. and Nandi, S. K. 2017. Effect of different mineralization processes on in vitro and in vivo bone regeneration and osteoblast-macrophage cross-talk in co-culture system using dual growth factor mediated non-mulberry silk fibroin grafted poly (C-caprolactone) nanofibrous scaffold. Colloids and Surfaces B: Biointerfaces 156: 270-281. NAAS rating :9.89.
15.	Naskar, D., Ghosh, A. K., Mandal, M., Das P., Nandi, S. K., and Kundu, S. C. 2017. Dual growth factor loaded nonmulberry silk fibroin/carbon nanofiber composite 3D scaffolds for in vitro and in vivo bone regeneration Biomaterials 136: 67- 85. NAAS rating : 14.40.
16.	Mahato, A., Kundu, B., Mukherjee, P. and Nandi, S. K., 2017. Applications of different bioactive glass and glass-ceramic materials for osteoconductivity and osteoinductivity. Trans Ind Cer Soc. 76(3): 149-158. NAAS rating :6.58.
17.	Mehrotra, S., Nandi, S. K., and Mandal, B. B. 2017. Stacked silk-cell monolayers as a biomimetic three dimensional construct for cardiac tissue reconstruction. J. Mater. Chem. B, 5, 6325-6338. NAAS rating : 10.54.
18.	Kumar, M., Nandi, S. K., Kaplan, D. and Mandal, B. B. 2017. Localized Immunomodulatory Silk Macrocapsules for Islet-like Spheroid Formation and Sustained Insulin Production. ACS Biomaterials Science & Engineering 3 (10), pp 2443–2456. NAAS rating : 9.2.



19.	Kumar, M., Nandi, S. K., Kaplan, D. and Mandal, B. B. Immunomodulatory bioartificial pancreas for sustained insulin production in diabetic patients. <i>European Cells &amp; Materials</i> , 2017; 33:Suppl. 2, 0323. NAAS rating :10.0.
20.	Guru, J., Nandi, S. K., and Mandal, B. B. 2017. Functional hepatocyte clusters on bioactive blend silk matrices towards generating bioartificial liver constructs. <i>Acta Biomaterialia</i> doi:10.1016/j.actbio.2017.11.053. NAAS rating :12.32.
21.	Nandi, S. K., Shivaram, A., Bose, S. and Bandhopadhyay, A. 2018. Silver nanoparticles coated implants to treat osteomyelitis. <i>Journal of Biomedical Materials Research Part B: Applied Biomaterials</i> . 106(3):1073–1083. NAAS rating : 9.19.
22.	Chouhan, D., Guru, J., Chakraborty, B., Nandi, S. K., and Mandal, B. B. 2018. Functionalized PVA-Silk blended nanofibrous mats promote diabetic wound healing via regulation of extracellular matrix and tissue remodeling. <i>Journal of Tissue Engineering and Regenerative Medicine</i> 12(3): e1559-e1570. NAAS rating : 9.989.
23.	Joseph CM, Samit Kumar Nandi and Biman B. Mandal 2018. Multifunctional Cell Instructive Silk-Bioactive Glass Composite Reinforced Scaffolds Toward Osteoinductive, Proangiogenic, and Resorbable Bone Grafts. <i>Advanced Healthcare Materials</i> DOI: 10.1002/adhm.201701418. NAAS rating :11.11.
24.	Sween Gilotra, Dimple Chouhan, Nandana Bhardwaj, Samit Nandi, Biman Mandal, Potential of silk sericin based nanofibrous mats for wound dressing applications. <i>Materials Science and Engineering C</i> , 2018; 90: 420-434. NAAS rating :10.16.
25.	K. Bavya Devi, Bipasa Tripathy, Prashant N Kumta, Samit Kumar Nandi, and Mangal Roy. 2018. In vivo biocompatibility of zinc doped magnesium silicate ceramics. <i>ACS Biomaterials Science &amp; Engineering</i> DOI: 10.1021/acsbomaterials.8b00297. NAAS rating :9.2.
26.	Priyanka Majee, Shampa Dhar, P. K. Mitra, Lalzawmliana V., Samit Kumar Nandi, Piyali Basak and Biswanath Kundu. 2018. In vivo performance analysis of bone regeneration of tri-layer coated 316L stainless steel implant in rabbit model. <i>Journal of Material Research</i> DOI: 10.1557/jmr.2018.119. NAAS rating :7.673.
27.	Hazra S, Nandi S, Naskar D, Guha R, Chowdhury S, Pradhan N, Kundu SC, Konar A .2016. Non-mulberry Silk Fibroin Biomaterial for Corneal Regeneration. <i>Scientific reports</i> . DOI: 10.1038/srep21840. Nature publication. NAAS rating :11.58.
28.	Konar S, Guha R, Kundu B, Nandi S, Ghosh TK, Kundu SC, Konar A, Hazra S. 2016. Silk fibroin hydrogel as physical barrier for prevention of post hernia adhesion. <i>Hernia</i> . DOI 10.1007/s10029-016-1484-8. NAAS rating :8.05.
29.	Pirfenidone inhibits post-traumatic proliferative vitreoretinopathy. Khanum BN, Guha R, Sur VP, Nandi S, Basak SK, Konar A, Hazra S. <i>Eye (Lond)</i> . 2017 Mar 17. doi: 10.1038/eye.2017.21. Nature publication. IF 2.213

#### VII.1.19. Department of Veterinary & Animal Husbandry Extension Education

Sl. No.	Scientific Research Publication in Journals
1.	Keshab Chandra Dhara, Nita Ray, Prabir K Bandopadhyay, Subhasish Biswas, Arunasish Goswami (2016). Influence of Gastrointestinal Parasites on Productive and Reproductive Performances of Black Bengal Goat under Farm Condition. <i>International Journal of Livestock Research</i> 6(2); 25-36. NAAS rating: 6.677 (IF-0.677)
2.	K C Dhara, N. Ray, P.K Bandopadhyay, A. Goswami (2016). Socio- economic Status of the Goat Farmers in Nadia District of West Bengal. <i>Int. J. Livest. Res.</i> 6(9): 29-37. NAAS rating: 6.677



**VII.2. RESEARCH PUBLICATIONS OF FACULTY OF FISHERY SCIENCES****VII.2.1. Department of Aquaculture**

Sl. No.	Scientific Research Publication in Journals
1.	Mandal, A., Das, S. K., Majumder, A. (2017): Studies on physico-chemical environment and management of crab ( <i>Scylla serrata</i> ) farming in 24 Parganas (West Bengal). Indian Journal Animal Research, DOI:10.18805/ijar.B-3423. NAAS Rating : 6.15.

**VII.2.2. Department of Aquatic Animal Health**

Sl. No.	Scientific Research Publication in Journals
1.	Abraham, T.J., Sarker, S., Dash, G., Patra, A. and Adikesavalu, H., 2017. Chryseobacterium sp. PLI <sub>2</sub> and Aeromonas hydrophila co-infection in pacu, <i>Piaractus brachipomus</i> (Cuvier, 1817) fries cultured in West Bengal, India. Aquaculture, 473: 223-227. <a href="http://dx.doi.org/10.1016/j.aquaculture.2017.02.016">http://dx.doi.org/10.1016/j.aquaculture.2017.02.016</a> NAAS Rating : 8.57; IF: 2.57.
2.	Sarker, S., Abraham, T.J., Banerjee, S., Adikesavalu, H., Patra, A., 2017. Characterization, virulence and pathology of <i>Flavobacterium</i> sp. KG3 associated with gill rot in carp, <i>Catla catla</i> (Ham.). Aquaculture, 468: 579–584. <a href="http://dx.doi.org/10.1016/j.aquaculture.2016.11.024">http://dx.doi.org/10.1016/j.aquaculture.2016.11.024</a> NAAS Rating : 8.57; (IF: 2.57).
3.	Sahoo, P.K., Swaminathan, T.R., Abraham, T.J., Kumar, R., Pattanayaka, S., Mohapatra, A., Ratha, S.S., Patra, A., Adikesavalu, H., Sood, N., Pradhan, P.K., Das, B.K., Jayasankar, P. and Jena, J.K. 2016. Detection of goldfish haematopoietic necrosis herpes virus (Cyprinid herpesvirus-2) with multi-drug resistant <i>Aeromonas hydrophila</i> infection in goldfish: First evidence of any viral disease outbreak in ornamental freshwater aquaculture farms in India. Acta Tropica 161: 8–17. NAAS Rating : 8.22; IF: 2.218.
4.	Adikesavalu, H., Paul, P., Priyadarsani, L., Banerjee, S., Joardar, S.N. and Abraham, T.J. 2016. <i>Edwardsiella tarda</i> induces dynamic changes in immune effector activities and endocrine network of <i>Pangasius pangasius</i> (Hamilton, 1822). Aquaculture, 462: 24–29. NAAS Rating : 8.57; IF: 2.57.
5.	Abraham, T.J., Paul, P., Adikesavalu, H., Patra, A. and Banerjee, S., 2016. <i>Stenotrophomonas maltophilia</i> as an opportunistic pathogen in cultured African catfish, <i>Clarias gariepinus</i> (Burchell, 1822). Aquaculture, 450: 168–172. NAAS: 8.57; IF: 2.57.
6.	Rani, S, Nagesh, T.S., Dash, G. and Abraham, T.J. 2016. Haematological response of <i>Labeo rohita</i> (Hamilton) fingerlings exposed to low salinities. Indian Journal of Fisheries, 63(2): 127-131. NAAS Rating : 6.16.

**VII.2.3. Department of Aquatic Environment Management**

Sl. No.	Scientific Research Publication in Journals
1.	Dubey, S. K., Trivedi, R. K., Chand, B. K., Mandal, B. and Rout, S. K. (2016) : The effect of salinity on survival and growth of the freshwater stenohaline fish spotted snake head <i>Channa punctata</i> (Bloch, 1793). Zoology and Ecology (Taylor & Francis), DOI: 10.1080/21658005.2016.1225867. NAAS rating, 6.53.
2.	Dubey, S. K., Trivedi, R. K., Chand, B. K., Mandal, B. and Rout, S. K. (2017): Farmers' perception of climate change, impacts on freshwater aquaculture and adaptation strategies in climate change hotspots: A case of Indian Sundarban delta, environmental Development (Elsevier Publication) 21: 38-51. NAAS rating, 8.12.

#### VII.2.4. Department of Fishery Extension

Sl. No.	Scientific Research Publication in Journals
1.	Avijit Halder, Dhrubojoyti Das, Biswarup Saha, P. Pal, S. Das, D. Rajkhowa, S. Hazarika and M. Datta (2017), Smallholder Pig Farming for Rural Livelihoods and Food Security in North East India, Journal of Animal Research, Journal of Animal Research: v.7 n.3, p. 471-481. NAAS rating. 6.15.

#### VII.2.5. Department of Fish Processing Technology

Sl. No.	Scientific Research Publication in Journals
1.	Chowdhury S, Raychaudhuri U, Nath S and Dora K C (2016). Shelf life of lactic acid bacteria inoculated vacuum packed <i>Tenualosa ilisha</i> (Hamilton, 1822) at low temperature. Indian J. Fish. DOI:10.21077/ijf.2016.63.1.27811-63(1) (2016): 156-161. NAAS rating: 6.24.

#### VII.2.6. Department of Fishery Resources Management

Sl. No.	Scientific Research Publication in Journals
1.	Supriya Rani, Nagesh T S, Dash G, and Abraham T J (2016): Haematological response of <i>Labeo rohita</i> (Hamilton) fingerlings exposed to low salinities. <i>Indian Journal of Fisheries</i> . 63(2): 127-131. NAAS Rating : 6.24.

### VII.3. RESEARCH PUBLICATIONS OF FACULTY OF DAIRY TECHNOLOGY

#### VII.3.1. Department of Dairy Technology

Sl. No.	Scientific Research Publication in Journals
1.	Bansal, V., Kanawjia, S. K., Khetra, Y., Puri, R. and Debnath, A. (2017). Effect of whey protein concentrate, sodium caseinate, Cheddar cheese, and milk fat on sensory and functional properties of cheese dip. <i>J Food Process Preserv</i> . doi:10.1111/jfpp.13174. NAAS Rating: 6.89.

### VII.4. RESEARCH PUBLICATIONS OF DIRECTORATE OF RESEARCH, EXTENSION & FARMS

Sl. No.	Scientific Research Publication in Journals
1.	Keshab Chandra Dhara, Nita Ray, Prabir K Bandopadhyay, Subhasish Biswas, Arunasish Goswami (2016). Influence of Gastrointestinal Parasites on Productive and Reproductive Performances of Black Bengal Goat under Farm Condition. <i>International Journal of Livestock Research</i> 6(2); 25-36 NAAS rating: 6.677, IF-0.677.
2.	K C Dhara, N. Ray, P.K Bandopadhyay, A. Goswami (2016) Socio- economic Status of the Goat Farmers in Nadia District of West Bengal. <i>Int. J. Livest. Res.</i> . 6(9): 29-37.

## VIII. HUMAN RESOURCE DEVELOPMENT (HRD)

Faculty members and scientists of West Bengal University of Animal & Fishery Sciences always look forward for interactive and collaborativework with the scientists from other institutes within the State, Country and other countries to strengthen its basic, applied and strategic research in the fields of Veterinary and Animal Sciences, Dairy Technology and Fishery Sciences. They participate in different conferences, training programmes, summer/winter school, short courses on their related subjects, seminars, symposiums, workshops etc. to refresh and update themselves with the latest scientific knowledge and technologies. The University also encourages its faculty members to participate in such Human Resource Development programs. The important programs attended by the Faculty members and scientists during 2016-17 and 2017-18, are depicted below:

### VIII.1. PARTICIPATION OF THE TEACHERS / SCIENTISTS/ OFFICERS IN THE SEMINAR, SYMPOSIUM, WORKSHOP, TRAINING PROGRAMMES ETC.

#### VIII.1.A. FACULTY OF VETERINARY & ANIMAL SCIENCES

##### VIII.1.A.1. Department of Animal Genetics & Breeding

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. P K Senapati, Professor	Invited speaker: ICAR sponsored 10 days short course on "Conservation of indigenous breeds of small ruminants in their respective tracts"	WBUAFS, Belgachia	18 <sup>th</sup> July 2017
	Video-conference with ARDD officials of West Bengal	Nabannya, Kolkata	17 <sup>th</sup> Oct, 2017
Dr. Manoranjan Roy, Assistant Professor	2 <sup>nd</sup> International Seminar on Veterinary Ayurveda	WBUAFS, Belgachia, Kolkata-37	1 <sup>st</sup> December, 2016
	National Symposium on "Recent trends in agriculture and allied sciences for better tomorrow (NSRTAS-2016)"	ViswaBharati, Sriniketan, Bhirbhum, West Bengal.	4 <sup>th</sup> December, 2016
	National symposium on "Enhancement of livelihood security through sustainable development of livestock and fishery sector"	WBUAFS, Belgachia, Kolkata-37	10 <sup>th</sup> -11 <sup>th</sup> January, 2017
	National seminar on "Challenges in quantitative genetics for improvement of Indigenous Animal Genetic Resources (AnGR)"	ICAR-IVRI, Izatnagar-243122, UP.	19 <sup>th</sup> -20 <sup>th</sup> January, 2017
	National symposium on "Biodynamic animal farming for the management of livestock diversity under changing global scenario"	College of Veterinary and Animal Sciences, Kerala Veterinary and	8 <sup>th</sup> -10 <sup>th</sup> February, 2017

		Animal Sciences University, Mannuthy-680 651.	
	National seminar on “ Improvement of small ruminant production system for livelihood security”	ICAR-CSWRI, Avikanagar, Rajasthan-304501.	18 <sup>th</sup> July 2017
	Live phone in programme “Krishidarshan” on Govt. schemes for commercial livestock and poultry farming	DDK, Kolkata	11 <sup>th</sup> Oct, 2017
	Video-conference with ARDD officials of West Bengal	Nabannya, Kolkata	17 <sup>th</sup> Oct, 2017
	National Symposium on “Use of Reproductive Technologies and Production Improvement in Livestock Species Aiming to Socioeconomic Development of Rural Mass” organized by The Indian Society for Study in Animal Reproduction, West Bengal Chapter	ARDD, Govt. of West Bengal and WBUAFS, Belgachia, Kolkata-700037.	9 <sup>th</sup> -11 <sup>th</sup> Feb, 2018
Dr. Uttam Sarkar, Assistant Professor	2 <sup>nd</sup> International Seminar on Veterinary Ayurveda	WBUAFS, Belgachia, Kolkata-37	1 <sup>st</sup> December, 2016
	National Symposium on “Recent trends in agriculture and allied sciences for better tomorrow (NSRTAS-2016)”	ViswaBharati, Sriniketan, Birbhum, West Bengal.	4 <sup>th</sup> December, 2016
	National seminar on “Challenges in quantitative genetics for improvement of Indigenous Animal Genetic Resources (AnGR)”	ICAR-IVRI, Izatnagar-243122, UP.	19 <sup>th</sup> -20 <sup>th</sup> January, 2017
	National Symposium on “Enhancement of Livelihood Security Through Sustainable Development of Livestock and Fishery Sector”	WBUAFS, Belgachia	19 <sup>th</sup> -20 <sup>th</sup> January, 2017
	Orientation Programme	UGC-HRD Centre Jadavpur University, Saltlake, Kolkata	6 <sup>th</sup> February - 4 <sup>th</sup> March, 2017
	Invited speaker: ICAR sponsored 10 days short course on “Conservation of indigenous breeds of small ruminants in their respective tracts”	WBUAFS, Belgachia	25 <sup>th</sup> July 2017
	MOOC on Teaching Management organized by ICAR-NAARM	IASRI-Delhi	1 <sup>st</sup> - 30 <sup>th</sup> Nov, 2017
	National Symposium on “Use of Reproductive Technologies and Production Improvement in Livestock Species Aiming to Socioeconomic Development of Rural Mass” organized by The Indian Society for Study in Animal Reproduction, West Bengal Chapter	ARDD, Govt. of West Bengal and WBUAFS, Belgachia, Kolkata-700037.	9 <sup>th</sup> - 11 <sup>th</sup> Feb, 2018



Dr. Sanjoy Datta, Assistant Professor	2 <sup>nd</sup> International Seminar on Veterinary Ayurveda	WBUAFS, Belgachia, Kolkata-37	1 <sup>st</sup> December, 2016
	National Symposium on “Recent trends in agriculture and allied sciences for better tomorrow (NSRTAS-2016)”	ViswaBharati, Sriniketan, Bhirbhum, West Bengal.	4 <sup>th</sup> December, 2016
	National Symposium on “Enhancement of Livelihood Security Through Sustainable Development of Livestock and Fishery Sector”	WBUAFS, Belgachia	10 <sup>th</sup> -11 <sup>th</sup> Jan., 2017
	Workshop on “Drug Development and Safety Issues-Current Scenario”	WBUAFS, Belgachia	23 <sup>rd</sup> Feb., 2017
	Participated as expert in “Krishidarshan” programme on “ParibarikmuktangonpaddhatiteMurgipalon”	DDK, Kolkata	13 <sup>th</sup> July, 2017
	ICAR sponsored 10 days short course on “Conservation of indigenous breeds of small ruminants in their respective tracts” as participant	WBUAFS, Belgachia	18 <sup>th</sup> July 2017 to 27 <sup>th</sup> July 2017
	Domain skill & platform skill training under ASCI	WBUAFS, Belgachia	29 <sup>th</sup> August, 2017
	MOOC on Teaching Management organized by ICAR-NAARM		1 <sup>st</sup> -30 <sup>th</sup> Nov, 2017
	2 <sup>nd</sup> Regional Science & Technology Congress, 2017	University of Kalyani, West Bengal	14 <sup>th</sup> - 15 <sup>th</sup> December, 2017
	National symposium on Role of Veterinarian in improving food safety through “One world-One health and One medicine” approach in India	WBUAFS, Belgachia	10 <sup>th</sup> January, 2018
	National Symposium on “Use of Reproductive Technologies and Production Improvement in Livestock Species Aiming to Socioeconomic Development of Rural Mass” organized by The Indian Society for Study in Animal Reproduction, West Bengal Chapter	ARDD, Govt. of West Bengal and WBUAFS, Belgachia	9 <sup>th</sup> -11 <sup>th</sup> Feb, 2018
Dr. Ananta Kumar Das, Assistant Professor	National Symposium on “Enhancement of Livelihood Security Through Sustainable Development of Livestock and Fishery Sector”	WBUAFS, Belgachia	10 <sup>th</sup> -11 <sup>th</sup> Jan., 2017
	National seminar on “Challenges in quantitative genetics for improvement of Indigenous Animal Genetic Resources (AnGR)”	ICAR-IVRI, Izatnagar-243122, UP.	19 <sup>th</sup> -20 <sup>th</sup> January, 2017

#### VIII.1.A.2. Department of Animal Nutrition

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Guru Prasad Mandal, Associate Professor	National conference on “One health: Approaches towards practice and future challenges”	CKV, Durg	2 <sup>nd</sup> -3 <sup>rd</sup> December, 2016
	Workshop on: “Drug development and safety issues-current scenario”	WBUAFS, Kolkata	23 <sup>rd</sup> February, 2017

Dr. Amlan Kumar Patra, Assistant Professor	2 <sup>nd</sup> International Seminar on Veterinary Ayurveda (a part of 7 <sup>th</sup> World Ayurveda Congress & AROGYA Expo.)	Kolkata	1 <sup>st</sup> December, 2016
Dr. Paresh Nath Chatterjee, Assistant Professor	CAFT course on 'Advances in Rumen Manipulation to Improve Livestock Productivity'	Centre for Advanced Faculty Training in Animal Nutrition, IVRI, Izatnagar	1 <sup>st</sup> – 21 <sup>st</sup> February, 2017
	24 <sup>th</sup> West Bengal State Science & Technology Congress	Science City, Kolkata	28 <sup>th</sup> February, 2017
	ELSVIER Authors' Workshop	DST, Govt. of West Bengal	2 <sup>nd</sup> December, 2016
	UGC Sponsored National Seminar on 'Food Safety and Sustainable Nutrition in India : The Present Scenario	APC College, New Barrackpore	15 <sup>th</sup> – 16 <sup>th</sup> September, 2016
	1 <sup>st</sup> Regional Science and Technology Congress	DST, Govt. of West Bengal	13 <sup>th</sup> November, 2016

#### VIII.1.A.3. Department of Livestock Farm Complex

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Aruna Pal, Assistant Professor	National seminar on Opportunities and Challenges of Translational Research in the Frontier Areas of Animal Biotechnology and V Annual Convention of SVSBT	OUAT, Bhubaneswar	22 <sup>nd</sup> - 23 <sup>rd</sup> September, 2017
	National Seminar on Food Security and sustainable nutrition in India-the present scenario, 2016, organized by Department of Food and Nutrition	APC College, West Bengal State University, Govt. of West Bengal at Kolkata,	15 <sup>th</sup> - 16 <sup>th</sup> September, 2016
	Short term Training Course on Advances in Livestock Production, management Technologies,	ICAR-IVRI, ERS, Kolkata	23 <sup>rd</sup> - 30 <sup>th</sup> November, 2016
	ICAR sponsored 10 days Short Course on "Conservation of indigenous breeds of small ruminants in their respective tracts",	DREF, WBUAFS	24 <sup>th</sup> July, 2017 & 25 <sup>th</sup> July, 2017
Dr. Chittapriya Ghosh, Assistant Professor	"Accommodation of livestock"	DREF, WBUAFS in collaboration with ASCI	19 <sup>th</sup> to 21 <sup>st</sup> December, 2016
	"Aprachalitokhadeyer Babaher"	DOORDARS HAN	11 <sup>th</sup> April, 2017
	"Shitkalingobadipashurparicharcha"	DOORDARS HAN	13 <sup>th</sup> February, 2018

	Advances in Livestock Production System including Poultry”	DDARD & PO, Nadia, Krishnanagar	5 <sup>th</sup> -6 <sup>th</sup> January, 2018
Dr. M.C. Pakhira, Assistant Professor	“Dairy feed and feed preparation including water requirement”	DREF, WBUAFS in collaboration with ASCI	19 <sup>th</sup> -21 <sup>st</sup> December, 2016
	“Murgirrog –o-tar protikar”	DOORDARS HAN	28 <sup>th</sup> November, 2017
Dulal Ch. Roy, Assistant Professor	National Symposium on Recent trends in agriculture and allied sciences for better tomorrow- Institute of Agriculture, Visva-Bharati, Sriniketan and The Society of Bio-resource, Environment and Agricultural Research	Shantiniketan, West Bengal	4 <sup>th</sup> December, 2016
	National Conference on Environmental pollution, Biodiversity conservation and climate change: Issues and Challenges, - organized by Dept. of Environmental Sciences and Dept. of Zoology, Nistarini College, Purulia & Scientific and Environmental Research Institute, Kolkata	Nistarini College, Purulia	8 <sup>th</sup> -9 <sup>th</sup> September, 2017
	National Seminar on 'Agri-chemical forbening environment' organized by Society for Fertilizer and Environment and BCKV	Academy and Convention Centre, BCKV Kalyani	29 <sup>th</sup> March, 2018

#### VIII.1.A.4. Department of Livestock Production Management

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr S.Bera, Assistant Professor	Outdoor shooting for Krishidarsan Programme (As expert)	Gosaba, South 24 Parganas	29 <sup>th</sup> -30 <sup>th</sup> June, 2016
	Farmers Training under RKVY project (As expert)	Lodhasuli, Jhargram	13 <sup>th</sup> -14 <sup>th</sup> August, 2016
	Lecture on “Organic poultry & Duckery production” (As expert)	RRC, CIFA-Kalyani	21 <sup>st</sup> October, 2016
	Lecture on “Organic poultry production” (As expert)	RRC, CIFA-Kalyani	27 <sup>th</sup> November, 2016
	Lecture on “Milking Process” (As expert)	DREF, WBUAFS	19 <sup>th</sup> December, 2016
	Farmers Training under AICRP project (As expert)	Mohanpur Campus, WBUAFS	4 <sup>th</sup> -5 <sup>th</sup> January, 2017
	Lecture on “Integrated Livestock Farming” (As expert)	FACC, BCKV, Kalyani	25 <sup>th</sup> January, 2017
	Farmers Training under AICRP project (As expert)	Lodhasuli, Jhargram	28 <sup>th</sup> -29 <sup>th</sup> January, 2017

NABARD sponsored training programme (As expert)	SasyaShyamal a KVK	17 <sup>th</sup> February, 2017
Participation & Presentation of paper at International Conference on “Bio-resource, environment and agricultural sciences (ICBEAS)”	Institute of Agriculture, VisvaBharati	4 <sup>th</sup> -6 <sup>th</sup> February, 2017
Farmers Training under AICRP project (As expert)	Mursidabad KVK	18 <sup>th</sup> -19 <sup>th</sup> February, 2017
Farmers Training under AICRP project (As expert)	Rangabelia, Gosaba	25 <sup>th</sup> -26 <sup>th</sup> February, 2017
Prospects & Constraints of Duck Farming in West Bengal (As expert)- Live Phone in Programme	PrasarBharti, Doordarshan Kendra, Kolkata	28 <sup>th</sup> February, 2017
Farmers Training Programme organized by Project under TSP (As expert)	Mohanpur Campus, WBUAFS	15 <sup>th</sup> -16 <sup>th</sup> March, 2017
Farmers Training Programme organized by Project under TSP (As expert)	Lodhasuli, Jhargram	18 <sup>th</sup> -19 <sup>th</sup> March, 2017
Farmers Training under RKVY project (As expert)	Lodhasuli, Jhargram	18 <sup>th</sup> -19 <sup>th</sup> March, 2017
Farmers Training Programme organized by Project under TSP (As expert)	Purbasthali-I, East Bardwan	21 <sup>st</sup> -22 <sup>nd</sup> March, 2017
Farmers Training Programme organized by Project under TSP (As expert)	Bali-I, Gosaba, South 24 Parganas	24 <sup>th</sup> -25 <sup>th</sup> March, 2017
ICAR Sponsored 10 days Short Course on “Conservation of indigenous breeds of small ruminants in their respective tracts” (As expert)	DREF, WBUAFS	24 <sup>th</sup> July, 2017
Lecture in a workshop on “Interdependance between Agro-Biodiversity & Animal Resources” (As expert)	IBRAD Campus, V.I.P. Road Kestopur, Kolkata	6 <sup>th</sup> September, 2017
NABARD sponsored training program on 'Piggery Management' (As expert)	SasyaShyamal a KVK, Narendrapur	22 <sup>nd</sup> September, 2017
Training under project entitled “New dimension in agricultural marketing and rural employment generation through value added duck meat products” (As expert)	Nimpith KVK, South 24 parganas	16 <sup>th</sup> October, 2017
Workshop on “Backyard poultry farming: Important source of livelihood in Sundarban area” (As expert)	Bali Island, Gosaba, South 24 parganas	18 <sup>th</sup> October, 2017
Agricultural Training for Women Farmers on “Integrated Landscape Development” (As expert)	IBRAD Campus, Kolkata	2 <sup>nd</sup> November, 2017
Guest speaker in Short Term Training Course on “Advances in Livestock Production Management Technologies” (As expert)	ERS, IVRI, Kolkata	28 <sup>th</sup> November, 2017



	Participation & Presentation of paper at Regional Science & Technology Congress (Southern Region)	Kalyani University	14 <sup>th</sup> –15 <sup>th</sup> December, 2017
	Farmers Training Programme organized by Project under TSP (As expert)	DREF, WBUAFS, Kolkata	23 <sup>rd</sup> March, 2018
Dr. S. Pan, Professor	Lecture on “Establishment of small scale dairy unit”	NRC on Mithun, Nagaland	30 <sup>th</sup> October, 2017
Dr. N.Ghosh, Professor	Lecture on “Livestock rearing in livelihood development” in a seminar organized by SBI Officer's Association (Bengal Circle)	BCKV, Kalyani, Nadia	13 <sup>th</sup> December, 2017

#### VIII.1.A.5. Department of Livestock Products Technology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. S. Biswas, Professor	International Symposium and 7th - Conference of Indian Meat Science Association	GADVASU, Ludhiana	10 <sup>th</sup> – 12 <sup>th</sup> Nov., 2016
	New Horizons for Augmenting Meat Production and Processing to Ensure Nutritional Security, Food Safety and Environmental Sustainability	Lodhasuli, Jhargram	13 <sup>th</sup> -14 <sup>th</sup> August, 2016
Dr.GopalPatra, Assistant Professor & Head	Techniques for assessment of quality and safety of meat products through species identification and detection of chemical residues and microbial contaminants	NRC on Meat, Hyderabad	3 <sup>rd</sup> – 12 <sup>th</sup> January, 2017
	The 7 <sup>th</sup> world Ayurveda congress (Veterinary Ayurveda)	W.B VCI, Belgachia	1 <sup>st</sup> December, 2016
	Drug development and safety issues- current scenario	Deptt. of Vety. Pharmacology & Toxicology, Kolkata	23 <sup>rd</sup> February, 2017
	2nd Regional Science and Technology Congress	Kalyani University, Nadia	14 <sup>th</sup> -15 <sup>th</sup> December, 2017
Dr. Debasish Bhattacharyya, Assistant Professor	The 7 <sup>th</sup> world Ayurveda congress (Veterinary Ayurveda)	W.B VCI, Belgachia	1 <sup>st</sup> December, 2016

#### VIII.1.A.6. Department of Veterinary Anatomy & Histology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. S.Ray, Professor Prof. P. Das, Professor	32 <sup>nd</sup> Annual Convention of National Symposium on Advances and Application of Veterinary Anatomy in livestock, pet, poultry, Lab animal and Wild Life – Health and production	OUAT, Bhubneswar	21 <sup>st</sup> – 23 <sup>rd</sup> December, 2017

Dr. A. K. Mandal, Associate Professor Dr. N.K. Tudu, Assistant Professor			
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#### VIII.1.A.7. Department of Veterinary Biochemistry

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. S. Batabyal, Professor Dr. A. Maity, Associate Professor	Workshop on “Drug development and safety issues – current scenario”	GADVASU, Ludhiana	10 <sup>th</sup> – 12 <sup>th</sup> Nov., 2016
Dr. S. Batabyal, Professor Dr. A. Maity, Associate Professor	2 <sup>nd</sup> International Seminar on Veterinary Ayurveda (7 <sup>th</sup> World Ayurveda Congress & Arogya Expo, Foal Theme : Strengthening the Ayurveda Ecosystem)	WBUAFS , Kolkata - 700037	1 <sup>st</sup> December, 2016
Dr. S Batabyal, Associate Professor Dr.S.Chattopadhyay, Reader (Reemployed) Dr. A. Maity, Associate Professor	XLVII <sup>th</sup> Reunion of Past and Present students of Bengal Veterinary College, BCKV and WBUAFS	WBUAFS, Kolkata -37	10 <sup>th</sup> -11 <sup>th</sup> January, 2017

#### VIII.1.A.8. Department of Veterinary Clinical Complex

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr M. Mondal, Associate Professor	Veterinary Pathology Congress (2016)	College of Veterinary Science & AH, CGKV, Durg, Chhattisgarh	9 <sup>th</sup> -11 <sup>th</sup> November, 2016

#### VIII.1.A.9. Department of Veterinary Epidemiology & Preventive Medicine

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Chanchal Guha, Professor	XXXVI Annual Convention of Indian Society for Veterinary Medicine and National Symposium on “Animal Health Service Delivery- The Priorities of the Professionals for Enhancing Farmers' Income”	College of Veterinary Sc. and Animal Husbandry, OUAT, Bhubaneswar	1 <sup>st</sup> – 3 <sup>rd</sup> February, 2018

**VIII.1.A.10. Department of Veterinary Gynaecology & Obstetrics**

<b>Name of the faculty member with Designation</b>	<b>Title of Seminar, Symposium, Workshop, Training attended</b>	<b>Venue</b>	<b>Date/s&amp; Duration</b>
Prof. Siddhartha Basu, Professor	7 <sup>th</sup> World Ayurveda Congress & Arogya Expo	Science City, Kolkata	1 <sup>st</sup> – 4 <sup>th</sup> December, 2016
	National Symposium on Role of Veterinarian in improving food safety through “One world-One Health and one Medicine” approach in India	WBUAFS	10 <sup>th</sup> January, 2018
	The Indian Society For Study Of Animal Reproduction XXXIII Annual Convention And National Symposium	WBUAFS	9 <sup>th</sup> -11 <sup>th</sup> February, 2018
Prof. Kalyani Ray, Professor	7 <sup>th</sup> World Ayurveda Congress & Arogya Expo	Science City, Kolkata	1 <sup>st</sup> – 4 <sup>th</sup> December, 2016
	National Symposium on 'Enhancement of Livelihood Security through Sustainable Development of Livestock and Fishery Sector'	WBUAFS	10 <sup>th</sup> - 11 <sup>th</sup> January, 2017
	A scientific seminar on the occasion of 5 <sup>th</sup> commemoration of late Animesh Kumar Chakraborty	WBUAFS	21 <sup>st</sup> February, 2017
	National Symposium on Role of Veterinarian in improving food safety through “One world-One Health and one Medicine” approach in India	WBUAFS	10 <sup>th</sup> January, 2018
	The Indian Society For Study Of Animal Reproduction XXXIII Annual Convention And National Symposium	WBUAFS	9 <sup>th</sup> - 11 <sup>th</sup> February, 2018
Dr. Pradip Sarkar, Assistant Professor	The Indian Society For Study Of Animal Reproduction XXXIII Annual Convention And National Symposium	WBUAFS	9 <sup>th</sup> - 11 <sup>th</sup> February, 2018
Dr. Durgadas Mandal, Assistant Professor	The Indian Society For Study Of Animal Reproduction XXXIII Annual Convention And National Symposium	WBUAFS	9 <sup>th</sup> - 11 <sup>th</sup> February, 2018

**VIII.1.A.11. Department of Veterinary Medicine, Ethics & Jurisprudence**

<b>Name of the faculty member with Designation</b>	<b>Title of Seminar, Symposium, Workshop, Training attended</b>	<b>Venue</b>	<b>Date/s&amp; Duration</b>
Prof. Chandan Lodh, Professor	Emerging issues, innovative Techniques and comprehensive overview of Research Development in Canine Practice.	Department of Veterinary Medicine NTR College of Veterinary Science, Gannavaram-521102	7 <sup>th</sup> – 9 <sup>th</sup> February, 2018

### VIII.1.A.12. Department of Veterinary Microbiology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Indranil Samanta, Assistant Professor	Invited speaker on 'Disease prevention practices' at Veterinary Officer training programme	Regional Director, Animal Husbandry, Chtonagpur range, Ranchi, Jharkhand	6 <sup>th</sup> March, 2017
	Invited speaker on 'Dengue awareness'	South Dumdum Municipality	20 <sup>th</sup> May, 2017
	Invited Lecture on 'Update on diagnosis of Rabies in animals' in Veterinary Officer's training programme entitled 'Laboratory Diagnosis of Animal Diseases and Zoonoses'	Eastern Regional Station, Indian Veterinary Research Institute, Kolkata	14 <sup>th</sup> September, 2017
	Invited lecture on 'Emerging disease of poultry and livestock' at Veterinary Officer training programme (ASCAD)	Deputy Director, ARD & PO, South 24 Parganas, Government of West Bengal	6 <sup>th</sup> January, 2018
	Invited lecture on 'Integrated role of environment, livestock and agriculture in Antimicrobial resistance'	Institute of Post graduate medical education and research, Kolkata jointly organized by London School of Hygienec and Tropical Medicine and IPGMER	21 <sup>st</sup> February, 2018
Dr. S. N. Joardar, Professor	International level Seminar on Recent Trends in Microbiology. Org. by Department of Microbiology, Ramkrishna Mission Vidyamandira	Belur Math, Howrah	14 <sup>th</sup> January, 2017
	International level Seminar on Multidisciplinary Research org. by BijaygarhJyotish Ray College, Kolkata	Bijoygarh, Kolkata	29 <sup>th</sup> January, 2018



**VIII.1.A.13. Department of Veterinary Pathology**

<b>Name of the faculty member with Designation</b>	<b>Title of Seminar, Symposium, Workshop, Training attended</b>	<b>Venue</b>	<b>Date/s&amp; Duration</b>
Dr. S. Pradhan, Assistant Professor	Winter School on “Recent Advances in Development of Recombinant vaccines for veterinary use”	Division of Veterinary Biotechnology, ICAR-IVRI, U.P.	8 <sup>th</sup> -28 <sup>th</sup> November, 2016
	Participated in 12 <sup>th</sup> conference of Association of Public Health Veterinarians and National Symposium on “One Health: Approaches towards Practice and Future Challenges”	Department of Veterinary Medicine, College of Veterinary Science and AH, Durg	2 <sup>nd</sup> - 3 <sup>rd</sup> December, 2016
	Participated in National Symposium on “Enhancement of Livelihood Security through sustainable Development of Livestock and Fishery Sector”	WBUAFS, Kolkata	10 <sup>th</sup> -11 <sup>th</sup> January, 2017
Dr. S. K. Mukhopadhyay, Professor	Veterinary Pathology Congress- 2016 XXXIII Annual Conference of Indian Association of Veterinary Pathologists & VII Annual Meeting of Indian College of Veterinary Pathologist National symposium on “Innovative approaches for Diagnosis and Control of Emerging and Re-emerging Diseases of Livestock, Poultry and Fish”	Dept. of Pathology, NTR College of Veterinary Science & IAVP, Gannavaram, A.P	9 <sup>th</sup> -11 <sup>th</sup> November, 2016
Dr. S. K. Mukhopadhyay, Professor Dr. R. N. Hansda, Assistant Professor	Regional Conference on “ Occupational Health and CME Programme”	Regional Occupational Health Centre (Eastern), ICMR, Saltlake City, Kolkata	26 <sup>th</sup> November, 2016
Dr. S. K. Mukhopadhyay, Professor Dr. R. N. Hansda, Assistant Professor Dr. N.C. Patra, Assistant Professor Dr. Samiran Mondal, Assistant Professor	Workshop on “ <b>Veterinary Ayurveda</b> ” The 7 <sup>th</sup> World Ayurveda Congress	W.B.U.A.F.S. Kolkata-37	1 <sup>st</sup> December, 2016
Dr. R.N. Hansda, Assistant Professor	International seminar on “Recent Trends in Microbiology”	Department of Microbiology, Ramakrishna Mission Vidyamandira, Belur Math, Howrah-711202	14 <sup>th</sup> January, 2017

Dr. R. N. Hansda, Assistant Professor	Scientific Seminar on “The occasion of 5 <sup>th</sup> Commemoration on Late Animesh Kumar Chakraborty”	Department of Pharmacology & Toxicology, W.B.U.A.F.S. Kolkata-37	21 <sup>st</sup> February, 2017
Dr. S. K. Mukhopadhyay, Professor Dr. S. Pradhan, Assistant Professor Dr. R. N. Hansda, Assistant Professor Dr. N. C. Patra, Assistant Professor Dr. Samiran Mondal, Assistant Professor	Workshop on “Drug Development and Safety Issues- Current Scenario”	Department of Pharmacology & Toxicology, W.B.U.A.F.S. Kolkata-37	23 <sup>rd</sup> February, 2017
Dr. R. N. Hansda, Assistant Professor	Continuing education programme on “Ethics in Human Health Research and Good Clinical Practice”	WBUAFS Kolkata-37	17 <sup>th</sup> March, 2017
Dr. S. Pradhan Dr. R. N. Hansda Dr. S. Mondal Dr. N. C. Patra Assistant Professors Prof. S. K. Mukhopadhyay, Professor	Participated in XXXIII Annual convention & National symposium of ISSAR	WBVC Auditorium, West Bengal	9 <sup>th</sup> -11 <sup>th</sup> February, 2018
Dr. S. Pradhan Dr. R. N. Hansda Dr. S. Mondal Assistant Professors	Pre Conference Symposium “ The 27 <sup>th</sup> annual Conference of IPS, WB on “Use of animal in bio-medical research & ethical issues involved”.	WBUAFS, Kolkata	8 <sup>th</sup> February, 2018
Prof. S. K. Mukhopadhyay, Professor	Veterinary Pathology Congress- 2017 XXXIV Annual Conference of Indian Association of Veterinary Pathologists & VIII Annual Meeting of Indian College of Veterinary Pathologist	Deptt. of Pathology, College of Veterinary Science & IAVP, Bangalore, Karnataka	9 <sup>th</sup> -11 <sup>th</sup> November, 2017
Prof. S. K. Mukhopadhyay, Professor Dr. N. C. Patra Dr. Samiran Mondal, Assistant Professors	Participated in XXXIII Annual convention & National symposium of ISSAR	WBVC Auditorium, West Bengal	9 <sup>th</sup> -11 <sup>th</sup> February, 2018

Dr. N. C. Patra Dr. Samiran Mondal Assistant Professors	Workshop on “Increase Teaching Effectiveness”	W.B.U.A.F.S. Kolkata-37	24 <sup>th</sup> -25 <sup>th</sup> March, 2018
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#### VIII.1.A.14. Department of Veterinary Pharmacology & Toxicology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. T.K. Sar, Assistant Professor (Senior)	7 <sup>th</sup> World Ayurveda Congress and AROGYA Expo	Science City, Kolkata	1 <sup>st</sup> -4 <sup>th</sup> Dec. 2016
	Invited to deliver a lecture in the 47 <sup>th</sup> Reunion of Past and Present students of Bengal Veterinary College, Veterinary and Animal Science, WBUAFS	WBUAFS, Kolkata	10 <sup>th</sup> -11 <sup>th</sup> January, 2017
	Invited to deliver a lecture in the National conference of Society of Animal Physiologists of India	Bidar Veterinary College, Karnataka	20 <sup>th</sup> -21 <sup>st</sup> December, 2017
	Invited by the Organizing Secretary to be present at the 27 <sup>th</sup> Annual State Conference of Indian Pharmacological Society, West Bengal branch	IPGMER, Kolkata	9 <sup>th</sup> -10 <sup>th</sup> February, 2018
Prof. T.K. Mandal, Professor	Invited to deliver a lecture on “Pharmacokinetic interaction between ceftriaxone and sulbactam in renal failure goats”	PGIMER, Chandigarh	21 <sup>st</sup> October, 2016
	Invited by Organizing Secretary of Tripura Veterinary College to deliver a lecture in World Veterinary Day on “Antimicrobial resistance awareness”	Agartala, Tripura	29 <sup>th</sup> April, 2017
	Invited to deliver a lecture on “Arsenic toxicity” in the Workshop	Bidhan Chandra Krishi Viswavidyalaya, Nadia	12 <sup>th</sup> May, 2017
	Invited to deliver a lecture about Arsenic toxicity and chemotherapy for ASCAD	Narendrapur, Kolkata	5 <sup>th</sup> – 6 <sup>th</sup> January, 2018
	Invited in the 1 <sup>st</sup> Farmers' Innovation Congress	Bidhan Chandra Krishi Viswavidyalay, Mohanpur, Nadia	12 <sup>th</sup> January, 2018
	Invited by the Organizing Secretary to Chair a Scientific Session of the 27 <sup>th</sup> Annual State Conference of Indian Pharmacological Society, West Bengal branch	IPGMER, Kolkata	10 <sup>th</sup> February, 2018

### VIII.1.A.15. Department of Veterinary Physiology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. Pradip Kumar Das, Professor	Invited Speaker on Refresher Course for the Veterinary Officers of India on Advances in Animal Husbandry Practices	ICAR-IVRI (ERS), Kolkata	November, 2016
	Invited Speaker on Refresher Course for the Veterinary Officers of India on Animal Husbandry Practices	ICAR-IVRI (ERS), Kolkata	November, 2017
Dr. Joydip Mukherjee, Assistant Professor	Invited Speaker on Refresher and Hands on Training Course on Advanced Diagnostics Imaging in Veterinary Practices	DREF section, WBUAFS	4 <sup>th</sup> -8 <sup>th</sup> December, 2017
Dr. Dipak Banerjee, Assistant Professor	Invited Speaker on Refresher and Hands on Training Course on Advanced Diagnostics Imaging in Veterinary Practices	DREF section, WBUAFS	4 <sup>th</sup> -8 <sup>th</sup> December, 2017

### VIII.1.A.16. Department of Veterinary Public Health

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Chanchal Debnath Associate Professor	Invited speaker and practical demonstrator on the topic "Isolation And Identification Of Zoonotic Dermatophytes From Man And Animals"	Short term training course on "Laboratory Diagnosis of Animal Diseases and Zoonoses" organized by Dr. S C Das, Principal Scientist and Course Coordinator, IVRI, ERS, Kolkata-37.	7 <sup>th</sup> September, 2016



Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	Guest speaker on “Management Of Biological Risks From Companion Animals: A Practical Approach”	Three Days Residential Workshop on Common Diseases and Their Management with Reference to ABC Programme in Pet Organised by West Bengal Veterinary Council in collaboration with F/O- VAS, WBUAFS and The Directorate of A.R. & A.H., West Bengal.	26 <sup>th</sup> September, 2016
	Invited speaker on “Slaughter House Practices And Zoonotic Diseases”	One day symposium organized by the Directorate of Animal Husbandry, Ranchi, Jharkhand.	4 <sup>th</sup> March, 2017
	Invited speaker on “Important Zoonotic Diseases And Their Control Measures”	Training programme on “Control & Prevention of Livestock Diseases of Economic Importance” for VOs working under MVCs in West Bengal, Co- organized by RDEF, WBUAFS and MANAGE, Hyderabad from 15 <sup>th</sup> to 19 <sup>th</sup> Jan, 2018 at Farmers' Hostel, Belgachia, Kolkata-37.	17 <sup>th</sup> January, 2018

	Invited speaker on “Control Of Mosquito Borne Diseases”	One day Public Awareness Programme organized by Maslandapur Vigyan Chetana Mancha on 04/03/2018 at Maslandapur, North 24 Parganas, West Bengal.	4 <sup>th</sup> March, 2018
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#### VIII.1.A.17. Department of Veterinary Surgery & Radiology

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Samit Kumar Nandi Professor	Invited Lecture on “Towards application of natural resources in wound and bone healing” Workshop on “Biomedical Implants for Orthopaedics: Leveraging Efficacy through Alliance Programs (BIO-LEAP 2016)”	CSIR-CGCRI, Kolkata	21 <sup>st</sup> – 22 <sup>nd</sup> April, 2016.
	Invited Speaker on “Advances in surgical approaches in the field of veterinary sciences” on the Seminar of Veterinarians at Baharampur, in	Animal Resources Development Department, Murshidabad District, Government of West Bengal.	2016
	Invited Lecture on “Silk and xenocartilage based matrices for hard and soft tissue engineering applications” The Second Annual convention of Society of Veterinary Biochemists and Biotechnologists of India (SVBBI) and National Symposium on “Innovative and Emerging Biochemical and Biotechnological Tools to augment Animal Health and Production” during	Department of Veterinary Biochemistry, Veterinary College, Hebbal, Bengaluru.	2 <sup>nd</sup> -3 <sup>rd</sup> June, 2017
	Lead Paper on “Development of Biomaterials in bone and Cartilage tissue Engineering” The 41 <sup>st</sup> Annual Congress of Indian Society for Veterinary Surgery, 2017	College of Veterinary Science, Tirupati during	14 <sup>th</sup> -16 <sup>th</sup> December, 2017
	Invited lecture on “Development of Animal models for biomedical research” at Workshop on Animal Care, Handling and Management	Department of Zoology, University of Kalyani, Kalyani Nadia-741235, West Bengal	23 <sup>rd</sup> -31 <sup>st</sup> March, 2018

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. Sarbani Hazra, Professor	CPCSEA workshop as Nominee	New Delhi	2016
Dr. Asit Kumar Maji, Assistant Professor	Lead Paper in ISACP Canine Congress in Pookode, Kerala	College of Veterinary Science, KAFSU	April, 2016
	Co-Chairman in Rabies Conference of APCRI	NIMHANS, Bangalore	July, 2016
	Lead Paper in ISACP Canine Congress in Pookode, Kerala	Vet. College, Gannavaram	February, 2017
	Co- Chairman, Avian Surgery Session The 41 <sup>st</sup> Annual Congress of Indian Society for Veterinary Surgery, 2017	College of Veterinary Science, Tirupati during	14-16 <sup>th</sup> December, 2017

#### VIII.1.A.18. Department of Veterinary & Animal Husbandry Extension

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. A. Goswami, Professor	Delivered lecture on “Extension approaches for adoption of new technologies among the farming community” in the training programme entitled “Strengthening of Production Systems for sustainable Animal Husbandry and Fishery Farming Practices”	DREF, WBUAFS, Kolkata	4 <sup>th</sup> - 6 <sup>th</sup> January, 2017
	Delivered lecture on “” in the training programme entitled “Food and Nutritional Security of the Rural Household : Role of KVK”	DREF, WBUAFS, Kolkata	25 <sup>th</sup> - 27 <sup>th</sup> January, 2017
	Delivered lecture on “Extension approaches for adoption of new technologies among the farming community for promotion of organic farming” in the training programme entitled “Recent development in Organic Farming for Sustainable Agriculture and its allied sectors”	DREF, WBUAFS, Kolkata	27 <sup>th</sup> February – 1 <sup>st</sup> March, 2017
	Delivered lecture in the training programme entitled “Effective Extension Methodology in Dissemination of Technology through KVK system”	DREF, WBUAFS, Kolkata	13 <sup>th</sup> – 15 <sup>th</sup> September, 2017
	Delivered lecture on “Extension approaches for adoption of new technologies among the farming	DREF, WBUAFS,	19 <sup>th</sup> – 21 <sup>st</sup> March, 2018

	community for organic farming” in the training programme entitled “Integrated Farming : Adopting Organic Farming Practices”	Kolkata	
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### VIII.1.B. FACULTY OF FISHERY SCIENCES

#### VIII.1.B.1. Department of Aquaculture

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Shib Kinkar Das, Professor	Expert in NFDB sponsored training programme in North 24 Parganas KVK on Beel fishery management of North 24 Parganas district.	KVK, Asoke Nagar, 24 Pgs.(N)	26 <sup>th</sup> – 28 <sup>th</sup> October, 2016
	Expert in NFDB sponsored training programme in North 24 Parganas KVK on Best management practices of Brackish water shrimp farming.	KVK, Asoke Nagar, 24 Pgs.(N)	26 <sup>th</sup> – 28 <sup>th</sup> October, 2016
	Invited Speaker on Safe Reuse of Municipal Wastewater in Aquaculture and Allied Activities. In the National Seminar cum Workshop on Integrated Safe Reuse of Municipal Wastewater Potentials and Prospects, 9-10 <sup>th</sup> September, 2016.	International Centre for Ecological Engineering in the University of Kalyani, Kalyani	9 <sup>th</sup> – 10 <sup>th</sup> September, 2016
	Invited Speaker in the Fifth International Conference on Agriculture & Fisheries; Systems & Technology 2017 (AgriFish2017)	Colombo, Sri Lanka	8 <sup>th</sup> – 9 <sup>th</sup> December, 2017
	Expert in Sensitization Workshop on 'Technology Application in Animal and Fishery Sciences'.	ICAR- ATARI, Kolkata	16 <sup>th</sup> – 17 <sup>th</sup> March, 2017

#### VIII.1.B.2. Department of Aquatic Animal Health

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. G.D. Dash Professor	National Seminar on Priorities in Fisheries and Aquaculture at College of Fisheries,	COF, OUAT Odisha	11 <sup>th</sup> – 12 <sup>th</sup> March, 2017
	29 <sup>th</sup> All India Congress of Zoology, International Symposium on Culture based fisheries in Inland Open Waters , Satellite Symposium on Fish Immunology	CIFRI, Barrack pore	12 <sup>th</sup> – 13 <sup>th</sup> March, 2017
	Project Review Meeting and International Symposium on Aquatic Animal Health and Epidemiology for sustainable Aquaculture	NBFGR Lucknow	17 <sup>th</sup> – 21 <sup>st</sup> April, 2017



Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	Awareness programme on Acute Hepatopancreatic Necrosis Disease (AHPND)	Hasnabad Block, North 24 pgs	3 <sup>rd</sup> March, 2018
Prof. T. J. Abraham, Professor	National Workshop on Issues in Antibiotic Residues in Shrimp Aquaculture	ICAR-CIBA, Chennai	18 <sup>th</sup> August, 2016
	Brainstorming Workshop on Responsible Use of Antimicrobials in Indian Aquaculture	ICAR-CIBA, Chennai	6 <sup>th</sup> December, 2016
	Rusa Funded International level Seminar on Recent Trends in Microbiology	Dept. of Microbiol., RMV, Belur Math, Howrah	January, 2017
	29 <sup>th</sup> All India Congress of Zoology, International Symposium on Culture based fisheries in inland open waters and Satellite Symposium on Fish immunology	ICAR-CIFRI, Barrackpore	9 <sup>th</sup> –11 <sup>th</sup> June, 2017
	International Workshop on “Development of Surveillance Framework for Antimicrobial Resistance in Food Animals and Environment”	Center for Sc. and Env. New Delhi	3 <sup>rd</sup> –4 <sup>th</sup> August, 2017
	Seminar cum Workshop on “Pros and Cons of use of antibiotics in aquaculture	DDF Office, Pailan	22 <sup>nd</sup> February, 2018
	National Workshop on Antimicrobial Resistance and Alternatives to Antibiotics use in Aquaculture (AMR 2018)	ICAR-CIFA, BBSR	12 <sup>th</sup> –13 <sup>th</sup> March, 2018
Sri P. Mali Asst. Professor	National Seminar on Priorities in Fisheries and Aquaculture at College of Fisheries.	COF, OUAT Odisha	11 <sup>th</sup> –12 <sup>th</sup> March, 2017
	International symposium on culture based fisheries in inland open waters & satellite symposium on fish immunology”	CIFRI Barrackpore	9 <sup>th</sup> – 11 <sup>th</sup> June, 2017
	International symposium on “Aquatic animal health and epidemiology for sustainable Asian aquaculture”	NBFGR, Lucknow	20 <sup>th</sup> – 21 <sup>st</sup> April, 2017.
	National conference on “Innovation farming for good and livelihood security in changing climate	FACC, BCKV	12 <sup>th</sup> – 13 <sup>th</sup> January, 2018

### VIII.1.B.3. Department of Aquatic Environment Management

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. B.K. Das Professor & Dean	A Review Workshop for All India Network Project on Mariculture	ICAR-Central Marine Fisheries Research Institute, Cochin, Kerala	27 <sup>th</sup> – 28 <sup>th</sup> , September, 2016
	Review Meeting for All India Network Project on Mariculture	Indian Council of Agricultural Research (ICAR), Krishi Anusandhan Bhavan, New Delhi, India	3 <sup>rd</sup> – 4 <sup>th</sup> November, 2016
	3 <sup>rd</sup> PAF National Conference	CIFE, Mumbai	27 <sup>th</sup> – 29 <sup>th</sup> April, 2016
	Blue Paper Forum-2016 India Aquaculture Pathfinder.	Novotel, Visakhapatnam	22 <sup>nd</sup> – 23 <sup>rd</sup> September, 2016.
	Dynamics of Challenges and options in integrated Aquaculture.	Patna	2 <sup>nd</sup> November, 2016
	Winter school on Optimization of Production Efficiency of Fish-livestock Integrated Farming.	ICAR Research Complex for Eastern Region, Patna	21 <sup>st</sup> November, 2016.
	5 <sup>th</sup> Biennial Convention of WBPFGA	Rabindra Bhaban, Uluberia, Howrah	3 <sup>rd</sup> February, 2017
	National Convention on Agriculture for Prosperity and Sustainable Development	National Agriculture Science Complex, ICAR, New Delhi	25 <sup>th</sup> –26 <sup>th</sup> March, 2017
	Policy development meeting on National Mission on Clean Ganga	ICAR-CIFRI, Barrackpore	26 <sup>th</sup> May, 2017
	29 <sup>th</sup> All India Congress of Zoology & International Symposium on Culture Based Fisheries in Inland Open Waters & Satellite Symposium on Fish Immunology	ICAR-CIFRI, Barrackpore	9 <sup>th</sup> June, 2017
	National Convention on Making Policies for Promoting Innovations, Entrepreneurship & Startups.	Bhopal, Madhya Pradesh	20 <sup>th</sup> June, 2017
Dr. Raman Kumar Trivedi, Professor	Policy development meeting organized by Department of Sundarban Affairs, Govt. of West Bengal on “Searching Roadmap for Sustainable Sundarbans: a discussion”	Mayukh Bhaban, Salt Lake City, Kolkata	6 <sup>th</sup> July, 2017

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	Fourth zonal stakeholders consultation on National Inland Fisheries & Aquaculture Policy	Directorate of fisheries, Patna, Bihar	22 <sup>nd</sup> July, 2017
	Stakeholders consultation on “Developing Climate Smart Panchayat in the Sundarbans Region”.	CSSRI, Canning	12 <sup>th</sup> September, 2017
	11 <sup>th</sup> Indian Fisheries and Aquaculture Forum	ICAR-CIFT, Cochin	21 <sup>st</sup> – 24 <sup>th</sup> November, 2017
	Workshop on “Biodiversity of River Ganga and its Conservation for Sustainable Fisheries”.	ICAR-CIFRI, Barrackpore	15 <sup>th</sup> March, 2018
	National convention on “Resource Conservation for Sustainable Agriculture and Food Security.	NASC complex, ICAR, New Delhi	24 <sup>th</sup> – 25 <sup>th</sup> March, 2018.
Prof. B. K. Das Professor & Dean Dr R K Trivedi Professor	Expert consultation on Revitalizing Indian Fisheries Education-2016 (RIFE – 2016).	Fisheries College and Research Institute, Tamil Nadu Fisheries University, Thoothukudi, Tamil Nadu, India	17 <sup>th</sup> – 18 <sup>th</sup> June, 2016.
Dr. Raman Kumar Trivedi, Professor Dr. Sangram Keshari Rout, Professor	National Seminar on Priorities in Fisheries and Aquaculture (PFA 2017)	College of Fisheries (OUAT), Rangailunda, Odissa	11 <sup>th</sup> – 12 <sup>th</sup> March, 2017

#### VIII.1.B.4. Department of Fishery Economics & Statistics

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Somen Sahu, Professor	<i>Workshop:</i> “Mariculture: New era of technological intervention towards community development of coastal W.B.” As Invited lecture organized by TEQIP and Centre of Excellence, University of Calcutta	Centre for Research in Nanoscience & Nanotechnology, Kolkata	19 <sup>th</sup> March, 2017
	<i>Conference:</i> “How to conduct a research in ICU?” Organized by Indian Society of Critical Care Medicine (ISCCM) as Both Invited Speaker and Chairperson of whole Session	Cirayu Medical College, Bhpoal	29 <sup>th</sup> – 30 <sup>th</sup> April, 2017
	<i>Invited lecture:</i> “Statistical modeling and its application in economics” As Invited lecture	Delhi School of Economics, New Delhi	27 <sup>th</sup> April, 2017

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	<i>Training:</i> “Sustainable development for marine fisheries-” as lead speaker at Training programme for the drivers/ majhi of trawler organized by Digha Fisherman and Fish Traders Association	Digha Fisherman and Fish Traders Association. Digha	8 <sup>th</sup> May, 2017

#### VIII.1.B.5. Department of Fishery Extension

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Biswarup Saha, Associate Professor	Workshop on “Technological Interventions in Agri-Aquaculture Research ”	Assam University, Silchar	27 <sup>th</sup> – 28 <sup>th</sup> September, 2016

#### VIII.1.B.6. Department of Fishery Resources Management

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Sudhir Kumar Das, Professor	Delivered lecture on "Promotion of rural livelihood through Aquapreneurship and Aqua tourism adopting Rainbow Revolution."	Agriculture & Biotechnology Sub Congress, FOSET, Kolkata	4 <sup>th</sup> – 5 <sup>th</sup> Feb., 2017
Dr. Nagesh Talagunda Srinivasan, Professor	International Conference on “Bio resource, Environment and Agricultural Sciences”	Society of Bio-resource, Environment and Agricultural Research, Shantiniketan	4 <sup>th</sup> – 6 <sup>th</sup> Feb., 2017
	Expert Lecture to Students and Faculty	College of Fisheries, Ludhiana	12 <sup>th</sup> – 13 <sup>th</sup> March, 2018
	Integrated Farming : Adopting Organic Farming Practices	Directorate of Research, Extension & Farms, WBUAFS	19 <sup>th</sup> – 21 <sup>st</sup> March, 2018
Dr. Samarendra Behera, Professor	International seminar on “Agriculture & Food for Inclusive Growth and Development”	Samagra Vikas Welfare Society and Anna; oorana life Organic Food pvt, ltd.	14 <sup>th</sup> – 15 <sup>th</sup> January, 2017



Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	National seminar on “priorities in fisheries and aquaculture-2017”	Inland fishery society of India, Barrackpore	11 <sup>th</sup> – 12 <sup>th</sup> March, 2017
	2 <sup>nd</sup> Regional Science and Technology Congress (South region), 2017	Kalyani University and Department of higher education, science and technology and biotechnology government of West Bengal.	14 <sup>th</sup> – 15 <sup>th</sup> December, 2017

**VIII.1.C. FACULTY OF DAIRY TECHNOLOGY****VIII.1.C.1. Department of Dairy Chemistry**

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Prof. P.R.Ray, Professor	UGC Sponsored National Seminar on “Food Security and Sustainable development in India: The Present Scenario”	Kolkata	15 <sup>th</sup> – 16 <sup>th</sup> September, 2016
	Oxidative Stress Symposium	Kalyani	30 <sup>th</sup> – 31 <sup>st</sup> March, 2017
	National Seminar on “A Dairy Snapshot”	Mohanpur	5 <sup>th</sup> August, 2017
Dr. Chaitali Chakraborty, Associate Professor	46 <sup>th</sup> Dairy Industry Conference	Kochi	8 <sup>th</sup> – 10 <sup>th</sup> February, 2018

**VIII.1.C.2. Department of Dairy Engineering**

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. S. K. Bag, Professor	International Conference on Bio-Resource, Environment and Agricultural Sciences (ICBEAS)	Palli Siksha Bhavana Santiniketan	4 <sup>th</sup> – 6 <sup>th</sup> Feb, 2017
	Role of Examination System in Increasing Effectiveness of Dairy Science Education and Career Movement of Dairy Professionals	AAU, Anand	26 <sup>th</sup> March, 2018

**VIII.1.C.3. Department of Dairy Microbiology**

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
<b>Lopamudra Haldar</b> Associate Professor	National Seminar on Role of Examination system in Increasing effectiveness of dairy science education, and career movement of dairy professionals	SMC College of Dairy Science, Anand Agricultural University, Gujarat	26 <sup>th</sup> March, 2018

**VIII.1.C.4. Department of Dairy Technology**

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. Anindita Debnath, Assistant Professor	National Seminar on “A Dairy Snapshot”	Mohanpur	5 <sup>th</sup> August, 2017

**VIII.1.D. DIRECTORATE OF RESEARCH, EXTENSION & FARMS**

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
Dr. B K Biswas, Scientist	Grishmakale Prani Palner Satarkata (Radio Talk)	AIR, Kolkata	10 <sup>th</sup> March, 2016
	Government Agencies in Animal Health Control training programme of Agriculture Skill Council of India (ASCI)	Belgachia	19 <sup>th</sup> December, 2016
	Dairy farm visit training programme of Agriculture Skill Council of India (ASCI)	Haringhata	20 <sup>th</sup> December, 2016
	Class on 'Care and management of pregnant cow and newborn calf' by NABARD	KVK, north 24 pgs.	10 <sup>th</sup> March, 2017
	Class on 'Preventive measures to protect goat from ailment'	Bali-IBali-I	24 <sup>th</sup> March, 2017
	Class on 'Swine diseases and it's prevention'	Bali-I	25 <sup>th</sup> March, 2017
	Health cum Awareness camp under TSP project	Habra-I	30 <sup>th</sup> March, 2017
	Observer of selection committee for SMS (AH) of KVK	Belgachia	25 <sup>th</sup> April, 2017
	Health cum Awareness camp under TSP project	Habra-I	29 <sup>th</sup> May, 2017
	Expert on 'Paribarik Muktangon Paddatite Murgi Palan' LIVE, Doordarshan	Doordarshan, Kolkata	13 <sup>th</sup> June, 2017

Name of the faculty member with Designation	Title of Seminar, Symposium, Workshop, Training attended	Venue	Date/s& Duration
	Expert on 'Karmosansthan O Manab Pustite Pranij Drobber Bhumika' LIVE, Doordarshan	Doordarshan, Kolkata	8 <sup>th</sup> August, 2017
	Expert in 'Sankalp se Siddhi'	MSD KVK	24 <sup>th</sup> August, 2017
	Expert member of selection committee	ICAR, ATARI, Kolkata	3 <sup>rd</sup> November, 2017
	“Common diseases of poultry and health care Management” training programme of Agriculture Skill Council of India (ASCI)	Belgachia	3 <sup>rd</sup> November, 2017
	Training on “Control & Prevention of Livestock Diseases of Economic Importance”	IAH&VB	17 <sup>th</sup> January, 2018
	Lecture on “Integrated Farming vis-à-vis Aquaponics”	Mohonpur	7 <sup>th</sup> February, 2018
	Health cum Awareness camp under TSP project	Bali-I	13 <sup>th</sup> December, 2018
Dr. S. Das, Scientist	Participated in “Krishi Darshan”, DD Bangla as expert on “Climbing Perch & Catfish Farming”	Doordarshan, Kolkata	25 <sup>th</sup> July, 2017
	Participated in “Krishi Darshan”, DD Bangla as expert on “Conserving endangered fishes”	Doordarshan, Kolkata	14 <sup>th</sup> November, 2017

## VIII.2. ABROAD VISIT OF SCIENTISTS

Sl. No.	Name, Designation & Department	Institute/ Country visited	Purpose of Visit	Period of Visit	
				From	From
1.	Dr. Amlan Patra, Animal Nutrition	Rome, Italy	To attend a meeting of Technical Advisory Group on Nutrient Cycles Modeling and Impact Assessment in Livestock Supply Chain held at FAO headquarter as a member of the expert committee meeting (FAO)	12/07/2016	11/07/2016
2.	Dr. Amlan Patra, Animal Nutrition	Nobleza Hotel, Kigali, Rwanda	To attend a meeting of Technical Advisory Group on Nutrient Cycles Modeling and Impact Assessment in Livestock Supply Chain as a member of the expert committee meeting (FAO)	14/11/2016	18/11/2016
3.	Dr. M.C. Pakhira, Livestock Farm Complex	Bangkok, Thailand	For attending "Gut Health Workshop"	06/03/2018	07/03/2018

Sl. No.	Name, Designation & Department	Institute/ Country visited	Purpose of Visit	Period of Visit	
				From	From
4.	Prof. Chanchal Guha, Professor, Veterinary Epidemiology & Preventive Medicine	Global Virbac Dairy Symposium at Colombia	Invited talk on “Present Global Scenario of Subclinical Mastitis and its Prevention and Control”	25/09/2017	27/09/2017
5.	Prof. S. Basu, Professor, Veterinary Gynaecology & Obstetrics	University of Rajshahi, Rajshahi-6205, Bangladesh	To attend Ph.D viva-voce Examination as an External Examiner	12/08/2017	16/08/17
6.	Dr. Kinsuk Das, Assistant Professor, Dept. of Veterinary Physiology	Department of Regenerative Medicine, National Center for Global Health and Medicine, Tokyo, Japan	XII Anniversary Commemorative Event of Niche-In Centre for Regenerative Medicine, NCRM NICHE 2017	22/10/17	22/10/17
7.	Dr. Kinsuk Das, Assistant Professor, Dept. of Veterinary Physiology	Shibaura Institute of Technology, Tokyo, Japan	Training programme in regenerative medicine organized by University of Toronto, Canada	23/10/17	23/10/17
8.	Dr. Kinsuk Das, Assistant Professor, Dept. of Veterinary Physiology	Tokyo Women's Medical University, Tokyo, Japan	Training programme regenerative medicine organized by University of Toronto, Canada	23/10/17	23/10/17
9.	Dr. Asit Kumar Maji, Assistant Professor, Dept. of Veterinary Surgery & Radiology	Chitagong Veterinary University, Bangladesh	Ext. Examiner for U.G. Course & attended meeting with Dean, F/O Fisheries Sc. CVASU for MOU on research and Academic meeting with Dean, F/o Vet & Ani Sc	18/08/2017	24/08/2017
10.	Prof. Arunasis Goswami, Professor, Dept. of Veterinary & Animal Husbandry Extension Education	Hotel Mirage Lords Inn, Battishputli, Kathmandu, Nepal	To attend International Conference on Agricultural and Applied Sciences for Food Security, AAPS 2017	13/05/2017	15/05/2017
11.	Prof. S. K. Das, Professor, Dept. of Aquaculture	Colombo, Sri Lanka	To attend Conference organized by International Centre for Research and Development, Colombo, Sri Lanka	7/12/2017	10/12/2017



### VIII.3. HONOURS / AWARDS/ FELLOWSHIPS ETC. RECEIVED BY THE TEACHERS/ SCIENTISTS/ OFFICERS OF THE UNIVERSITY

Sl. No.	Name of the recipient	Name of the honour/award/ fellowship/ scholarship etc	Offering organization	Field of remarkable activity
1	Dr. Manoranjan Roy, Assistant Professor, Deptt of Animal Genetics & Breeding	1st position	Society for Conservation of Domestic Animal Biodiversity (in 2017)	Oral presentation in National Symposium on “Biodynamic Animal Farming for the Management of Livestock Divers under Changing Global Scenario”
2	Dr. Uttam Sarkar, Assistant Professor, Deptt of Animal Genetics & Breeding	Certificate of Appreciation	International Journal of Livestock Research	Member of Scientific Advisory Board
3	Dr. Sanjoy Datta, Assistant Professor, Deptt of Animal Genetics & Breeding	Certificate of Appreciation	International Journal of Livestock Research	Member of Scientific Advisory Board
4	Dr. P. N. Chatterjee, Assistant Professor, Deptt of Animal Nutrition	Outstanding Paper Presentation Award	DST, Govt. of West Bengal	Nano-materials in Animal Nutrition
5	Dr. A. K. Patra, Assistant Professor, Deptt of Animal Nutrition	Alexander von Humboldt Fellowship	Alexander von Humboldt Foundation of Germany	Animal Science
		Member of Advisory Board	Cariplo Foundation, Italy	Evaluation of the project proposals
6	Dr. Aruna Pal, Assistant Professor, Deptt of Livestock Farm Complex	“Certificate of Commendation, 2017	Department of Higher Education, Science and Technology and Biotechnology, Govt. of West Bengal	Best Presentation on Birbhum sheep characterization.
		Best Poster presentation Award 2017	Society for Domestic Animal Biodiversity	Characterization of indigenous ducks of West Bengal
		“Outstanding Paper presentation Award” 2016	Department of Science and Technology, Govt. of West Bengal at Regional Science Congress, Presidency Division, West Bengal	Next generation sequencing studies on Birbhum sheep.

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
		Best Oral presentation Award 2016	Society for Domestic Animal Biodiversity	Molecular characterization of Birbhum sheep based on mitochondrial genes.
7	Dulal Chandra Roy, Assistant Professor, Deptt of Livestock Farm Complex	Environment Excellence Award 2017	Scientific and Environmental Research Institute, Kolkata	Agriculture, environment and food safety
8	Prof. S. Biswas, Professor, Dept. of Livestock Products Technology	Member, Board of Director	West Bengal Livestock Development Corporation Ltd. Govt. Of W.B	
		Member of Research Advisory Committee, NRC on Meat, Hyderabad	Nominated by ICAR, New Delhi	
		Member, State level Committee of Slaughter House	Dept. Of Urban Development, Govt. Of W.B	
		Member, VCI accreditation committee for establishment of new colleges	Nominated by VCI, New Delhi	
9	Prof. S. Ray, Professor, Dept. of Veterinary Anatomy & Histology	Fellow IAVA	IAVA	
10	Dr. A.K. Mandal, Associate Professor, Dept. of Veterinary Anatomy & Histology	Best Paper Award	IAVA	
11	Dr. N. K. Tudu. Assistant Professor, Dept. of Veterinary Anatomy & Histology	Best Paper Award	IAVA	
12	Dr. N. K. Tudu. Assistant Professor, Dept. of Veterinary Anatomy & Histology	D.Sc. (Honoris Causa)	Sidho-Kanho-Birsha University, Purulia	
13	Dr. Subhasis Batabyal, Professor, Dept. of Veterinary Bio-Chemistry	Reviewer Excellence Award	Agricultural Research Communication Centre (ARCC)	Outstanding contribution to the ARCC journals

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
14	Dr M Mondal, Associate Professor, Dept. of Veterinary Clinical Complex	Best Poultry Pathologist Award (IAVP Lifetime achievement award)	Indian Association of Veterinary Pathologists	Avian Pathology
		Editor	Journal of Interacademia	
		Lead Speaker in XXIII Annual Conference of Indian Association for the Advancement of Veterinary Research (IAAVR)	OUAT, Bhubaneswar	Avian Diseases
		Chairman - 16 <sup>th</sup> Indian Veterinary Congress (2016) and XXIII Annual conference of Indian Association for Advancement in Veterinary Research in College of Veterinary Science and A.H.	OUAT, Bhubaneswar	Avian Diseases
		Co-Chairman - 33 <sup>rd</sup> Annual Convention of Indian Society for the Study of Animal Reproduction (ISSAR)	WBUAFS, Kolkata.	Animal Reproduction
		Rapporteur - National symposium of 46 <sup>th</sup> Veterinary Re-union	WBUAFS, Kolkata	
15	Dr. Indranil Samanta, Assistant Professor, Dept. of Vety. Microbiology	Best Teacher Award-2017 (below 45 category) of F/O Veterinary and Animal Sciences,	West Bengal University of Animal and Fishery Sciences	Teaching, research and extension
		Best Oral Presentation Award in 31 <sup>st</sup> Annual Convention of IAVMI and national symposium at Sri Venkateswara	IAVMI	<i>Cryptosporidium</i> infection in birds

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
		Veterinary University, Tirupati, Andhra Pradesh		
		Selected for Summer Research Fellowship-2018 (for teachers)	Indian Academy of Sciences-Indian National Science Academy-The National Academy of Sciences (jointly conferred)	Teaching and research
16	Dr. S. N. Joardar, Professor, Dept. of Vety. Microbiology	Best Teacher Award-2018 (Faculty of Veterinary and Animal Sciences)	West Bengal University of Animal and Fishery Sciences	Teaching, research and extension
		Best Research Paper Award in West Bengal State Science and Technology Congress, 2016	DST, Govt. of West Bengal	Agriculture, Veterinary & Aquaculture Section
		Rashtriya Gaurav Award (2017)	India International Friendship Society (IIFS), New Delhi	Research & Teaching
17	Dr. Kunal Batabyal, Assistant Professor, Dept. of Vety. Microbiology	Dr C Natarajan Endowment Award (Gold Medal) for Best Paper in 12 <sup>th</sup> National APHV Conference, Durg (Dec, 2016)	APHV	Pathogenic <i>P. aeruginosa</i> in milk
		2 <sup>nd</sup> Best Oral Presentation Award in 12 <sup>th</sup> National Conference of APHV and National Symposium at CVS&AH, Durg (Dec, 2016)	APHV	Quality Control in foods of animal origin
18	Samir Dey, Assistant Professor, Dept. of Vety. Microbiology	Best paper presentation Award in National Seminar in Vth Annual Convention of SVSBT, Odisha, 22-23 September, 2017	SVSBT	Vety. Microbiology
19	Dr. Soumitra Pandit, Assistant Professor,	Outstanding Paper' Presentation Award	2nd Regional Science & Technology	Vety. Physiology



Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
	Dept. of Vety. Parasitology	Title of paper & authors: (Pandit, S, Jas R., Badiya S and Debbarma A (2017): Impact of Gastrointestinal Parasitism in Garole Sheep of Sundarban Delta of West Bengal)	Congress, 2017, Southern Region, organized by University of Kalyani, Kalyani, Nadia, West Bengal : 14-15th December, 2017	
20	Dr. S.K. Mukhopadhyay, Professor, Deptt. of Veterinary Pathology	Diplomat ICVP	Indian College of Veterinary Pathologist(ICVP)	Vety. Pathology
		Nominee CPCSEA	Ministry of Forest and Environment, GOI	Animal Ethics
21	Dr. S. Mondal, Assistant Professor, Deptt. of Veterinary Pathology	Best oral presentation award	Society for Bioinformatics and Biological Science	Cancer
22	Dr. Dipak Banerjee, Assistant Professor, Dept. of Vety. Physiology	Outstanding Paper award in 1 <sup>st</sup> Regional Science & Technology Congress – 2016-17 for Presidency division	Department of Science and Technology, WB	Molecular Biology
		Dr. P.K. Dwarikanath Memorial Young Scientist Award	Society of Animal Physiologists of India (SAPI)	Environment & Stress Physiology
23	Dr. Kinsuk Das, Assistant Professor, Dept. of Vety. Physiology	International Travel Support Grant	Science and Engineering Research Board, DST, Govt. of India	Oral presentation at the XII Anniversary Commemorative Event of Niche-In Centre for Regenerative Medicine (NCRM NICHE 2017) held at NCGM, Tokyo, Japan
24	Prof. Pradip Kumar Das, Professor, Dept. of Vety. Physiology	A Roy Award	Society of Animal Physiologists of India (SAPI)	Poultry Development and Research
25	Prof. Samit Kumar Nandi, Professor, Dept. of Vety. Surgery & Radiology	National Teaching Excellence Award 2016	International Benevolent Research Foundation	In recognition of teaching excellence

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
		Late Dr. P. S. Khankhoje Gold Medal	Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola	For outstanding research work in the disciplines of Agriculture including Animal Sciences, Fisheries and Agricultural Engineering during the year 2015-16.
		Best Teacher Award 2016 (Above 45 years Category)	West Bengal University of Animal and Fishery Sciences	In recognition of teaching excellence of the Faculty of Veterinary & Animal Sciences, West Bengal University of Animal and Fishery Sciences
		Best Teacher Award 2017 at University Level	West Bengal University of Animal and Fishery Sciences	In recognition of teaching excellence at the university level.
		Fellow. National Academy of Agricultural Sciences, New Delhi, 2018	National Academy of Agricultural Sciences, New Delhi.	In remarkable contribution in Indian Agricultural Sciences
		Fellow, Indian Society for Veterinary Surgery, 2017.	Indian Society for Veterinary Surgery	In remarkable contribution in Veterinary Surgery and Radiology in India
26	Prof. S. K. Das, Professor, Dept. of Aquaculture	Felicitation	Organizing Committee of International Conference : AgriFish, 2017	Aquaculture
27	Dr. T. J. Abraham, Professor, Dept. of Aquatic Animal Health	Best Teacher Award–2016 (University level)	West Bengal University of Animal and Fishery Sciences, Kolkata	Teaching, research and extension
		Best Teacher Award–2016 (Faculty level)	West Bengal University of Animal and Fishery Sciences, Kolkata	Teaching, research and extension
		Best Parent Award–2016	West Bengal University of Animal and Fishery Sciences, Kolkata	Parenting
		Outstanding Faculty of the Year–2017	The Education Expo TV, Research and Branding Company, Noida	5 <sup>th</sup> Faculty Branding Awards 2017

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
		Fellow, Zoological Society of India (FZSI), Bodh Gaya, Bihar	Zoological Society of India (FZSI), Bodh Gaya, Bihar	Contribution in the Fishery Sciences
		Excellent Researcher Award in Fishery Sciences-2017	PEARL Foundation, Madurai	PEARL Foundation Educational Excellence Awards to Higher Education in India 2017
		Outstanding Paper Award-2017	University of Kalyani and Department of Higher Education, Science and Technology and Biotechnology, Govt of West Bengal, Kolkata	Best oral presentation during the 2 <sup>nd</sup> Regional Science and Technology Congress (Southern Region), 2017
28	Dr. G. Dash, Associate Professor, Deptt. of Aquatic Animal Health	Best Teacher Award	WBUAFS	Fishery Sciences
29	Prof. Somen Sahu	Life Time Achievement Award-2017 At Bengal Aqua Expo-2017	Surendranath Institute Of Aquaculture Training And Research.	Contribution in Fisheries Sciences-
		Matsya Sathi Samman-2018, At Bengal Aqua Expo-2018	Surendra Nath Institute of Aquaculture Training and Research, Contai Aqua Technicians Welfare Association, Dept. of Fisheries, Govt. of WB & Prawn farmers Association, WB.	Contribution towards the fish farmers community
		Marine Advisor	Department of Fisheries, Govt. of West Bengal	Development for the Marine fisheries of the state
		Expert Member	ICAR-CMFRI (Central Marine Fisheries Research Institute), Govt. of India	Establishment of Regional Research centre for the coastal people at Choddomile
		Expert Member	ESSO-INCOIS (Indian National Center for Ocean Information Services), Govt. of India	To develop forecasting system for Hilsa-shad fishery

Sl. No.	Name of the recipient	Name of the honour/award/fellowship/scholarship etc	Offering organization	Field of remarkable activity
30	Dr. Biswarup Saha, Associate Professor, Deptt. of Fishery Extension	Young Professional Award	Society of Community Mobilisation, Indian Agricultural Research Institute, New Delhi.	Extension Education
		ISEE Fellow Award	Indian Society of Extension Education, Indian Agricultural Research Institute, New Delhi.	Extension Education
31	Dr. Supratim Chowdhury, Associate Professor, Deptt. of Fish Processing Technology	Best Teacher Award (2016) Faculty of Fishery Sciences (<45 years)	WBUAFS	
32	Dr. Samarendra Behera, Professor, Dept. of Fishery Resources Management	Outstanding Achievement award	Society for Scientific Development in Agriculture and Technology, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	
33	Prof. P.R. Ray, Professor, Dept. of Dairy Chemistry	Faculty Best Teacher Award	WBUAFS	Dairy Technology Education
34	Dr. Chaitali Chakraborty, Associate Professor, Dept. of Dairy Chemistry	Award for best Technical Paper published in the "Indian Dairyman".	Indian Dairy Association	Technical Article publication in the area of Dairy Science
		Best paper Award	IEEE Kolkata and GNIT	Paper presentation
35	Prof. S.K. Bag, Professor, Dept. of Dairy Engineering	Best Parenting award of University, 2017	WBUAFS	
36	Dr. Lopamudra Halder, Associate Professor, Dept. of Dairy Microbiology	Cleared advance level of Trainers Training Programme (Manufacturing)	FSSAI training partner FOSTAC	Recognized as the Empanelled Trainer
37	Dr. K. C. Dhara, Asstt. Dir (Farms), DREF	Fellow	International Society for Rural Development, UK	Rural development
		Member of Editorial Board of International Journal of Animal and Veterinary Advances,	Maxwell Publication, USA	Research Publication



#### VIII.4. PATENTS GRANTED TO THE TEACHERS/SCIENTISTS OF THE UNIVERSITY

Sl. No.	Patent on	Name of the Technology Developer	Grant Type	Grant Date
1	Bioactive compound(s) from marine gastropod mollusc ( <i>Telescopium telescopium</i> ) as potential anticancer/ antiproliferative agents	Subhasis Roy, Uttam Datta, Samit Kumar Nandi, Partha Sarathi Dasgupta, Debaki Ghosh and Uttio Roy Chowdhury	Indian patent Granted	Patent No- 291906 Date of Grant- 19.01.2018

#### VIII.5. PATENTS FILED BY THE TEACHERS/ SCIENTISTS OF THE UNIVERSITY

Sl. No.	Patent on	Name of the Technology Developer	Grant Type	Grant Date
1	Development of live attenuated thermostable lentogenic strain Newcastle disease vaccine	Dr. Chanchal Guha Dr. Ujjwal Biswas Dr. Partha Sarathi Jana		

## IX. DETAILS OF PUBLICATION OF BOOK, BOOKLETS, LEAFLETS, MANUAL ETC. BY DIFFERENT UNITS :

### IX.1. FACULTY OF VETERINARY & ANIMAL SCIENCES

#### IX.1.1. Department of Animal Genetics & Breeding

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Key points for rearing of Black Bengal goats	Leaflet	Prof. P. K. Senapati, Dr. Manoranjan Roy, Dr. Uttam Sarkar, and Dr. Santanu Bera	June, 2016
Selection and Breeding of Black Bengal Goat	Leaflet	Prof. P. K. Senapati, Dr. Manoranjan Roy, Dr. Uttam Sarkar, and Dr. Santanu Bera	June, 2016
Scientific rearing of kids	Leaflet	Dr. Manoranjan Roy, Dr. Uttam Sarkar, Dr. Santanu Bera, Dr. M. C. Pakhira, Dr. Gopal Patra, and Dr. Soumitra Pandit	March, 2018
Parasitic diseases of goat and their preventive measures	Leaflet	Dr. Manoranjan Roy, Dr. Uttam Sarkar, Dr. Santanu Bera, Dr. M. C. Pakhira, Dr. Gopal Patra, and Dr. Soumitra Pandit	March, 2018
Seasonal care and management of goats	Leaflet	Dr. Manoranjan Roy, Dr. Uttam Sarkar, Dr. Santanu Bera, Dr. M. C. Pakhira, Dr. Gopal Patra, and Dr. Soumitra Pandit	March, 2018
Package of practices for rearing of Black Bengal goat	Package of practices	Dr. Manoranjan Roy, Dr. Uttam Sarkar, Dr. Santanu Bera, Dr. M. C. Pakhira, Dr. Gopal Patra, and Dr. Soumitra Pandit	March, 2018
Practical manual on Animal Genetics & Breeding Paper I & II	Manual	Prof. P K Senapati, Prof. A K Sahoo, Dr. S Taraphder, Dr. M. Roy, Dr. U Sarkar, Dr. A K Das, and Dr. S Datta	March, 2017
Book in English published by Satish Serial Publishing House, Delhi	'Cattle and Buffalo Genetic Resources in India'	Subhas Taraphder, Ajit Kumar Sahoo & Rajesh Paul	January, 2018

**IX.1.2. Department of Livestock Farm Complex**

<b>Name of book, booklets, Handout, report, manuals etc.</b>	<b>Category of Item published</b>	<b>Author / Co-Author (s)</b>	<b>Date/Year of publication with details</b>
Birbhum sheep-the prolific sheep of West Bengal	ISBN: 978-93-5268-187-7	Dr. Aruna Pal	31 <sup>st</sup> March, 2018
Forage crops of the World, Vol. I: Major forage crops (Black Eyed Pea)	Book chapter on . Cowpea Dulal Chandra Roy, and Utpal Giri	Abhijit Saha, Sonali Biswas,	2018 ISBN: 9781771886840
Forage crops of the World, Vol. II: Minor Forage Crops	Book chapter on Azolla: An Unconventional Forage Crop	Dulal Chandra Roy, Abhijit Saha, and Sonali Biswas	ISBN: 9781771886857

**IX.1.3. Department of Livestock Production Management**

<b>Name of book, booklets, Handout, report, manuals etc.</b>	<b>Category of Item published</b>	<b>Author / Co-Author (s)</b>	<b>Date/Year of publication with details</b>
Training manual on “Pisciculture and Allied Farming Practices for Tribal Farmers of Northeast India”	Organic Poultry Production (Chapter)	Dr Santanu Bera Dr Manoranjan Roy Dr Uttam Sarkar	2016
Training manual on “Pisciculture and Allied Farming Practices for Tribal Farmers of Northeast India”	Organic Milk Production (Chapter)	Dr Manoranjan Roy Dr Santanu Bera Dr Uttam Sarkar Dr P K Senapati	2016
Susanghata Chhagal Palan Padhati	Booklet under project AICRP (G)	Dr P K Senapati Dr Manoranjan Roy Dr Uttam Sarkar Dr Santanu Bera	2016
Profitable Backyard Banaraja Poultry Farming in Sundarban Island	Booklet under project, TSP, BCKV	Dr. S. Bera & Dr. S. Pan	2016
Training manual for Animal Health Workers, Small Poultry Farmers and Dairy Farmers under ASCI	Milking process (Chapter)	Dr. S. Bera	DREF, Dec., 2016
Practical Manual on Livestock Production Management: Paper I (4+2)	Student's Practical Manual	Dr. S. Pan Dr. A. K. Samanta Dr. R. Samanta Dr. S. Bera Mr. D. C. Roy	2017
Practical Manual on Livestock Production Management: Paper II (4+2)	Student's Practical Manual	Dr. S. Pan Dr. A. K. Samanta Dr. R. Samanta Dr. S. Bera	2017

Training manual for ICAR Sponsored 10 days Short Course on “Conservation of indigenous breeds of small ruminants in their respective tracts”	Process of breed conservation (Chapter)	Dr S Pan	DREF, July, 2017
Training manual for ICAR Sponsored 10 days Short Course on “Conservation of ... tracts”	Conservation of sheep breeds (Chapter)	Dr R Samanta	DREF, July, 2017
Training manual for ICAR Sponsored 10 days Short Course on “Conservation of ... tracts”	Nucleus breeding system (Chapter)	Dr A. K. Samanta	DREF, July, 2017
Training manual for ICAR Sponsored 10 days Short Course on “Conservation of ... tracts”	Management for conservation of indigenous sheep & goat breeds (Chapter)	Dr S Bera	DREF, July, 2017
Training manual for Animal Health Workers, Small Poultry Farmers and Dairy Farmers under ASCI	General management of Cattle (Chapter)	Dr. S. Bera	DREF, Nov., 2017
Training manual for Animal Health Workers, ... under ASCI	General poultry management (Chapter)	Dr. S. Bera	DREF, Nov., 2017
Indian Dairyman	Organic and Synthetic Milk Production and Their Relevance Today (Health Article)	Sasmita Panda, Kuldeep Kumar Panigrahy and Santanu Bera	January, 2018

#### IX.1.4. Department of Veterinary Anatomy & Histology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Practical Manual on Veterinary Anatomy (Paper –I)	Manual	Dr. A.K. Mandal Dr. N.K. Tudu Prof. S. Ray Prof. P. Das	March, 2017
Practical Manual on Veterinary Anatomy (Paper –II)	Manual	Prof. P. Das Dr. A.K. Mandal Prof. S. Ray Dr. N.K. Tudu	March, 2017



**IX.1.5. Department of Veterinary Bio-Chemistry**

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Practical Manual on General veterinary Biochemistry	Manual for students	Prof. S. Batabyal	September, 2016
Practical Manual on Intermediary Metabolism			February, 2017
Manual on Immun-biochemical Techniques	Manual for trainees		May, 2016
Practical Manual on Animal Biotechnology			February, 2017

**IX.1.6. Department of Veterinary Clinical Complex**

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
<b>Fish Diseases.</b> 1st Edn, Narendra Publishing House, New Delhi. <b>ISBN: 978-93-84337-50-6</b>	Book	Mondal, M. and Singh, S.	2016
Induced aflatoxicosis and amelioration by <i>Cajanus indicus</i> in broiler. Lambert Academic Publishing, Deutschland, Germany. <b>(ISBN: 978-3-330-05439-4).</b>	Book	Mondal, M. Sahu, N. and Ghosh, R.C.	2017
Toxicopathology of induced selenium toxicity in broiler. Lambert Academic Publishing, Deutschland, Germany. <b>(ISBN: 978-3-330-32830-3).</b>	Book	Mondal, M. and Shriwas, S.K.	2017
<b>Practical Veterinary Pathology,</b> 1 <sup>st</sup> Edn, Kalyani Publishers, New Delhi. <b>(ISBN: 978-93-272-8294-8).</b>	Book	Mondal, M.	2017
Techniques of postmortem examination in animals. In the training module of “ASCAD training on 'Recent advances in farm animal reproduction’” held on 9 <sup>th</sup> -14 <sup>th</sup> March 2015 in the College of Vety Sc & AH, Rewa, pp. 46-49.	Chapter	Mondal, M. and Singh, S.	2017

Techniques of postmortem examination in laboratory animals with special reference to rodents. In the training module of “Training on laboratory animal experimentation and application in biomedical research” held on 4 <sup>th</sup> -8 <sup>th</sup> November 2015 in the College of Vety Sc & AH, Rewa, pp. 132-137.	Chapter	Mondal, M	2016
Diagnostic methodology for the common diseases in livestock. In the training module of “Animal health workers, small poultry farmers and dairy farmers to train the trainer programmes” held on 2 <sup>nd</sup> -11 <sup>th</sup> November 2017 in DREF, WBUAFS, Kolkata, pp. 57-59.	Chapter	Mondal, M.	2017
Veterinary Clinical Biochemsitry and Laboratory Diagnosis – I	Manual	Dr. S.S. Kesh, Dr. S. Batabyal, Dr. P. Mukherjee, Dr. S Chaudhuri, Dr. D. Ghosh	2016
Veterinary Clinical Biochemsitry and Laboratory Diagnosis – II	Manual	Dr. S.S. Kesh, Dr. S. Batabyal, Dr. P Mukherjee, Dr. S Chaudhuri, Dr. Debaki Ghosh	2016
Veterinary Clinical Practices (Diagnostic Section)	Manual	Dr. S.S. Kesh, Dr. S. Batabyal, Dr. P Mukherjee, Dr. S Chaudhuri, Dr. Debaki Ghosh	2016
Veterinary Clinical Biochemsitry and Laboratory Diagnosis – I	Manual	Dr. S.S. Kesh, Dr. M Mondal, Dr. S. Batabyal, Dr. A. Maity, Dr. P Mukherjee, Dr. S Chaudhuri, Dr. Debaki Ghosh	2017
Veterinary Clinical Biochemsitry and Laboratory Diagnosis – II	Manual	Dr. S.S. Kesh, Dr. M Mondal, Dr. S. Batabyal, Dr. A. Maity, Dr. P Mukherjee, Dr. S Chaudhuri, Dr. D. Ghosh	2017

Veterinary Clinical Practices (Diagnostic Section)	Manual	Dr. S.S. Kesh, Dr. M. Mondal, Dr. S. Batabyal, Dr. A. Maity, Dr. P Mukherjee, Dr. S Chaudhuri, Dr. D. Ghosh	2017
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#### IX.1.7. Department of Veterinary Gynaecology & Obstetrics

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Practical manual on Veterinary Gynaecology & Obstetrics - (Course No VOG-411)	Manual	S. Basu, Mrs. K. Ray, P.R. Nandi, U. Datta	
Practical manual on Veterinary Obstetrics (Course No VOG-421)	Manual	S. Basu, , Mrs. K. Ray, P.R. Nandi, U. Datta	
Practical manual on Veterinary Andrology and AI (Course No VOG- 511)	Manual	S. Basu, , Mrs. K. Ray, P.R. Nandi, U. Datta	
Book on “- Immuno-modulators Current Approach in Treating Bovine Endometritis”, LAP LAMBERT Academic Publishing, 2017.	Book	Pradip Sarkar Durgadas Mandal Kalyani Ray (Co-Authors)	Feb., 2017 ISBN-13: 978-3-330-04548-4
Fertility Regulation with Gonadotropin Releasing Hormone in Buffaloes	Online Book	Dr Durgadas Mandal	Aug., 2017 ISBN No.- 978-3-330-32838-9
Book on Polypeptide Profiles of Garole ram and Bengal buck semen by SDS-PAGE LAP LAMBERT Academic Publishing.	Book	Somraj Chattaraj, Siddhartha Basu and Kalyani Ray (Co-Authors)	Dec., 2017 ISBN-13: 978-6202095648

#### IX.1.8. Department of Veterinary Microbiology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
'Pet bird diseases and care', Springer-Nature Private Limited, Singapore (ISBN: 978-981-10-3673-6)	Book	Indranil Samanta, Samiran Bandyopadhyay	2017, first edition

'Biosecurity strategies for backyard poultry: A controlled way for safe food production' (2018) in volume 16 ( <i>Food Control and Biosecurity</i> ) of 'Handbook of Food Bioengineering', Academic Press (Elsevier)	Book Chapter	Indranil Samanta, Siddhartha Narayan Joardar, Pradip Kumar Das	2018
Annual Report	Annual Report of Kolkata centre (AINP-BT) 2015-16	Dr. S. N. Joardar	2016
Annual Report	Annual Report of Kolkata centre (AINP-BT) 2016-17	Dr. S. N. Joardar	2017
Manual (Vety. Microbiology)	For UG students	Dr. S. N. Joardar, Dr. D.P. Isore, Dr. Kunal Batabyal, Dr. S. Dey	2017

#### IX.1.9. Department of Veterinary Parasitology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Advanced Veterinary Parasitology for Higher Studies	Book	Dr. Subhas Chandra Mandal	
Manual of General Veterinary Parasitology & Helminthology (VPA- 211) (Course – B.V.Sc.&A.H.) (Revised)	Laboratory Manual	Dr. S. Baidya; Dr. S. Pandit; Dr. R. Jas; Prof. S. C. Mandal; Dr. A. Nandi	2017
Manual of Veterinary Entomology & Acarology (VPA- 221) (Course – B.V.Sc.&A.H.) (Revised)	Laboratory Manual	Dr. S. Baidya; Dr. S. Pandit; Dr. R. Jas; Prof. S. C. Mandal Dr. A. Nandi	2017
Manual of Veterinary Protozoology (VPA- 222) (Course – B.V.Sc.&A.H.) (Revised)	Laboratory Manual	Dr. S. Baidya; Dr. S. Pandit; Dr. R. Jas; Prof. S. C. Mandal; Dr. A. Nandi	2017

**IX.1.10. Department of Veterinary Pathology**

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Paper – I Unit 1 - General Veterinary Pathology Unit 2 - Systemic Veterinary Pathology Unit 3 - Animal Oncology, Veterinary Clinical Pathology and Necropsy	Practical Manual	Dr. S. Pradhan Dr. S. Mondal Dr. N.C. Patra Dr. R. N. Hansda Dr. S.K.Mukhopadhyay	2016 & 2017
Paper – II Unit-4 Pathology of infectious and non-infectious diseases of domestic animals Unit-5 Avian Pathology Unit-6 Pathology of diseases of laboratory and wild animals	Practical Manual	Dr. N.C. Patra Dr. S. Pradhan Dr. S. Mondal Dr. R. N. Hansda Dr. S.K.Mukhopadhyay	2016 & 2017

**IX.1.11. Department of Veterinary Physiology**

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Eggopedia	An encyclopedia on table egg	Prof. Pradip Kumar Das and Prof. Barun Roy	May 2016, 1 <sup>st</sup> Edition, Published by Parul Prakashani (ISBN: 978-93-85555-96-1).
Dim	A book from the angle of nutritionist	Prof. Pradip Kumar Das and Prof. Barun Roy	May 2017, 1 <sup>st</sup> Edition, Published by Big Books (ISBN: 978-93-86528-30-8).
Laboratory Manual for Physiology practical VPY - 111	Laboratory guide for the Veterinary students and field veterinarians	Prof. P K Das, Dr. P R Ghosh, Dr. K Das, Dr. D Banerjee and Dr. J Mukherjee	Revised publication in 2016
Laboratory Manual for Physiology practical VPY - 121	Laboratory guide for the Veterinary students and field veterinarians	Prof. P K Das, Dr. P R Ghosh, Dr. K Das, Dr. D Banerjee and Dr. J Mukherjee	Revised publication in 2016



Laboratory Manual for Physiology practical VPY - 221	Laboratory guide for the Veterinary students and field veterinarians	Prof. P K Das, Dr. P R Ghosh, Dr. K Das, Dr. D Banerjee and Dr. J Mukherjee	Revised publication in 2016
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### IX.1.12. Department of Veterinary Public Health

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
'Pet bird diseases and care', Springer-Nature Private Limited, Singapore (ISBN: 978-981-10-3673-6)	Book	Indranil Samanta, Samiran Bandyopadhyay	2017, first edition

### IX.1.13. Department of Veterinary Surgery & Radiology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
<i>Nanostructures for the engineering of Cells, Tissues and Organs: From design to applications</i> Multi-Volume SET (I-XXVII) Elsevier ISBN: 9780128136669 Chapter 12 : “Silk based matrices for tissue engineering applications”	Book	Promita Bhattacharjee, Prerak Gupta, Joseph Christakiran, Samit Kumar Nandi and Biman B. Mandal	2018
<i>Advanced Techniques in Bone Regeneration, InTech Open Access Publisher, Austria</i> ISBN 978-953-51-2538-9 Chapter : “Doped bioactive glass materials in bone regeneration”	Book	Samit Kumar Nandi, Arnab Mahato, Biswanath Kundu and Preasenjit Mukherjee.	2016

## IX.2. FACULTY OF FISHERY SCIENCES

### IX.2.1. Department of Aquaculture

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Wastewater Management Through Aquaculture	Book	Das, S. K. and Mandal, A.	<b>Springer</b> : <a href="https://doi.org/10.1007/978-981-10-7248-2_4">https://doi.org/10.1007/978-981-10-7248-2_4</a>
Practical Manual on Fish Food Organisms	Manual	Das, S. K., Ghosh, T. K., Bhattacharyya, S., Mandal, A. and Dinda, R.	June, 2016

Practical Manual on Water and soil quality parameters	Manual	Das, S. K., Ghosh, T. K., Bhattacharyya, S., Mandal, A., Chowdhuri, A. and Sarkar, R.	June, 2016
Laboratory Manual on Microbiological and Biotechnological Tools and Techniques	Manual	Das, S. K., Ghosh, T. K., Bhattacharyya, S., Mandal, A. and Biswas, B.	June, 2016

### IX.2.2. Department of Aquatic Animal Health

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Prevention and management of Fish/shrimp Diseases.	Training Manual (Bengali)	Dr G. Dash	2016
Advance Practices on Fish and Shrimp Health Management for sustainable Aquaculture	Workshop Manual (Bengali)	Dr G. Dash	2016
Advances on fish and Shrimp Health Management	Training Manual (English)	Dr G. Dash	2016
Aqua Essentials	Leaflets (Bengali)	Dr G. Dash	2016
Arena of NSPAAD activities	Leaflets (Bengali)	Dr G. Dash	2017
Aquaculture field problems and its solutions.	Leaflets (Bengali)	Dr G. Dash	2017
Training manual on Advance practices on fish and shrimp health management for sustainable management	Manual (English)	G. Dash, T. J. Abraham, Mukherjee, D and Sanyal, K.B.	2016
Training manual on Advances in fish and shrimp health management	Manual (English)	G. Dash, T. J. Abraham, Mukherjee, D and Sanyal, K.B.	2016
Training manual on Prevention and management of fish/shrimp diseases	Manual	G. Dash, T. J. Abraham, Mukherjee, D and Sanyal, K.B.	2016

### IX.2.3. Department of Fishery Extension

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
<b>Book :</b> Advances in ICT in Agriculture <b>Book Chapter:</b> Recent Advances of ICT in Fisheries Sector	Book	Soumili Das and Biswarup Saha	March, 2018 ISBN-978-93-86453 - 34-1

<b>Souvenir of Lead papers</b> <b>Name of the Chapter-</b> Women Empowerment through Participation in Fisheries: Gender Issues and Strategic Empowerment Framework	Souvenir	Biswarup Saha	December 2016
<b>Book:</b> Sustainable Management of Aquatic Resources <b>Name of the Chapter-</b> Extension Needs in Achieving Livelihood Security as Perceived by the Fishers in the Vicinity of Rudrasagar Lake, Tripura.	Book	Biswarup Saha and M. K. Dutta	January 2018 ISBN No. 978-93-87580-11-3

#### IX.2.4. Department of Fish Processing Technology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Trailing the footprints of nutrition and wellness: Entrapping foothold of healthy nation. Edited by: Sarthak Chowdhury, Debasish Sarkar, Bitan Mondal, Ashoke Mukherjee and Kollol Chatterjee ISBN: 978-81-88904-88-4 (i) <i>Bacillus</i> - A potential biopreservative for seafood safety (ii) Effect of Sodium bicarbonate on drip loss, cook loss and protein solubility of headless <i>Penaeus monodon</i> during frozen storage (18±2°C)	Book	Nath S., Chowdhury S., Sarkar S., Dora K.C.	Nov. 2016
		Guha A., Sarkar S., Chowdhury S., Nath S., Chakraborty J.	Nov. 2016
Proceedings of RUSA funded International Level Seminar on “Recent Trends in Microbiology”. Organised by, Department of Microbiology, Ramakrishna Mission Vidyamandira, Belur Math, Howrah, West Bengal ISBN: 978-93-82094-13-5 Title : <i>Bacillus subtilis</i> FPTB23 and <i>B. tequilensis</i> FPTB26, the two potential biopreservative for seafood safety	Proceedings of Seminar	Nath S., Chowdhury S., Sarkar S., Dora K.C.	Jan., 2017

Souvenir cum compendium of National symposium on Enhancement of livelihood security through sustainable development of livestock and fishery sector Title : Effect of methanolic extract of lemon peel on quality changes of tiger shrimps ( <i>Penaeus monodon</i> ) during refrigerated storage (4±1°C)	Souvenir cum compendium	Chatterjee D., Nath S., Chowdhury S	Jan., 2017
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### IX.3. FACULTY OF DAIRY TECHNOLOGY

#### IX.3.1.D epartment of Dairy Chemistry

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Text Book on Analysis of Milk Products	Book	A.K.Bandyapadhyay, P.K.Ghatak and P.R.Ray	ISBN: 978-93-272-5801-1
Role of Examination System in Increasing Effectiveness of Dairy Science Education and Career Movement of Dairy Professionals	Book Chapter	L. Halder , P.R.Ray and S.K.Bag	ISBN: 978-1234-567897

#### IX.3.2. Department of Dairy Engineering

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Food Product and Process Innovations. Vol.II (Editor: H N Mishra) Chapter 4: Baked and Fried Dairy Products ISBN:978-93-86546-15-9	Book	S K Bag; R Kumari and H N Mishra	2018
Food Product and Process Innovations. Vol.II (Editor: H N Mishra) Chapter 10: Rapid method for food quality analysis ISBN:978-93-86546-15-9	Book	S Tripathi, VR Sinija; S K Bag; V Shibby; R Pande; A Deswal and H N Mishra	2018

### IX.3.3. Department of Dairy Microbiology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Fundamentals of Microbiology	Laboratory Manual	Dr. Lopamudra Haldar Mr. Amit Kumar Barman Prof. T.K.Maity	March, 2017
Starter Culture and Fermented Milks	Laboratory Manual	Dr. Lopamudra Haldar Mr. Amit Kumar Barman Prof. T.K.Maity	March, 2017
Microbiology of Dairy Products	Laboratory Manual	Mr. Amit Kumar Barman Dr. Lopamudra Haldar Prof. T.K.Maity	March, 2017

### IX.3.4. Department of Dairy Technology

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
Chapter entitled, “Food Polysaccharides- 2: Cellulose” (Paper: Food Chemistry (Paper No. 1)) for UGC e-Pathshala.	Book chapter	Anindita Debnath	
Fat Rich Dairy Products	Laboratory Manual	Anindita Debnath	March 2017

### IX.4. DIRECTORATE OF RESEARCH, EXTENSION & FARMS

Name of book, booklets, Handout, report, manuals etc.	Category of Item published	Author / Co-Author (s)	Date/Year of publication with details
University Newsletter	Newsletter	Directorate of Research, Extension & Farms	December, 2016 June, 2017 March, 2018
Annual Report	Annual Report	Directorate of Research, Extension & Farms	March, 2018
Matsya-o-Prani Palan	Farm Journal in Bengali	Directorate of Research, Extension & Farms	2016 – 2 issues 2017 – 2 issues
‘ছাগল ভেড়া পালন’; ‘গরু মহিষ পালন’; ‘হাঁস-মুরগী পালন’; ‘প্রাণী পালন’; ‘প্রাণীজ’ ও ‘জলের আবাদ’	Books & Booklets,	Directorate of Research, Extension & Farms	2017
Text Book on Quantitative Genetics	Book	Dr. K.C. Dhara, Dr Subhash Taraphder,	September, 2017 LAP LAMBERT Academic Publishing
Parasitic effect on economic performances of Black Bengal Goat	Book	Dr. K.C. Dhara, Dr Nita Ray	August, 2017 LAP LAMBERT Academic Publishing



## X. CENTRAL INSTRUMENTATION FACILITIES & CLINICS

West Bengal University of Animal & Fishery Sciences had received a fund from the Indian Council of Agricultural Research (ICAR), New Delhi under 'Establishment of Central Instrumentation Facility' during 11<sup>th</sup> five year plan. Utilizing that fund the University has strengthened its Central Instrumentation facilities in its' faculties. Several valuable scientific equipments have been procured out of the fund received from several funding agencies such as, Government of India, ICAR, State Government etc. The present status of such equipments / instruments are furnished below -

### List of Valuable Equipments under the Central Instrumentation Facility :

#### A. Faculty of Veterinary & Animal Sciences

Sl. No.	Equipments
1	8 TPL Lab Model Torque Twin Screw Centrifuge
2	Electron capture detector
3	Inverted Tissue Culture (Sigma)
4	Inverted Trinocular
5	ECD with Electrometer
6	Low Pressure Chromatography System
7	HP Proliant Server : Web & Mail Server
8	UV – VIS Spectrophotometer
9	Ultra Pure Water Purification System (Animal Nutrition Dept.)
10	ELISA Reader (Vet. Physiology & VEPM)
11	PCR Thermocycler
12	Gel Doc System
13	Electrophoresis System
14	Inverted Microscope, Steriozoom Microscope and Fluorescence Microscope with Photographic attachment
15	Fluorescence Spectrophotometer
16	HPLC Unit (Vety. Biochemistry)
17	Rotary Microtome (Vety. Pathology)
18	Trinocular Research Microscope (Vety. Anatomy)

#### B. Faculty of Fishery Sciences

Sl. No.	Equipments
1	High Performance Liquid Chromatography
2	Analytical Balance
3	Modular Laboratory
4	Atomic Absorption Spectrophotometer
5	Water purification system
6	Carbon di-oxide Incubator
7	Microfuge
8	Thermal cycler
9	Microblock Digestion system
10	U-V Trans-illuminator
11	Air purifier/curtain
12	Gas chromatograph
13	Inverted Microscope
14	Deep freeze
15	Generator
16	Canning Machine

#### C. Faculty of Dairy Technology

Sl. No.	Equipments
1	Protein Analyzer
2	Infra red Analyzer
3	Ice Cream Plant
4	Condensing Unit
5	Drying Unit
6	Moisture Analyzer
7	Gel Filtration
8	Rheometer
9	BOD Analyzer
10	PCR
11	Vacuum Milk Concentrator

## VETERINARY CLINICS

Veterinary Clinics under WBUAFS deals with the diagnosis and treatment of sick animals in and around Kolkata ensuring 24X7 services.

### Working hour of the Unit :

OPD	:	Monday to Friday – 8:00 AM to 2:00 PM
Extended OPD	:	Monday to Friday – 2:00 PM to 8:00 PM
Emergency service	:	Monday to Friday 8:00 PM to 8:00 AM (Next day) Saturday, Sunday & Govt. Holidays 24 Hours

### Services provided by the Unit :

1. Specialized treatment for Medicine, Surgery and Gynaecological cases
2. Major and Minor Surgery
3. Digital X-Ray, ECG and USG, Physiotherapy etc.
4. All types of diagnostic test
5. Burial of carcasses
6. CCU
7. Blood transmission and Dialysis on trial basis

### Examinations undertaken at the Unit :

Sl. No.	Name of Examination / Activity
1	X-Ray
2	ECG
3	Antibiotic Sensitivity Teat
4	ARV
5	USG (Whole Abdomen /Cranial Abdomen/ Caudal Abdomen)
6	Ultra Sound Therapy
7	Blood, Urine and Stool Examination
8	Skin Test
9	Oxygen
10	Canine Distemper
11	Castration by close method
12	Major/Minor Operation (Dog)
13	Major/Minor Operation (Cat )
14	Major/Minor Operation(Sheep)
15	Major/Minor Operation (Bird)
16	Major/Minor Operation (Cow)
17	Major/Minor Operation (Buffalo)
18	Major/Minor Operation (Monkey)
19	Dressing Major & Minor
20	Physiotherapy
21	All Health Certificate

**Patients treated during the last year (Species wise) :**

Sl. No.	Species	Cases
1	Dog	14783
2	Cat	2270
3	Goat	1273
4	Rabbit	1112
5	Bird	1115
6	Cow	201
7	Others	129
<b>Total</b>	<b>20883</b>	

**Summary of cases**

Medicinal Case	<b>15801</b>
Surgical Cases	<b>4532</b>
Gynaecological Cases	<b>550</b>

**Pathological samples examined during the last year :**

Sl. No.	Pathological sample	Number of samples
1	Stool	62
2	Blood	1818
3	Urine	3
4	Antibiotic sensitivity test	41
5	Skin	42

**Other examinations undertaken during the last year :**

Sl. No.	Examination	Number
1	USG	62
2	X-Ray	2349
3	ECG	29
4	Others / Physiotherapy	7
5	ARV	1260
6	Canine Distemper	953

**Postmortem carried out during the last year : 14****Carcasses buried in the University Burial Ground : 466****Revenue generated during the last year : Rs. 41,30,665/-**

# XI. CENTRAL LIBRARY AND INFORMATION NETWORK SERVICES (CLINS)

The University Library, as a subsystem of University Organization, has not only been a division providing services for studies and researches, instead, it has become an important unit of University information infrastructure and an active participant in the learning process of the particular study program. Working hand-in-hand with the University departments and teaching staff, the library services also aim to become an important tool for academic activities. The Library provides a proper learning environment at the university and is characterized by its abundant resources.



Central Library, WBUAFS



## XI.1. Library timings and usages

### Library Hours:

On working days the services of the following sections of all the Libraries of the different campuses remain open as per following schedule:

	Central Library, Belgachia	Library, F/VAS, Mohanpur	Library, F/DT, Mohanpur	Library, F/FSc, Chakgaria
Working hours	10 am- 5.30 pm (Server room upto 7.00 pm)	10 am – 7 pm	10 am – 5.30 pm	10 am – 5.30 pm

## XI.2. Summary of Facilities Available in the Libraries in the different campuses of WBUAFS:

Facilities	Central Library, Belgachia	Library, F/VAS, Mohanpur	Library, F/DT, Mohanpur	Library, F/FSc, Chakgaria
Reference Service	Yes	Yes	Yes	Yes
Online Public Access Cataloguing (OPAC)	Yes (Through KOHA & SOUL 2.0)	Yes (Through KOHA & SOUL 2.0)	Yes (Through KOHA & SOUL 2.0)	Yes (Through KOHA & SOUL 2.0)
User education service, Inter Library Loan service	Yes	Yes	Yes	Yes
Printing Facilities to the library users	Yes	Yes	Yes	-
Resource sharing through Document	Yes	Yes	Yes	Yes
Delivery Service (DDR) e-books (EBSCO) and e-journals access	Yes	Yes (Through RemoteXS)	Yes (Through RemoteXS)	Yes (Through RemoteXS)
Access to Consortium for e-Resources in Agriculture(CeRA) by ICAR.	Yes	Yes (Through RemoteXS)	Yes (Through RemoteXS)	Yes (Through RemoteXS)
Book Bank	-	Yes	-	-
Internet facility	Yes (1 GBPS bandwidth, from NKN)	Yes (Alliance Broadband)	Yes (Alliance Broadband)	Yes (Alliance Broadband)
Wi-Fi facility	Yes	Yes	Yes	Yes
Photocopy facility	-	Yes	Yes	Yes
Electronic ID card for Library Services users and University staff.	Yes	Yes	Yes	Yes

## XI.3. Information on Books/Periodicals/ Serials/Journals:

**Printed Books:-** Upto 2016- 23369 nos.

2016-17 - 870 nos.

2017-18 - 774 nos.

**e-books:** Upto 2016- NIL

2016-17 - 94 nos.

2017-18 - 82 nos.

**e-Journals (foreign):** Upto 2016- NIL

2016-17 - 10 nos.

2017-18 - 10 nos. (8 nos. of journals subscribed in 2017 continued)



**e-Journals (Indian) :** Upto 2016- NIL

2016-17 - 05 nos.

2017-18 - 05 nos. (All the journals subscribed in 2017 continued)

**Printed Indian Journals:**

2016-17- 12 nos.

2017-18- 05 nos. (new)

**XI.4. Service offered by CLINS:**

Same as Library Facilities.

**XI.5. Information on Library Automation:**

- The resources of the Library in terms of printed accessioned books have been entered, catalogued and classified into the Library Management Software.
- Digitization of all PG and Ph.D Theses, Rare books and documents. This documents are entered into the **KrishiKosh**.
- Information hub has been introduced in four libraries.
- Wi-fi Facilities given in four libraries.
- Electronic circulation control system.
- Bar coding of all library document
- Electronic ID cards for library users and University's staff.
- University library has subscribed several e-books and e-journal -.
  - CeRA Journals
  - EBSCO- e-books database
  - E-Journals (Foreign)
  - I-Scholar Journals
  - Indian Journals
  - J-Gate Online Portal
  - **Krishi kosh**: Full text access to Thesis, rare book and documents of all SAUs.
  - Remote XS for accessing the University e-resource from anywhere.

## XII. IMPORTANT PROGRAMS OF THE HONOURABLE VICE CHANCELLOR OF THE UNIVERSITY DURING THE YEAR

Sl. No.	Hon'ble VC's Programs	Venue	Duration (Dates)
1.	Attended the Inaugural function of the XIII Annual Convention of Indian Society for Advancement of Canine Practice as Guest of Honour	Kozhikode	20 <sup>th</sup> – 30 <sup>th</sup> April, 2016
2.	Attended 11 <sup>th</sup> National Symposium of IAUA held at Madras Vety. College.	Chennai	27 <sup>th</sup> -30 <sup>th</sup> May, 2016
3.	Visit to Krishi Anusandhan Bhavan and held meeting with the DDG(Edn), ADG (Edn), ICAR	New Delhi	20 <sup>th</sup> -22 <sup>nd</sup> June, 2016
4.	Visit to the site of New Vety. & Animal Sci. College under WBUAFS	Jalpaiguri	17 <sup>th</sup> - 18 <sup>th</sup> September, 2016
5.	Attended the Symposium organized by Ayurved Ltd. 2016	New Delhi	12 <sup>th</sup> - 13 <sup>th</sup> October,
6.	Attended the meetings with the Officials of ICAR	New Delhi	17 <sup>th</sup> November, 2016
7.	Attended the Inaugural Session of 12 <sup>th</sup> National Conference of the Association of Public Health at Chhatisgarh Kamdhenu Viswavidyalaya	Raipur	2 <sup>nd</sup> – 3 <sup>rd</sup> December, 2016
8.	Attended the Interface meeting with the Officials of ICAR	Patna	18 <sup>th</sup> – 19 <sup>th</sup> December, 2016
9.	Attended the meetings with the Officials of ICAR	New Delhi	22 <sup>nd</sup> – 23 <sup>rd</sup> December, 2016
10.	Attended the Conference and Inaugural Programme of the National Canine Congress	New Delhi	8 <sup>th</sup> – 10 <sup>th</sup> February, 2017
11.	Participated in the 12 <sup>th</sup> National Symposium hosted by SHUATS	Allahabad	26 <sup>th</sup> – 28 <sup>th</sup> April, 2017
12.	Attended the meetings with the DDG (Edn) & ADG (Edn), ICAR	New Delhi	7 <sup>th</sup> -8 <sup>th</sup> June, 2017
13.	Attended meeting at Veterinary Council of India (VCI) in New Delhi.	New Delhi	16 <sup>th</sup> -17 <sup>th</sup> August, 2017
14.	Attended the Inaugural Programme of ICAR National Institute of Animal Nutrition & Physiology	Adugodi	31 <sup>st</sup> Aug. - 9 <sup>th</sup> Sep. 2017
15.	Attended meetings with the ICAR Officials	New Delhi	24 <sup>th</sup> Oct. - 1 <sup>st</sup> Nov. 2017
16.	Participated in the 42 <sup>nd</sup> Vice-Chancellors' Conference	Udaipur	16 <sup>th</sup> – 18 <sup>th</sup> November, 2017
17.	Participated in the International Congress on Canine Practice along with Symposium	Gannavaram	6 <sup>th</sup> – 8 <sup>th</sup> February, 2018
18.	Attended meetings with the Officials of ICAR	New Delhi	13 <sup>th</sup> – 14 <sup>th</sup> February, 2018
19.	Attended the 18 <sup>th</sup> Indian Vety. Congress & XXV Annual Conference of IIAVR cum National Symposium	Tirupati	22 <sup>nd</sup> – 25 <sup>th</sup> February, 2018
20.	Attended the Annual Vice-Chancellors' Conference and meetings with the ICAR Officials.	New Delhi	7 <sup>th</sup> – 8 <sup>th</sup> March, 2018

### XIII. IMPORTANT EVENTS, EMINENT VISITORS, ACTIVITIES & ACHIEVEMENTS

West Bengal University of Animal & Fishery Sciences passed through series of events during 2016-18. Some of the important activities that took place in the University are as follows :

#### XIII.1. IMPORTANT EVENTS / ACHIEVEMENTS

##### XIII.1.1. ELEVENTH CONVOCATION

The ceremony of Eleventh Convocation of the University took place on 15<sup>th</sup> June, 2017 at University Headquarters, Belgachia, Kolkata. His Excellency, the Governor of West Bengal and Chancellor of the University Hon'ble Sri Keshari Nath Tripathi was present during inauguration of the convocation and presided over the ceremony. The University conferred the Degree of Doctor of Science (Honoris Causa) to Padmashri Tushar Kanjilal, an eminent educationist and social activist, paying regards to his activities for upliftment of people as well as conservation of flora and fauna in the Sunderban area of the State



*Padmashri Tushar Kanjilal receiving  
D.Sc. (Honoris Causa) from Hon'ble Chancellor*



*A student receiving the degree from  
the Hon'ble Chancellor and Vice-Chancellor*

Sri Swapan Debnath, Hon'ble Minister of State (Independent Charge), Deptt. of Animal Resource Development and Sri Chandranath Sinha, Hon'ble Minister Incharge, Deptt. of Fisheries graced the occasion as Guests of Honour.

Hon'ble Chancellor, in his speech, encouraged the degree recipients and expressed his desire towards the recipients to actively contribute in bringing changes in the society to fulfill the dreams of shining India and prosperous West Bengal. Chief Guest Dr. Partha Chatterjee, Hon'ble Minister Incharge, Deptt. Of Higher Education was unable to attend the programme and conveyed his best wishes to the students on their attainments. Hon'ble MOS (Independent Charge), ARD Deptt., Govt. of West Bengal wished the out-going students a bright future. Hon'ble Vice-Chancellor presented the status of the state grants released for the purpose of infrastructural development of the University campuses. He also discussed about the achievements of the students and teachers of the faculty in several programs throughout the year. All the dignitaries expressed their contentment about the performances of the University in the different fields.

Seventeen scholars were awarded Ph.D degree, while sixty five and seventy seven students were conferred their Master's and Bachelor's degree respectively covering all the three faculties of the University. Twenty five Gold Medals were awarded to the degree recipients in recognition of their academic excellence.





Dr. Amit Mitra, Hon'ble Minister Incharge, Deptt. Of Finance & Industry, Govt. of West Bengal focused on different projects of the State Govt. on development of Agriculture viz., Kishan Credit Card, new agricultural technologies adopted, old-age stipend for farmers, marketing strategies adopted in different regions of the state alongwith statistical data for the same. Sri Purnendu Bose, Hon'ble Minister Incharge, Deptt. Of Agriculture highlighted the efforts of Hon'ble Chief Minister towards enhancement of agricultural production. Sri Chandranath Sinha, Hon'ble Minister Incharge, Deptt. Of Fisheries also presented a picture on development of fisheries sector of the state. At the concluding session, Prof. S.S. Dana, Registrar, WBUAFS thanked the dignitaries for making the programme a success.

### **XIII.1.1. CELEBRATION OF 24<sup>TH</sup> FOUNDATION DAY OF WBUAFS & 125 YEARS OF BENGAL VETERINARY COLLEGE**



chair of Chief Guest. The day long programme started with hoisting of University Flag by the Hon'ble Vice-Chancellor in presence of august gathering. In the inaugural programme, awards were distributed to the best faculty members, best staff and best parenting to the selected university employees. Cultural programmes were organized which continued till night.

In another ceremony on 10<sup>th</sup> January, 2018, 125 years of Bengal Veterinary College was celebrated. The commemoration programme was celebrated in the presence of Sri Partha Chatterjee, Hon'ble Minister Incharge, Deptt. Of Higher Education, Govt. of West

Bengal as Chief Guest and Sri Swapan Debnath, Hon'ble Minister Of State (Independent Charge), Deptt. Of Animal Resource Development as Guest of Honour.

Several scientific, technical, cultural and sports meets were organized during the week of celebration of both the events.



#### XIII.1.4. FARMERS' MEET (KRISHAKER MUKHOMUKHI)

An Interface Meeting of Farmers', Scientists' and Agri-reporters/ Journalists/ Editors entitled "KRISHAKER MUKHOMUKHI" was organized by the Directorate of Research, Extension & Farms, WBUAFS on 4<sup>th</sup> January, 2018 in the VCI Auditorium at Belgachia Campus. The theme of the interface meet was "Role of Farmers-Scientist and Agri-print and electronic media for Agricultural development and convergence". Around 200 farmers from different districts of the state and journalists/editors from reputed agricultural journals and newspapers participated in the meeting. Representatives from Doodrdarshan







Kendra, Kolkata and other Television channels were also present in the meeting. An interaction session of scientists-farmers-journalists was an important attraction of the day. Some farmers presented and discussed their experiences in the field using audio-visual aids.

### **XIII. 2. DISTINGUISHED VISITORS IN THE UNIVERSITY**

1. Sri Keshari Nath Tripathi, His Excellency, Governor of West Bengal and Hon'ble Chancellor of the University.
2. Dr. Partha Chatterjee, Hon'ble Minister in Charge, Department of Higher Education
3. Dr. Amit Mitra, Hon'ble Minister Incharge, Deptt. Of Finance & Industry, Govt. Of West Bengal
4. Sri Purnendu Bose, Hon'ble Minister Incharge, Deptt. Of Agriculture, Govt. Of West Bengal
5. Sri Swapan Debnath, Hon'ble Minister of State (Independent Charge), Department of Animal Resource Development, Govt. of West Bengal
6. Sri Chandranath Sinha, Hon'ble Minister Incharge, Deptt. of Fisheries, Govt. of West Bengal
7. Sri Pradip Majumdar, Chief Advisor of Agriculture to Hon'ble Chief Minister, Govt. Of West Bengal
8. Padmashri Tushar Kanjilal, eminent educationist and social activist
9. Sri Sanjiv Chopra, Additional Chief Secretary and Principal Secretary, Deptt. Of Agriculture, Govt. Of West Bengal
10. Dr. J.K. Jena, DDG (Fishery), ICAR, New Delhi
11. Prof. D.D.Patra, Hon'ble Vice Chancellor, BCKV
12. Prof. S.K. Ghosh, Hon'ble Vice Chancellor, Kalyani University
13. Dr. S.S. Singh, Director, ICAR ATARI, Kolkata
14. Forty One Vice-Chancellors from different State Agricultural Universities of the country for attending the Vice-Chancellors' Conference

#### XIV. IMPORTANT CONTACTS

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11	University website	<a href="http://wbuafscl.ac.in">http://wbuafscl.ac.in</a>	

**XV. EDITORIAL BOARD****ANNUAL REPORT  
2016 - 2018**

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