



ANNUAL REPORT

2018-19



**POMOLOGY AND POSTHARVEST TECHNOLOGY
FACULTY OF HORTICULTURE**

Uttar Banga Karishi Viswavidyalaya

Pundibari : Cooch Behar

ANNUAL REPORT

2018-2019



Pomology and Post-Harvest Technology
Uttar Banga Krishi Viswavidyalaya
Pundibari: Cooch Behar



PREFACE

I'm pleased to share the Annual Report for the year 2018-19 from the Pomology and Postharvest Technology Department. This report tells you about what we did in teaching, research, and other work. In West Bengal, especially in the northern part, we have great land and weather for growing subtropical fruits. But most fruits don't grow well because of problems like not enough nutrients, pests, diseases, and bad farming practices.

To fix these problems, our department is working hard. We want to help more farmers grow subtropical fruits by teaching them better ways to farm, using the right nutrients, trying new types of fruits, and making sure fruits stay fresh after they're picked.

Growing fruits and taking care of them after picking can give farmers more money for the land they have. Our department can help with food, jobs, and reducing poverty. In our seventeen years journey, we've become really good at teaching, researching, and helping farmers.

Making our department a great place for learning, research, and sharing new ideas is very important. It can be tough because we don't have all the resources we need right now, but I believe we can overcome these challenges together and make our department even better.

I want to thank our teachers, staffs and the students for working hard and making a difference. Their dedication and commitment are truly appreciated as we work together to achieve our goals.

(PRODYUT KR PAUL)

A. TEACHING AND NON- TEACHING STAFFS OF THE DEPARTMENT

1) TEACHING STAFF

a) **Cadre Posts:** Professor – 1, Associate Professor –2, Assistant Professor –3

b) **Present Strength :**

| Sl. No. | Name | Designation | Date of joining | Contact number | Email ID | Remark |
|---------------|--------------------|--|---------------------------------|----------------|------------------------------|----------|
| 1. | Prof. P. K. Paul | Professor & Head | 10.12.2001 | 8016425515 | prodyut24@yahoo.com | - |
| 2. | Dr. N. Bhowmick | Associate Professor | 27.11.2007 | 9433438982 | nileshbhowmick@gmail.com | - |
| 3. | Dr. M. P. Devi | Assistant Professor (Stage-2) | 07.07.2014 | 7063102366 | preema.horti@gmail.com | - |
| 4. | Dr. A. Chakraborty | Assistant Professor (Stage-2) | 20.10.2014 | 9432842864 | aditi.chatterjee10@gmail.com | - |
| Guest Teacher | | | | | | |
| 1. | Mr. A. Chhetri | Guest Lecturer (Fruit Science) | 10.09.2018 | 7085857595 | chhetriash@gmail.com | - |
| 2. | Ms. K. Dey | Guest Lecturer (Post Harvest Technology) | 04.09.2018 (Left on 26.11.2018) | 9735800535 | koyeldey02@gmail.com | Resigned |

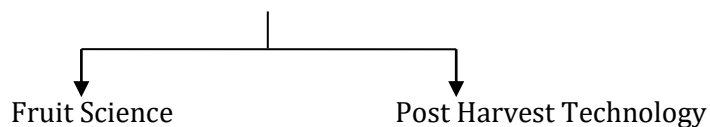
2) NON-TEACHING STAFF

| Sl. No. | Name | Designation | Date of joining | Contact number | Remark |
|---------|---------------------|------------------------------|-----------------|----------------|------------|
| 1. | Mr. Nitish Ch. Saha | Technical Assistant, Grade-I | 03.7.1989 | 7319555043 | Continuing |
| 2. | Mr. Ananda Sarkar | Laboratory Attendant | 01.09.2008 | 9064088820 | Continuing |

3) STUDENT STRENGTH

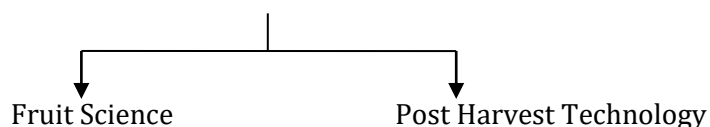
a) **B.Sc. (Hort.) Hons:-**30 in each Academic Session under the Faculty of Horticulture

b) **M. Sc. Students:** M. Sc. (Horticulture) in



- 2 per teacher/ each academic session

c) **Ph.D. Students:**



2 University Research Scholar in each academic session (Max 4 student per eligible teacher at a time)

4) DEPARTMENTAL ACTIVITIES

(i) Teaching Programme

(a) Courses Offered in UG level

| Sl. No. | Course No. | Course Title | Credit | Course Leader | Associated teachers |
|---------|------------|--|--------|--------------------|--|
| 1. | PPT 101 | Fundamentals of Horticulture | 1+1 | Dr. N. Bhowmick | Mr.Ashok Chhetri Dr. S. Sikder (Dept. of VSC) |
| 2. | PPT 102 | Plant Propagation & Nursery Management | 1+1 | Dr. N. Bhowmick | Mr.Ashok Chhetri Ms. Koyel Dey |
| 3. | PPT 151 | Orchard & Estate Management | 1+1 | Dr. N. Bhowmick | Dr. A. Chakraborty |
| 4. | PPT 152 | Dry Land Horticulture | 1+1 | Dr. A. Chakraborty | Mr.Ashok Chhetri |
| 5. | PPT 201 | Temperate Fruit Crops | 1+1 | Dr. N. Bhowmick | Dr. S. Gurung |
| 6. | PPT 251 | Tropical & Sub-Tropical Fruits | 3+1 | Dr. N. Bhowmick | Dr. A. Chakraborty Mr.Ashok Chhetri |
| 7. | PPT 252 | Production Technology of Fruit & Plantation Crops | 1+1 | Dr. A. Chakraborty | Mr.Ashok Chhetri Dept. of PCP |
| 8. | PPT 301 | Post Harvest Management of Horticultural Crops | 2+1 | Dr. M. Preema Devi | Dr. P. K. Paul Prof. R.K.Pal Ms. Koyel Dey |
| 9. | PPT 301 | Post Harvest Management of Horticultural Crops (4 th Deans' Committee) | 2+1 | Dr. P. K. Paul | Ms. Koyel Dey |
| 10. | PPT 302 | Post Harvest Management & Value Addition of Fruits & Vegetables (4 th Deans' Committee) | 1+1 | Dr. P. K. Paul | Dr. M. Preema Devi Ms. Koyel Dey |
| 11. | PPT 303 | Fundamentals of Food Technology | 1+1 | Dr. P. K. Paul | Ms. Koyel Dey |
| 12. | PPT 351 | Breeding of fruits and Plantation Crops | 2+1 | Dr. A. Chakraborty | Dr. N. Bhowmick Dept. of PCP |
| 13. | PPT 352 | Principles of Food Science and Nutrition | 2+0 | Dr. P. K. Paul | Dr. M. Preema Devi |
| 14. | PPT 353 | Post Harvest Management & Value Addition of Fruits & Vegetables | 1+1 | Dr. P. K. Paul | Dr. M. Preema Devi |
| 15. | ELC 352 | Food Safety and Standards | 2+1 | Dr. M. Preema Devi | Dr. H. S. Konar (F/Tech) Dr. Ayon Roy (Plant Pathology) |
| 16. | PCP 351 | Processing of Horticultural Crops (Offered from Plantation Crops & Processing) | 1+2 | Teachers of PCP | Dr. M. Preema Devi |
| 17. | PCP 151 | Growth and development of Horticultural Crops | 1+1 | Teachers of PCP | Dr. A Chakraborty |

| | | | | | |
|-----|----------|---|-----|-------------------------------|--------------------|
| | | (Offered from Plantation Crops & Processing) | | | |
| 18. | HORT 152 | Principles of Horticultural Crops and Plant protection (Offered from Faculty of Technology) | 1+1 | Dr. J. C. Jana (Dean, F/Hort) | Dr. M. Preema Devi |

(b) Courses Offered for M.Sc.

| Sl. No. | Course No | Course Title | Credit | Course Leader | Associated teachers |
|---------|-----------|---|--------|--------------------|--|
| 1. | FSC 501 | Tropical & Subtropical Fruit Production I | 2+1 | Dr. N. Bhowmick | Mr.Ashok Chhetri |
| 2. | FSC 502 | Tropical & Subtropical Fruit Production II | 2+1 | Dr. A. Chakraborty | Mr.Ashok Chhetri |
| 3. | FSC 503 | Temperate Fruit Production Technology | 2+1 | Dr. N. Bhowmick | Prof. S. K. Mitra (Adjunct Professor) Mr.Ashok Chhetri Ms. Koyel Dey |
| 4. | FSC 504 | Breeding of Fruit Crops | 2+1 | Dr. A. Chakraborty | Dr. N. Bhowmick Mr.Ashok Chhetri |
| 5. | FSC 505 | Propagation and Nursery management of Fruit Crops | 2+1 | Dr. N. Bhowmick | Mr.Ashok Chhetri Ms. Koyel Dey |
| 6. | FSC 506 | Growth & Development of Fruit Crops | 2+1 | Dr. A. Chakraborty | Mr.Ashok Chhetri Ms. Koyel Dey |
| 7. | FSC 507 | Canopy Management in Fruit Crops | 1+1 | Dr. N. Bhowmick | Prof. S. K. Mitra (Adjunct Professor) Mr.Ashok Chhetri Ms. Koyel Dey |
| 8. | PHT 501 | Post Harvest Physiology and Biochemistry of Fruits and Vegetables | 2+1 | Dr. P. K. Paul | Dr. M. P. Devi, Ms. Koyel Dey |
| 9. | PHT 502 | Post Harvest Management of Fruits & Vegetables | 2+1 | Dr. M. Preema Devi | Dr. P. K. Paul Ms. Koyel Dey Prof. R. K. Pal (Adjunct Professor) |
| 10. | PHT 503 | Principles and methods of Fruits and vegetable processing | 2+1 | Dr. P. K. Paul | Dr. M. Preema Devi |
| 11. | PHT 504 | Storage Systems & Operations | 2+0 | Dr. P. K. Paul | Dr. M. Preema Devi |
| 12. | PHT 505 | Packaging of fresh and processed Horticultural Produce. | 1+1 | Dr. P. K. Paul | Dr. M. Preema Devi Ms. Koyel Dey Prof. R. K. Pal (Adjunct Professor) |

| | | | | | |
|-----|---------|---|-----|-------------------------------------|--|
| 13. | PHT 506 | Post Harvest Technology of ornamentals | 1+1 | Dr. M. Preema Devi | Dr. A. M. Khan (FLA) |
| 14. | PHT 507 | Processing of Plantation, Spices, Medicinal and Aromatic Plants | 1+1 | Dr. M. Preema Devi | Dr. P. K. Paul Ms. Koyel Dey Dr. S. Das (PSMA) |
| 15. | PHT 508 | Spoilage of fruits, vegetables and processed products | 2+1 | Dr. P. K. Paul | Dr. M. Preema Devi Ms. Koyel Dey |
| 16. | FSC 591 | Masters' Seminar-I | 1+0 | Dr. A. Chakraborty (Seminar Leader) | *** |
| 17. | PHT 591 | Masters' Seminar-I | 1+0 | Dr. A. Chakraborty (Seminar Leader) | *** |
| 18. | FSC 592 | Masters' Seminar-II | 0 | Dr. A. Chakraborty (Seminar Leader) | *** |
| 19. | PHT 592 | Masters' Seminar-II | 0 | Dr. A. Chakraborty (Seminar Leader) | *** |

(c) Courses offered for Ph.D.

| Sl. No. | Course No | Course Title | Credit | Course Leader | Associated teachers |
|---------|-----------|---|--------|-------------------------------------|---------------------|
| 1. | FSC 601 | Breeding of Fruit Crops | 2+1 | Dr. N. Bhowmick | Dr. A. Chakraborty |
| 2. | FSC 602 | Advances in production of fruit crops - I | 2+1 | Dr. N. Bhowmick | Dr. A. Chakraborty |
| 3. | FSC 605 | Commercial Fruit Nursery | 2+1 | Dr. N. Bhowmick | Dr. A. Chakraborty |
| 4. | PHT 601 | Advances in Postharvest handling of perishables | 2+1 | Dr. M. Preema Devi | Dr. P. K. Paul |
| 5. | PHT 602 | Advances in Postharvest physiology | 2+0 | Dr. P. K. Paul | Dr. M. P. Devi |
| 6. | PHT 603 | Advances in Food Preservation | 2+0 | Dr. P. K. Paul | Dr. M. P. Devi |
| 7. | PHT 691 | Doctoral Seminar-I | 1+0 | Dr. A. Chakraborty (Seminar Leader) | *** |
| 8. | FSC 691 | Doctoral Seminar-I | 1+0 | Dr. A. Chakraborty (Seminar Leader) | *** |
| 9. | FSC 692 | Doctoral Seminar-II | 1+0 | Dr. A. Chakraborty (Seminar Leader) | *** |

* i) Prof. S. K. Mitra, Chairman, Workgroup Jackfruit & Other Moraceae, International Society for Horticulture Sciences & Ex-Dean, Post Graduate Studies, BCKV as Adjunct Professor

ii) Dr. R. K. Pal, Ex-Director, ICAR-National Research Centre for Pomegranate, Sholapur, Maharashtra & Ex-Head, Division of Post-Harvest Technology, ICAR-Indian Agricultural Research Institute, New Delhi as Adjunct Professor

(ii) Students of the Department:**a) Master Degree**

| Sl. No. | Name of the students | Semester | Thesis title | Advisory committee |
|---------|--|--|---|---|
| 1. | Bijayanka Baidya (H-2016-1-M) | Completed | Effect of Pre-harvest spray on shelf life quality of Strawberry. | Prof. P. K. Paul (Chairman) Dr. A. Chakraborty Dr. M. Preema Devi Mrs. Shrulekha Das |
| 2. | Jannila Praveena (H-2016-6-M) | Completed | Role of pollen on fruit characteristics of selected guava genotype. | Dr. Aditi Chakraborty (Chairman) Dr. Nilesh Bhowmick Dr. A. N. Dey Dr. Arup Sarkar |
| 3. | Sri Surya Venkatadevi Prasanna (H-2016-10-M) | Completed | Effect of planting density and paclobutrazol on flowering and fruiting characteristics of Pineapple (<i>Ananas comosus</i> L. Merr) cv. Mauritius. | Mr. Nilesh Bhowmick (Chairman) Dr. A. Chakraborty Prof. S. Maitra Dr. M. K. Debnath |
| 4. | Deep Ghosh (H-2018-006-M) | 1 st and 2 nd Semester | Study in plant morphology, floral biology, fruiting behaviour of ber | Dr. A. Chakraborty (Chairman) Dr. Nilesh Bhowmick, Dr. A.N. Dey Dr. P.S. Medda Dr. Moumita Chakraborty |
| 5. | Deepak S. Kore (H-2018-007-M) | 1 st and 2 nd Semester | Effect of mutagen on seed germination and seedling growth behavior of acid <i>Citrus aurantifolia</i> | Dr. A. Chakraborty (Chairman) Dr. Nilesh Bhowmick Prof. P. K. Paul Dr. Avijit Kundu Dr. A. Ghosh |
| 6. | R. Sumasree (H-2018-017-M) | 1 st and 2 nd Semester | Effect of polyamines on postharvest quality of banana | Prof. P. K. Paul (Chairman) Dr. M. Preema Devi Dr. Nilesh Bhowmick Dr. Ranjit Chaterjee Dr. Sankalpa Ojha |
| 7. | Saidiksha Subba (H-2018-020-M) | 1 st and 2 nd Semester | Flowering, Fruiting characteristics and response of girdling on yield attributes of Litchi | Dr. Nilesh Bhowmick (Chairman) Dr. A. Chakraborty Dr. Puspendu Datta Prof. P.S. Medda |
| 8. | Jinnamu Aresh (H-2017-02-M) | 3 rd and 4 th Semester | Effect of microbial isolates in removing ethylene for delayed ripening. | Prof. P. K. Paul (Chairman) Prof. A. Choudhury Dr. M. Preema Devi Dr. Surajit Khalko |
| 9. | Binita Baidya (H-2017-04-M) | 3 rd and 4 th Semester | Quality assessment of dried chrysanthemum flower as affected by pre drying and storage condition. | Dr. M. Preema Devi (Chairman) Prof. P. K. Paul Dr. A. Mondal Khan Dr. S. Khalko |
| 10. | Nim Tshering Sherpa (H-2017-08-M) | 3 rd and 4 th Semester | Standardization of seed germination and stem cutting of <i>Baccaurea sapida</i> Muell. Arg. | Dr. A. Chakraborty (Chairman) Dr. Nilesh Bhowmick Dr. A. N. Dey Dr. Nandita Sahana |

| | | | | |
|-----|-------------------------------------|--|--|---|
| 11. | Novin Chamling (H-2017-09-M) | 3 rd and 4 th Semester | Effect of Secondary Hardening media on field performance of banana (Musa AAB) cv. Malbhog. | Dr. Nilesh Bhowmick (Chairman) Dr. A. Chakraborty Dr. Soumen Maitra Dr. Hossain Ali Mondal Dr. Surajit Khalko |
| 12. | Santosh Kumar G.M. (H-2017-14-M) | 3 rd and 4 th Semester | Response of shoot pruning on growth, flowering and fruiting characteristics of guava (<i>Psidium guajava</i> L.) under Sub - Himalayan Terai Region of West Bengal. | Dr. Nilesh Bhowmick (Chairman) Dr. A. Chakraborty Dr. A. N. Dey Dr. Puspendu Dutta |

b) Doctoral Degree

| Sl. No. | Name of the students | Semester | Thesis title | Advisory committee |
|----------------|--|--|--|--|
| 1. | Bidyarani Devi Senjam (H-2018-04-D) | 1 st and 2 nd Semester | Studies on genetic variability and standardization of propagation techniques in pummelo [<i>Citrus grandis</i> (L). Osbeck.] | Dr. Nilesh Bhowmick (Chairman) Dr. Prodyut Kr. Paul Dr. Sarad Gurung Dr. Hossain Ali Mondal Dr. Amarendra Nath Dey |
| 2. | Polu Parameshwar (H-2018-12-D) | 1 st and 2 nd Semester | Impact of Rejuvenation, shoot pruning on vegetative, flowering, fruiting characteristics and pest incidence of Mango | Dr. Nilesh Bhowmick (Chairman) Dr. Prodyut Kr. Paul Prof. Partha Sarathi Medda Dr. Shyamul Kr Sahoo Dr. Surajit Khalko |
| 3. | Md Shamsher Ahmed (H-2018-11-D) | 1 st and 2 nd Semester | Process optimization for preparation and evaluation of debittered juice from pummel fruit | Dr. Mutum Preema Devi (Chairman) Dr. Prodyut Kr. Paul Dr. Nilesh Bhowmick Dr. Manoj Kanti Debnath Dr. Nandita Sahana |
| 4. | Srujana Eda (H-2018-17-D) | 1 st and 2 nd Semester | Evaluation of ambient temperature dryer for dehydration of perishables | Dr. Prodyut Kr. Paul (Chairman) Dr. Mutum Preema Devi Dr. Shrelekha Das Dr. Somnath Mandal Dr. Nandita Sahana |
| 5. | Kondle Ravi (H-2017-04-D) | 2 nd and 3 rd Semester | Effect of pruning and nutrient management on the performance of acid lime (<i>Citrus aurantifolia</i> Swingle) cv. Balaji under Sub-Himalaya Terai Region of WB | Dr. Sarad Gurung (Chairman) Dr. Nilesh Bhowmick Prof. P. K. Paul Dr. D. Mukhopadyay |
| 6. | Sukanya Misra (H-2016-05-D) | 4 th and 5 th Semester | Effect of plant population and mulching on strawberry (<i>Fragaria ananassa</i>) cultivation under Terai Region of West Bengal. | Dr. Sarad Gurung (Chairman) Prof. P. K. Paul Dr. A. Chakraborty Dr. P. S. Medda Dr. M. K. Debnath |

(iii) Research Programme**(a) Departmental Research programme:**

| Sl. No. | Title | Associated Teacher | Status |
|---------|---|---|------------|
| 1. | Pre-harvest spray on shelf life quality of Strawberry | Prof. P. K. Paul | Completed |
| 2. | Role of pollen on fruit characteristics of guava genotype. | Dr. Aditi Chakraborty | Completed |
| 3. | Effect of planting density and paclobutrazol on flowering and fruiting characteristics of Pineapple | Dr. Nilesh Bhowmick | Completed |
| 4. | Study in plant morphology, floral biology, fruiting behavior of ber | Dr. A. Chakraborty Dr. Nilesh Bhowmick | Continuing |
| 5. | Effect of mutagen on seed germination and seedling growth behavior of acid <i>Citrus aurantifolia</i> | Dr. A. Chakraborty Dr. Nilesh Bhowmick | Continuing |
| 6. | Effect of polyamines on postharvest quality of banana | Prof. P. K. Paul Dr. M. Preema Devi | Continuing |
| 7. | Flowering, Fruiting characteristics of litchi | Dr. Nilesh Bhowmick Dr. A. Chakraborty | Continuing |
| 8. | Response of shoot pruning on growth, flowering and fruiting characteristics of guava | Dr. Nilesh Bhowmick Dr. A. Chakraborty | Continuing |
| 9. | Standardization of stem cutting of <i>Burmese grape</i> | Dr. A. Chakraborty | Continuing |
| 10. | Effect of hardening media on performance of banana | Dr. Nilesh Bhowmick | Continuing |
| 11. | Efficacy of microbial isolates in removing ethylene | Prof. P. K. Paul | Continuing |
| 12. | Quality assessment of dried chrysanthemum flower as affected by pre drying and storage condition. | Dr. M. Preema Devi Prof. P. K. Paul | Continuing |
| 13. | Effect of plant population and mulching on strawberry cultivation under Terai Region of West Bengal. | Dr. S. Gurung (RRS, Hill Zone) | Continuing |
| 14. | Effect of pruning and nutrient management on the performance of acid lime | Dr. S. Gurung (RRS, Hill Zone) | Continuing |
| 15. | Studies on morpho-genetic variability of pummelo | Dr. Nilesh Bhowmick | Continuing |
| 16. | Rejuvenation, and shoot pruning of mango | Dr. Nilesh Bhowmick | Continuing |
| 17. | Development of debittered juice from pummelo fruit | Dr. M. Preema Devi | Continuing |
| 18. | Evaluation of ambient temperature dryer for dehydration of perishables | Prof. P. K. Paul | Continuing |

(b) Project Handled

| Sl. No. | Project Title | Sponsoring Authority | Associate Teacher |
|---------|--|--|--|
| 1. | Quality Control Laboratory | MoFPI, GOI | Prof. P. K. Paul- Principal Investigator (PI) |
| 2. | Survey, Documentation, Collection and Maintenance of Jackfruit (<i>Artocarpus heterophyllus</i> Lam.) Germplasm Grown Under the Northern Parts of West Bengal | Institutional Project (UBKV) (01.4.16-31.3.19) Rs. 2,54 lacs | Dr. N. Bhowmick-PI |
| 3. | Performance of Intercropping for | Dept. of Science & | Dr. N. Bhowmick- |

| | | | |
|--|---|---|----|
| | Profitability in Juvenile Orchard & Standardization of Vegetative Propagation Methods of Jackfruit for Quality Planting Materials | Technology and Biotechnology, GoWB [Memo no. 163 (Sanc) /ST/P/S&T/1 G-8/2018 dt 14.02.2019] | PI |
|--|---|---|----|

(c) Research findings

Strawberry (from Thesis)

An experiment was conducted to evaluate the effect of pre harvests spray on shelf life of fruit and to study the shelf life and quality of the fruit as influenced by pre-harvest spray. CaCl₂ spray showed the best result with respect to minimum loss in physiological weight, maximum total soluble solid, reducing sugar and total sugar. Fruits from T₅ also found to retain its texture after 3 days of storage and the fruit were less acidity.

Guava (from Thesis)

One Red Fleshed pollen donor plant and five white fleshed genotypes as female parent were pre-selected for guava improvement programme by making three types of crosses viz., restricted crossing, restricted selfing and open pollination. Result revealed that peak time of anthesis varied with the cultivars and majority of flowers opened during 5.45-6.30 am. Viability of the pollen was observed to be 99.5%. It was concluded that the fruit setting percentage is highest in case of open pollination. In case of self-pollination and cross pollination the fruit setting percentage was less as compare to open pollination. Among the five guava genotypes L-49 × Red Fleshed thrive best results. The effects of cross-pollination on physiochemical characters, such as total soluble solids (TSS), vitamin C and total sugar were statistically significant. Red Fleshed genotype as polliniser in a mixed guava orchard may be utilized for better polliniser and donor of different improved horticultural traits.

Pineapple

Findings from Research paper

Paclobutrazol concentrations ranging from 100ppm to 300ppm were used for comparing the yield, fruit quality and flowering characteristics of pineapple. Highest yield including crown (42.73t/ha) was recorded in Paclobutrazol @ 100 ppm at 8 months after planting +9 months after planting compared with the control (36.78t/ha). Paclobutrazol application also resulted in increase of crop availability period by 41days with 100 ppm at 8 months after planting +9 months after planting. Paclobutrazol @100ppm applied 8 months after planting showed lowest duration (55.32 days) for red heart initiation and for 50 per cent flowering (67.26 days)

To standardise spacing for pineapple cv. Mauritius in Terai zone of West Bengal, the present experiment was conducted at the Instructional Farm of Pomology and Post-harvest Technology, UBKV, Pundibari. Results revealed that different spacing (ranging from 64000 plants/ha to 29,630 plants/ha) had significant effect for yield and quality. Highest fruit yield with crown (52.59t/ha) was observed in the treatment with higher spacing of 64,000 plants/ha and highest fruit weight with crown (1290g) was observed in the treatment with lower spacing of 29,630 plants/ha. But to compromise with the spacing and fruit size with aim for better intercultural operations recommended spacing for

pineapple cv Mauritius for Terai region of West Bengal may be in between the highest and lowest density i.e., 45714 plants/ha where both the fruit yield and fruit size were satisfactory.

(iv) Developmental Programme:

| Sl. No. | Title | Associated Teacher | Status |
|---------|--|---|------------|
| 1. | Collection and maintenance of different strawberry cultivar | Dr. N. Bhowmick Dr. A. Chakraborty | Completed |
| 2. | Establishment of litchi orchard var Bedana | Dr. N. Bhowmick Dr. M. Preema Devi | Completed |
| 3. | Maintenance of Fruit Nursery for production of quality planting materials | Dr. N. Bhowmick | Continuing |
| 4. | Development and maintenance of different pineapple varietal block | Dr. N. Bhowmick | Continuing |
| 5. | Maintenance of Assam Lemon block and propagation practices for raising of saplings | Dr. N. Bhowmick | Continuing |
| 6. | Maintenance of Litchi Varietal block and propagation practices for raising of saplings | Dr. N. Bhowmick | Continuing |
| 7. | Collection of different banana germplasm and establishment of banana block | Dr. N. Bhowmick | Continuing |
| 8. | Maintenance of guava varietal block and propagation practices for raising of saplings | Dr. N. Bhowmick | Continuing |
| 9. | Maintenance of mango mother block | Dr. N. Bhowmick | Continuing |
| 10. | Maintenance of mango varietal block | Dr. N. Bhowmick Dr. A. Chakraborty | Continuing |
| 11. | Maintenance of mother block of litchi and guava for raising of saplings | Dr. N. Bhowmick Dr. A. Chakraborty | Continuing |
| 12. | Maintenance of citrus rootstock, water apple orchard | Dr. M. Preema Devi | Continuing |
| 13. | Development and maintenance of jackfruit genotypes block | Dr. N. Bhowmick Dr. A. Chakraborty Dr. M. Preema Devi | Completed |

5) PUBLICATIONS

A. Book Published

- i. Bhowmick, N., Bauri, F. K., Mani, A., Thakur., P. K., Sharma, S. (2018). Advances in Post Harvest Management, Processing and Value Addition of Horticultural Crops Part 1: Fruits and Flower Crops, Today & Tomorrow's Printers and Publishers, New Delhi-110002, ISBN-81-7019-618-6, pp.1-455 (Edited book)

B. Research Paper

- i) Dey, K., Ghosh, A., Bauri, F. K., Bhowmick, N., Dey, A. N., Mishra, D. K. and Das., B. C. (2018). Barbados cherry: Agriculture, breeding, utilization and role in nutritional and economical security-A review. *Agricultural Reviews*, **39**(2):144-150, Print ISSN:0253-1496 / Online ISSN:0976-0539, NAAS Rating-4.37
- ii) Prasanna, V. S. S. V., Bhowmick, N., Chakraborty, A., Debnath, M.K. (2018). Effect of paclobutrazol on flowering characteristics and leaf chlorophyll content of pineapple

[*Ananas comosus* (L.) Merr.] cv. Mauritius. *International Journal of Current Microbiology and Applied Sciences*, 7(11):2125-2129, NAAS Rating-5.38

iii) Prasanna, V. S. S. V., Bhowmick, N., Debnath, M.K., Chakraborty, A. (2018). Effect of planting densities on vegetative growth characteristics and flowering percentage in pineapple [*Ananas comosus* (L.) Merr.] cv. Mauritius. *International Journal of Current Microbiology and Applied Sciences*, 7(12):162-168, NAAS Rating-5.38

iv) Prasanna, V. S. S. V., Bhowmick, N. (2018). Effect of planting densities on fruiting characteristics of Pineapple [*Ananas comosus* (L.) Merr.] cv. Mauritius. *International Journal of Chemical Studies*, 6(6): 1773-1776, ISSN: 2349-8528, NAAS Rating-5.31

v) Prasanna, V. S. S. V., Bhowmick, N., Chakraborty, A., Debnath, M.K. (2018). Effect of paclobutrazol on fruiting characteristics of pineapple [*Ananas comosus* (L.) Merr.] cv. Mauritius. *International Journal of Chemical Studies*, 6(6): 1013-1017, ISSN: 2349-8528, [NAAS Rating-5.31]

6) EXTENSION PROGRAMME

(a) Radio Talk

| Sl. No. | Topic | Resource Person |
|---------|--|-----------------------|
| 1. | New dimension on pineapple cultivation (Anaras chase notun dik) Live-Phone in on All India Radio, Siliguri, broadcasted on 19.04.2018 | Dr. Nilesh Bhowmick |
| 2. | Mixed farming-Interview in Grame Ganje (recorded on 17.12.18 and b'cast on 28.12.18) | Dr. Aditi Chakraborty |
| 3. | Establishment of Fruit Orchards ("Unnata Paddhatite Phal bagantairai") (Ref No. nil dt 28.01.2019) Date of recording: 13.02.2019, Date of broadcasting: 18.02.2019 | Dr. Nilesh Bhowmick |

(b) Farmers Advisory Services Regarding Agricultural Tips

| Sl. No. | Name and address of the farmers | Problem addressed | Date | Associated Teacher |
|---------|--|----------------------------|------------|--------------------|
| 1. | Sanjib Dey Sarkar, Mara Nadir Kuthi, Vill+PO- Debir Hat, Cooch Behar-736165, Mob-6294874266 (Ref No. UBKV/ Hort/ PPHT/235 dt 12.02.2019) | Guava cultivation | 03.10.2018 | Dr. N. Bhowmick |
| 2. | Sushil Sarkar, Pundibari Hoglabari, PS-Pundibari, Dist-Cooch Behar, 9083714435 (Ref No. UBKV/Hort/PPHT/235 dt 12.02.2019) | Shoot borer of Assam Lemon | 28.08.2018 | Dr. N. Bhowmick |

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|----|---|---|------------|-----------------------|
| 3. | Azizul Haque Pramanik, Vill-Uttar Kalarayer Kuthi, PO-East Shakunibala, Cooch Behar (Ref No. UBKV/Hort/PPHT/235 dt 12.02.2019) | Guava fruit fly | 13.06.2018 | Dr. N. Bhowmick |
| 4. | Bibhas Chandra Ghosh, Vill+PO-Kamarkundu, Dist-Hooghly, Mob-8420800678 (Ref No. UBKV/Hort/PPHT/235 dt 12.02.2019) | Mango fruit fly and jackfruit rot | 19.06.2018 | Dr. N. Bhowmick |
| 5. | Fazlur Rahman Shah, Vill+PO-Patlakhawa, Vill-Khagribari, Dist-Cooch Behar-736165, Mob-9932307203 (Ref No. UBKV/Hort/PPHT/235 dt 12.02.2019) | Banana nutrient management and bunchy top disease | 20.06.2018 | Dr. N. Bhowmick |
| 6. | Nazrul Islam, Vill-Panishala East, PO-Chhat boro chouki, Natabari GP, Dist-Cooch Behar, Mob-9593361106 (Ref No. UBKV/Hort/PPHT/235 dt 12.02.2019) | Leaf miner and canker problem of acid lime | 27.06.2018 | Dr. N. Bhowmick |
| 7. | Uttam Ghosh, Mob:6297566516 | Strawberry and banana | 02.01.2019 | Dr. Aditi Chakraborty |
| 8. | Sushen Talukdar, Sajerpar, Kathal bari, Cooch Behar, Mob-8343970663, dt. 29.01.19 | Strawberry and Papaya | 29.01.2019 | Dr. Aditi Chakraborty |

7) OTHER ACTIVITIES:

(a) Members of different committee, Assignment, Additional responsibility

| Sl. No. | Committee/Assignment | Teacher associated |
|---------|--|-----------------------------------|
| 1. | Member, Faculty Council, Faculty of Horticulture (Ref No. 1126/UBKV/Est(F.C.-Hort.)/31 dt 20.11.2015) | Dr. P. K. Paul Dr. N. Bhowmick |
| 2. | Provost, M. N. Saha Hall (Ref No. 2129/UBKV/Est. (Trans.)/T/NT-40 dt 30.3.17) | Dr. N. Bhowmick |
| 3. | Convenor, Faculty Curriculum Committee (Ref No. 2161 dt 18.01.2018) | Dr. N. Bhowmick |
| 4. | Member, Accreditation Committee of the University (Convener, College of Horticulture, Information of Individual Colleges) [vide Ref No. 656/UBKV/Est. (Acre.)-170 dt 01.09,2016] | Dr. N. Bhowmick |
| 5. | Member, Special Study & Coaching, Pundibari Campus Sub-Cell (Ref No. 388/D-F/Ag-UBKV dt 28.10.16) | Dr. N. Bhowmick |
| 6. | Member, Editorial & Publishing Committee, Farmers' Bulletin (<i>UttorerKrishikatha</i>) (Vide Notification No. DEE/UBKV/13-14/58 dt 19.9.2013, Ref No. DEE/UBKV/18-19/24 dt 23.04.2018)) | Dr. N. Bhowmick |
| 7. | Member, Central Level Committee for Presentation of Teacher – Seminar, Symposium, Training programme (Ref No. 183-D-F/Ag-UBKV) | Dr. N. Bhowmick |
| 8. | Member, Counseling of M.Sc. and Ph.D. admission 2018 (27 & 29.08.2018)[36/UBKV/Admission dt 24.08.2018] | Dr. N. Bhowmick |

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|-----|---|--|
| 9. | Member, Management group of teacher for RAWE programme for College of Agriculture, UBKV, Majhian (Ref No. KVK/COB/17-18/504 dt 15.02.2018) | Dr. N. Bhowmick |
| 10. | Member, Anti Ragging Squad [Ref No. 583/UBKV/Est.(Anti.rag-167) dt 26.7.2018] | Dr. M. Preema Devi & Dr. A. Chakraborty |
| 11. | Member, Central Admission Committee for UG admission committee (Ref No. 16/UBKV Admission dt 13.08.2018) | Dr. M. Preema Devi & Dr. A. Chakraborty |
| 12. | Member, Press and Publicity committee, 6 th Convocation of the University (Ref No. 818/UBKV/Est. (Conv.-120) dt 10.09.2018) | Dr. M. Preema Devi |
| 13. | Member of RHWE and ELP of student ready programme (Ref. No. UBKV/HORT/274, dt. 23.07.2018) | Dr. A. Chakraborty |
| 14. | Member, Verification of Documents/Forms (Central UG Admission Committee) Ref No. 16/UBKV Admission dt 13.08.2018 | Dr. Nilesh Bhowmick Dr. A. Chakraborty |
| 15. | Member, Mentor Team of Rural Horticultural Works Experience programme (UBKV/Hort/1096/2016-17 dt 09.01.2017), Experiential Learning / Hands on Training Programme of B.Sc. (Hort.) Hons. Programme | Dr. Nilesh Bhowmick |

(b) Organizing Seminar/Symposium/Conference/Workshop

| Sl. No. | Subject | Period | Venue | Organizer | Responsibility | Resource Person |
|---------|--|------------|-------|---|---|--|
| 1. | Pineapple Day-2018 cum Farmers-Scientist Interaction Programme (Ref. No. UBKV/Hort/263 dt. 19 th July 2018) | 24.07.2018 | UBKV | UBKV & Deputy Director of Horticulture, Dept. of FPI & Horticulture, GoWB | Dr. P.K. Paul Dr. N. Bhowmick Dr. A. Chakraborty Dr. M. P. Devi Mr. N. C. Saha Mr. A. Sarkar | Joint Secretary Joint Convener Joint Convener Treasurer Member, Exhibition Committee |

(c) Act as Resource person in Training/Meeting/Workshop/Interaction

| Sl. No. | Subject | Period | Venue | Organizer | Resource Person |
|---------|---|------------|------------------------|---|-----------------|
| 1. | <i>Fruit/Plantation Based Mixed Cultivation on "Livelihood Development of SHGs through Horticulture Activities"</i> | 17.08.2018 | DM Office, Cooch Behar | District Horticulture Office, GoWB (Memo No. 213, dt. 13.08.2018) | Dr. N. Bhowmick |
| 2. | Farmers' Training programme on Banana Cultivation (R-E-F-L-Linkage prog for Farmer of ATMA 2018-19) | 08.02.2019 | Falakata, Alipurduar | Assistant Director of Agriculture, Falakata, Dept. of Agriculture, GoWB (Ref.No.24/ATMA. dt 4.02. 2019) | Dr. N. Bhowmick |

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|----|--|--------------------------|---------------------------------|--|-----------------------|
| 3. | Skill Training on "Nursery Worker" at Cooch Behar KVK. Lecture on Component of mother plant block and technique of fruit plant propagation | 12.02.2019 to 12.03.2019 | COB, KVK, UBKV, Pundibari W. B. | COB, KVK, UBKV, Pundibari W. B. (Ref No. KVK/COB/18-19/646 (iv) dt 08.02.2019) | Dr. N. Bhowmick |
| 4. | Skill Training on "Nursery Worker" at Cooch Behar KVK. Lecture on Tools and equipment's used in nursery | 12.02.2019 to 12.03.2019 | | COB, KVK, UBKV, Pundibari W. B. | Dr. Mutum Preema Devi |
| 5. | Skill Training on "Nursery Worker" at Cooch Behar KVK. Lecture on Characters of good planting materials | 12.02.2019 to 12.03.2019 | | COB, KVK, UBKV, Pundibari W. B. | Dr. Aditi Chakraborty |
| 6. | Judge for Exhibition of Agricultural Produce in the District Krishi Mela, 2019 | 7-8.02.2019 | UBKV | Cooch Behar Krishi Vigyan Kendra, UBKV (Ref No. KVK/COB/2018-19/630 dt 04.02.2019) | Dr. N. Bhowmick |

(d) Participation in Summer/Winter School/Training:

| Sl. No. | Subject | Period | Venue | Organizer | Associated Teacher |
|---------|---|--------------------------|---|-----------|---------------------|
| 1. | Comparative Genomics of Horticultural Plant genetics Resources: Methods and Applications | 01.08.2018 to 21.08.2018 | University of Horticultural Science, College of Horticulture, Bangalore | ICAR | Dr. A. Chakraborty |
| 2. | Contemporary methods of conservation and management of plant genetic resources in sub-tropical fruit crops with special reference to grapes, pomegranate and citrus | 08.01.2019 to 28.01.2019 | University of Horticultural Sciences, Bagalkot, Karnataka | ICAR | Dr. Nilesh Bhowmick |

8) OTHER ACADEMIC ACTIVITIES:

a) Paper Setter/Moderator/Evaluation of Answer Script

| Sl. No. | Name of the Course | University | Associate Teacher |
|---------|--|---|---------------------|
| 1. | External Paper Setter for AHP-104: Growth & Development of Horticultural Crops [Ref No.324/Exam. Cell/BAU, Sabour dt 13.04.2018] | Bihar Agricultural University, Sabour Bhagalpur | Dr. Nilesh Bhowmick |

| | | | |
|-----|--|--|-----------------------|
| 2. | External Paper Setter (FS-123: Tropical & Sub-tropical Fruits) for 1 st year (2 nd Semester)[Ref No. 452/COE dt 18.04.2018] | College of Horticulture, Chiplima, Sambalpur, Orissa University of Agriculture & Technology, Bhubaneswar | Dr. Nilesh Bhowmick |
| 3. | External Paper Setter for FSC 121: Plant Propagation & Nursery Management (Ref No. COH/SKM/5/Hon-8/17/146 dt 28.04.2018) | College of Horticulture, Bermiok, Central Agricultural University | Dr. Nilesh Bhowmick |
| 4. | External Paper Setter for HORT 155: Growth and Development of Horticultural Crops (via email dt 31.05.2018) | Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, WB | Dr. Nilesh Bhowmick |
| 5. | External Paper Setter for HORT 251: Dry Land Horticulture (via email dt 31.05.2018) | Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, WB | Dr. Nilesh Bhowmick |
| 6. | External Paper Setter for HOR-512: Tropical and Dry Land Fruit Production for M.Sc. (Ag.) in Horticulture (Ref No. VB/EXAM/REG/09/PG/HORT/Sem-I/8695/2018 dt 08.09.2018) | Visva- Bharati, Santiniketan, West Bengal | Dr. Nilesh Bhowmick |
| 7. | External Paper Setter for AHT-302: Production Technology of Fruit Crops for End Term Examination of B.Sc. (Ag.) [Ref No. 05/Exam. Cell/BAU, Sabour dt 31.08.2018] | Bihar Agricultural University, Sabour Bhagalpur | Dr. Nilesh Bhowmick |
| 8. | External Paper Setter for FSC 213: Orchard and Estate Management for 3 rd semester, B.Sc. (Hons.) Horticulture (Ref No. CAU/DI/260/18-19/904(i) dt 14.11.2018) | Central Agricultural University, Imphal, Manipur | Dr. Nilesh Bhowmick |
| 9. | External Paper Setter for FSC 211: Tropical and Subtropical Fruits for 3 rd semester, B.Sc. (Hons.) Horticulture (Ref No. CAU/DI/260/18-19/903(vi) dt 14.11.2018) | Central Agricultural University, Imphal, Manipur | Dr. Nilesh Bhowmick |
| 10. | Question paper setting for PhD comprehensive written examination for the course FSC-505 (Ref No. 147; dt. 23.02.2019) | Orrisa University of Agriculture and Technology, Bhubaneswar, Orrisa | Dr. M, P. Devi |
| 11. | Question paper setting for PhD comprehensive written examination for the course FSC 610 (Ref No. 147; dt. 23.02.2019) | Orrisa University of Agriculture and Technology, Bhubaneswar, Orrisa | Dr. M, P. Devi |
| 12. | Question paper setting for the course HORT 353 (Ref No.F/Hort/70(A); dt. 31.05.2018) | Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Mohanpur, Nadia, W.B. | Dr. M, P. Devi |
| 13. | Question paper setting for the course PHM-322 & FSC-222 (Ref No.COH/SKM/5/Hon-8/17/142; dt. 28.04.2018) | Central Agricultural University, Ranipool, Sikkim | Dr. Aditi Chakraborty |

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|-----|--|---|----------------|
| 14. | Paper setter for HORT-312 (Hi-Tech Horticulture) | Orissa University of Agriculture and Technology, Bhubaneswar (Ref No. 1464/COE dt 14.11.2018) | Dr. M, P. Devi |
|-----|--|---|----------------|

b) Thesis Evaluation:

| Sl. No | Name of Student | Topic | University | Ref. No. | Associated Teacher |
|--------|--|---|--|--|--------------------|
| 1. | Ms. Nima Wangmu Thongchi (Roll No. M-936/16) | Quality assessment of litchi cv. Shahi as influenced by post harvest treatment. | SASRD, NU | Hort/1-28/2013-246, dated 16.10.2018 | Dr. M. P. Devi |
| 2. | Watijungla Aochenlar (Roll No. M-982/16) | Studies of banana genotypes based on plant morphological and physic-chemical properties of fruits | School of Agricultural Sciences & Rural Development, Nagaland University | Ref No. Hort/1-28/2013-235 dt 05.10.2018 | Dr. N. Bhowmick |

c) Member of the Advisory Committee:

| Sl. No. | Name of Student | Course | Department /Discipline | Thesis Title | Associated Teacher |
|---------|-------------------------------|--------|---------------------------------|---|------------------------------------|
| 1. | Suman Natta (A-2017-028-D) | Ph.D. | Biochemistry | Evaluation and characterization of nutritional components of jackfruit (<i>Artocarpus heterophyllus</i>) for potential applications as functional food | Dr. N. Bhowmick |
| 2. | Fouzia Bari (A-2017-005-D) | Ph.D. | Agricultural Entomology | Screening of different banana cultivars against banana scare beetle. | Prof N. Bhowmick |
| 3. | Samima Sultana (H-2018-014-D) | Ph.D. | Plantation Crops and Processing | Impact of arecanut based cropping system on growth, yield of different subsidiary crops and carbon sequestration in north-eastern foot hills of West Bengal | Dr. N. Bhowmick |
| 4. | Sandeep Chetri (H-2018-015-D) | Ph.D. | Plantation Crops and Processing | Studies on the performance of four varieties of arecanut (<i>Areca catechu</i>) under organic multi-storied cropping system | Dr. N. Bhowmick |
| 5. | Eggadi Ramesh (H-2018-008-D) | PhD. | Vegetable Science | Standardization of Integrated Nutrient Management and Application of Bio-Stimulants for Growth, Yield and Post Harvest Quality of Tomato | Dr. M. P. Devi |
| 6. | Kheyali Ghosh (H-2018-010-D) | Ph.D. | Vegetable Science | Studies on growth, yield and shelf-life of okra (<i>Abelmoschus esculentus</i> (L.) Moench) as influenced by date of sowing, spacing and packages | Prof. P. K. Paul Dr. M. P. Devi |

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|-----|-------------------------------------|-------|---|--|---------------------|
| 7. | Abigail Rai (H-2017-01-M) | M.Sc | Forestry | Vegetative propagation on <i>Elaeocarpus floribendus</i> and <i>Elaeocarpus granitus</i> | Dr. Nilesh Bhowmick |
| 8. | Marina Narjinary (H-2018-13-M) | MSc. | Floriculture and Landscape Architecture | Standardization of dehydration method and surface coating for improving quality and shelf-life of rose dry flowers | Dr. M. P. Devi |
| 9. | Kamal Ghising (H-2018-11-M) | M.Sc. | Forestry | Effect of growing media and nutrients on production of teak (<i>Tectona grandis</i> L.) seedlings through stump | Dr. N. Bhowmick |
| 10. | Pema Kiden Sherpa (H-2018-015-M) | M.Sc | Forestry | Studies on different pre-sowing treatments and nutrient management for growth behavior of Champa (<i>Michelia champaca</i> Linn.) seedlings | Dr. A. Chakraborty |

d) Reviewer of Journal

| Sl.No. | Topic | Name of journal and year | Associated Teacher |
|--------|---|---|---------------------|
| 1. | Mortality of air-layered plants of litchi (<i>Litchi chinensis</i>) in nursery and histopathology of affected roots in Bihar, India | Indian Journal of Agricultural Sciences (MS 76582 and review submitted on 11.02.2019) | Dr. Nilesh Bhowmick |

e) Internal Question Setter

| Sl. No. | Paper | Associated Teacher |
|---------|----------------------------------|---|
| 1. | Dr.P.K.Paul & Dr. M. Preema Devi | PHT 501, PHT 502, PHT 503, PHT 504, PHT 505, PHT 506, PHT 507, PHT 509, PHT 601, PHT 602, PHT 603 |
| 2. | Dr. Aditi Chakraborty | FSC 502, FSC 504, FSC506, 601, 602, 605 |

f) Evaluator of answer scripts

| Sl No | Paper | Associated Teacher |
|-------|--|---------------------|
| 1. | PPT 252 (Ref No. 715/EXAM/UBKV dt 28.09.2018) | Dr. Nilesh Bhowmick |
| 2. | PPT 101 (Ref No. 707/EXAM/UBKV dt 26.09.2018) | Do |
| 3. | PPT 252 (Ref No. 513/EXAM/UBKV dt 08.08.2018) | Do |
| 4. | PPT 252 (Ref No. 520/EXAM/UBKV dt 02.08.2018) | Do |
| 5. | PPT 252 (Ref No. 678/EXAM/UBKV dt 18.09.2018) | Do |
| 6. | PPT 301 (Post Harvest Management of Horticultural Crops) [Ref. No. 1205/EXAM/UBKV, dated 12.02.2019] | Dr. M. Preema Devi |

9) ADDITIONAL RESPONSIBILITIES

a) Dr. N. Bhowmick

- i) Editorial Board Member, International Journal of Minor Fruits, Medicinal and Aromatic Plants (ISSN:2424-6921)
- ii) Acted as Observer, National Eligibility cum Entrance Test (NEET-UG-2018) conducted by CBSE held on 06.05.2018 at Siliguri Centre. [F.1(7)/CBSE/NEET/REF_NO-N184086/2018 dt. 28.04.2018]
- iii) Acted as Observer, UGC-NET, 2018 (July) at Siliguri Centre, Darjeeling, West Bengal (NO. F-18/UGC/NET/MISC/J2018/N182696 dt. 06.06.2018)
- iii) Performed invigilation Duty for M.Sc. & Ph.D. Entrance Test-2018 on 13.08.2018 & 16.08.2018 (Ref. No. 120/UBKV/PG, dt. 07.08.2018)
- iv) Performed counselling duty for M.Sc. & Ph.D. admission (Ref. No. 36/UBKV/Admission, dt. 24/08/2018)
- v) Performed invigilation duty on 21.05.2018 and 23.05.2018 for Mid- Term (Ref No. UBKV/HORT/75 dt 04.05.2018) 09.7.2018 (Ref No. 352/EXAM/UBKV dt 05.07.2018), 29.11.2018 for Mid-Term, 13.12.2018 for Mid-Term (Ref No. 472 dt 01.11.2018), 12.02.2019 (Ref No. 1046/EXAM/UBKV dt 09.01.2019)
- vi) Member Accommodation and Transport committee UBKV Annual Athletic Meet-2019, Ref.No.UBKV/DSW-222(3)/2018.Dated:20.02.2019.

j) Dr. Mutum Preema Devi

- a) Preparation of Question bank for MSc and PhD Entrance Test, 2018-19
- b) Invigilation duty for UG Mid term examination on 01.06.2018 (Ref No. UBKV/HORT/75 dt 04.05.2018).
- c) Performed invigilation duty on 13.07.2018 and 20.07.2018 (Ref No. 352/EXAM/UBKV dt 05.07.2018)
- d) Invigilation duty for UG End term exam [Ref No. 1046/EXAM/UBKV, dated 09.01.19]
- e) Mentor of UG students [Ref No. UBKV/Hort/529, dated 19.12.2018]
- f) Invigilation duty for MSc and PhD entrance exam [Ref No. 126/ UBKV/PG, dated 10.08.18]
- g) Charge hand over of provost of Teesta Hall from 16.03.2019 to 24.03.2019
- h) Invigilation duty for PhD end examination (Ref. No. UBKV/HORT/PPHT/22, dt. 16.01.2019)

k) Dr. Aditi Chakraborty

- a) Preparation of Question bank for MSc and PhD Entrance Test, 2018-19
- b) Invigilation duty for UG Mid-term examination on 07.06.2018 for Mid- Term (Ref No. UBKV/HORT/75 dt 04.05.2018) 19.11.2018 and 06.12.2018 (Ref No. 472 dt 01.11.2018)
- c) Performed invigilation duty on 03.08.2018 and 06.08.2018 (Ref No. 352/EXAM/UBKV dt 05.07.2018)
- d) Invigilation duty for UG End term exam [Ref No. 1046/EXAM/UBKV, dated 09.01.19]
- e) Mentor of UG students [Ref No. UBKV/Hort/529, dated 19.12.2018]

- f) Invigilation duty for MSc and PhD entrance exam [Ref No. 126/ UBKV/PG, dated 10.08.18]
- g) Invigilation duty for PhD end examination (Ref. No. UBKV/HORT/PPHT/22, dt. 16.01.2019)

10) LIFE MEMBERSHIP OF PROFESSIONAL SOCIETIES/JOURNALS

| Sl. No. | Name of the Journal/Society | Address | Teacher |
|---------|---|--|--|
| 1. | Society for Advancement of Horticulture (The Horticultural Journal) | B.C.K.V., Mohanpur, Nadia, WB | Dr. N. Bhowmick |
| 2. | Crop and Weed Science Society (Journal of Crop and Weed) | B.C.K.V., Mohanpur, Nadia, WB | Dr. N. Bhowmick Dr. A. Chakraborty |
| 3. | Horticulture Society of India (Indian Journal of Horticulture) | ICAR-I.A.R.I., New Delhi | Dr. N. Bhowmick |
| 4. | Society Promotion of Horticulture (Journal of Horticultural Science) | ICAR-I.I.H.R., Bengaluru | Dr. N. Bhowmick |
| 5. | Indian Society for Plant Physiology (Indian Journal of Plant Physiology) | ICAR-I.A.R.I., New Delhi | Dr. N. Bhowmick |
| 6. | Forum of Scientists, Engineers and Technologists (Thought) | Kolkata | Dr. N. Bhowmick |
| 7. | Fruit Science Society of Bangladesh | Bangladesh Agricultural University, Mymensingh, Bangladesh | Dr. N. Bhowmick |
| 8. | Cooch Behar Association for Cultivation of Agricultural Sciences (Journal of Agricultural Technology) | U.B.K.V. | Dr. P.K.Paul Dr.N. Bhowmick Dr. M. Preema Devi Dr. A. Chakraborty |
| 9. | Association of Food Scientist and Technologist | CFTRI, Mysore | Dr. M. Preema Devi Dr. P.K.Paul |

11) ANNUAL MEMBERSHIP OF PROFESSIONAL SOCIETIES/JOURNALS

| Sl. No. | Name of the Journal/Society | Address | Teacher |
|---------|--|-------------------------------|--------------------|
| 1. | Indian Horticulture | ICAR, New Delhi | Dr. N. Bhowmick |
| 2. | Crop and Weed Science Society (Journal of Crop and Weed) | B.C.K.V., Mohanpur, Nadia, WB | Dr. M. Preema Devi |

PHOTO GALLERY

Research Work Performed by Students of the Department



Guiding School Students in an Exposure Visit to Departmental Farm



Glimpses of Pineapple Exhibition in Pineapple Day, 2018



Adjunct Professor, Prof. S. K. Mitra delivering lecture to the PG students



Teachers, staffs and PG students of the Department of Pomology and Post-Harvest Technology





Participation of 21 days' training programme at University of Horticultural Sciences, Bagalkot, Karnataka by Dr. Nilesh Bhowmick