

Quarterly Report

FACULTY DEVELOPMENT CENTRE

(Centre of Excellence for Curriculum and Pedagogy)

Under the scheme

**PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON
TEACHERS AND TEACHING**

Supported by



**Ministry of Human Resource Development
Department of Higher Education
Government of India**

Submitted by



(April, 2017 – August, 2017)

Banasthali Vidyapith

Banasthali Vidyapith-304 022 (Raj.) India

Tel.: + 91-1438-228373/ 228787

Fax: + 91-1438-228365

Website: <http://www.banasthali.org>

**Faculty Development Centre:
Centre of Excellence for Curriculum and Pedagogy
Banasthali Vidyapith**

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**PANDIT MADAN MOHAN MALVIYA NATIONAL MISSION ON
TEACHER AND TEACHING (PMMMNMTT)**

QUARTERLY REVIEW

FACULTY DEVELOPMENT CENTRE (FDC)

BANASTHALI VIDYAPITH

S. No	Particulars	Details
1	Name of the Institute	Banasthali Vidyapith
2	Project Duration	3 years (01.01. 2016 to 31.12.2018) F.No. 3-22/2015-PN II & December 30, 2015
3	Period of initiation	January 1, 2016
4	PAB (in which proposal got approved)	Fourth Project Approval Board(PAB) Meeting of the Pandit Madan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) held on 15 th December, 2015.
5	Detail of Coordinator and present corresponding Program Coordinator (Name, Phone no/Mob., & E mail)	Prof. Aditya Shastri Banasthali University P.O. Banasthali Vidyapith-304 022 (Raj.) Ph.: 91-1438-228787 e-mail: adityashastri@banasthali.in
6	Details of Fund Received in the last Quarter (Percentage of Annual fund)	Nil
7	Details of Fund Received in the current Quarter (Percentage of Annual fund)	Nil
8	Details of Fund Utilized in the last Quarter(Percentage of Annual fund)	Recurring - Rs. 17,22,602/- Non-recurring - Rs. 54,26,584/- Total - Rs. 71,49,186/-

S. No	Particulars	Details
9	Disciplines Covered	<p>The programme run at the Centre is be strategically positioned to satisfy the huge need for effective and need-based teacher training programs (pre-service and in-service) across all courses, viz., Faculty development of Higher Education and Teacher Education, Fine Arts, Home Sciences, Humanities, Life Sciences, Management, Mathematics and Computing, Physical Sciences, Social Sciences, Design, Law.</p> <p>The FDC programmes include all the four types of development (personal, instructional, organizational and professional) of faculty of Higher education and teacher educators as envisioned under the PMMMNMTT scheme.</p> <p>The Centre through its various programmes is covering the following aspects of faculty development:</p> <ul style="list-style-type: none"> - Enrichment of Teacher Educators (faculty of teacher education) - Personal Development Program (faculty of higher education and teacher educators) - Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators) - Discipline specific professional development program (faculty of higher education and teacher educators)
10	Number of Beneficiaries	<p>April - June 2017: 140 participants (111 female faculty members, 29 male faculty members).</p> <p>July – August 26, 2017: 237 participants (148 female faculty members, 89 male faculty members).</p>

S. No	Particulars	Details
		<p>April – August 26, 2017:</p> <p>Total Number of Participants: 377</p> <p>Female faculty members: 259</p> <p>Male faculty members: 118.</p> <p>Total number of direct beneficiaries during the project duration April – August, 2017 is 377 faculty members.</p>
11	Geographical Area Covered (If applicable)	<p>The Faculty development programmes conducted in the previous and present quarter by the Faculty Development Centre, Banasthali Vidyapith has a near pan-India participation. In addition to candidates from Rajasthan (Jaipur, Jodhpur, Ajmer); participants have come from Chhattisgarh (Raipur), Uttar Pradesh (Aligarh, Agra, Bijnor, Mathura), Maharashtra (Nagpur, Latur, Lonar), Himachal Pradesh (Shimla), Gujrat (Rajkot) and West Bengal.</p>
12	Number of Workshops/ Seminar covered with duration (In previous & current quarter)	<p>April - June 2017 : 3 programmes conducted.</p> <p>July – September 2017: 6 programmes completed.</p> <p>1 programme ongoing.</p> <p>5 programmes scheduled.</p>
13	Details of aspect(s) of Faculty Development undertaken in the previous quarter (April - June 2017)	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development.</p>

S. No	Particulars	Details
		<p>The aspects of Faculty Development undertaken in the previous quarter (April – June 2017) specifically addressed the following sub-areas</p> <ul style="list-style-type: none"> - Personal Development Program. - Discipline specific professional development program. <p>Since the inception of the Programme, the FDC at Banasthali Vidyapith has been very pro-active in mobilizing resources and conducting regular faculty development programs.</p> <p>During the previous quarter, i.e., April – June 2017, as three programmes have been conducted as follows:</p> <ol style="list-style-type: none"> i. Covering the aspect of ‘Personal Development’, a programme of seven days duration entitled “Managing Money for Happy Family: Bharatiya Insights” was conducted during April 15-21, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Management Department. <p>Financial Planning has become very important in today’s world as it leads to better social development (work life balance, health, education etc). By considering things like budget and savings, and different components of financial planning one can build a plan to work towards achieving the financial goals. The focus of FDP was to cover all the dimensions of personal finance and the current developments and advancements in this field and the insights from Bhartiya culture for overall happiness of the family. Sixty eight faculty members, out of</p>

S. No	Particulars	Details
		<p>whom fifty seven were women candidates, attended the programme. Participants from far off areas like Raipur- Chhattisgarh, Agra, Latur- Maharastra, Mathura, and Jodhpur attended the programme. The programme was very well appreciated by the teacher participants as it would not only help them to keep track of their own finances, but also motivate students to cultivate the habit of taking care of their financial health.</p> <p>ii. The aspect of “Discipline specific professional development program” was covered in a “National Workshop on Research Methodology in Natural & Applied Sciences” conducted during April 15-29, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Physics. Twenty eight faculty members (twelve female and sixteen male) from universities all over the India participated in this programme. Participants from Shimla, Rajkot, Bijnor, Aligarh among others attended the programme.</p> <p>Various important aspects of the Natural Sciences were covered and practical hands on sessions were conducted. Some of the topics covered are: Immune-mediated processes in neurodegeneration: where do we stand?; nano-scale heterostructures; field emission scanning electron microscope (FESEM); dye-sensitized solar cell (DSSC); Theory of Relativity; XRD and its applications; Rietveld refinement; X-ray Absorption Spectroscopy (XAS); Geographic information system (GIS); Electron</p>

S. No	Particulars	Details
		<p>Spectroscopy for Chemical Analysis (ESCA); Micro Raman spectroscopy; introduction to general magnetic behavior of various magnetic materials – which were subject specific to general topics of interest to all teachers like dynamics of Higher Education in 21st century; Major Environmental Challenges in India; Evaluation and Feedback In Higher Education and Innovative Research Possibilities For All Subjects; API score etc.</p> <p>iii. Dwelling on the aspect of ‘Personal Development’, a programme entitled “Talk Happy Therapy: A Step towards Happiness” was conducted during May 3, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Home Science Department. Forty four participants attended the workshop out of whom forty two were women participants. Talk Happy Therapy is an initiative collaborating mental health with media, aiming to minimize common anxieties which are generally due to negative thoughts and obsessions; through entertainment. We believe in its one of a kind approach bringing creativity in action with specifically designed sessions for a target audience. The participants learned to deal with their anxieties in ration and happy way through various exercises.</p>
14	Details of aspect(s) of Faculty Development undertaken in the current quarter (July – August, 2017)	<p>The aspects of Faculty Development undertaken in the previous quarter (April – June 2017) specifically addressed the following sub-areas</p> <p>- Personal Development Program</p>

S. No	Particulars	Details
		<ul style="list-style-type: none"> - Discipline specific pedagogy/ instructional development program - Discipline specific professional development program <p>i. Deliberating on the aspect of ‘Personal Development’, a programme of seven days duration entitled “National Workshop on Well Being and Happiness” was conducted during July 9-15, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Home Science Department. Forty two participants attended the programme out of which thirty nine were women participants.</p> <p>Subjective Wellbeing covers a broad category that includes people’s emotional responses, domain satisfactions and global judgments of life satisfaction. The movement therapy sessions covering a broad range of Eastern and Western movement approaches for promoting physical, mental, emotional and spiritual well-being were conducted. Several topics covered are: movement therapy sessions, Food and Mood, design for mood, color therapy session, Knowing the Real “I”, stress management, Happiness Fulfillment and Relationship Counseling, Women Health and Quality of Life, on Effective Communication Skills etc</p> <p>ii. Dealing with the aspect of ‘Discipline specific professional development program’, and ‘Discipline specific pedagogy/ instructional development’ a programme of seven days duration entitled “Frontiers and advances in</p>

S. No	Particulars	Details
		<p>science and technology” was conducted during 23rd July-August 19th, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Physics. Thirty three participants attended the programme out of which seventeen were women participants. Participants from distant places like Ajmer, Aligarh, Mathura, Shimla came to attend the programme.</p> <p>Faculty and scientists from various reputed universities and research laboratories have come to share their ideas about teaching and research methodology as well as provide hands on experience on various equipment available in the University. The various talks and interaction – hands on sessions conducted under this programme are as follows: Nobel Prize in physics and the work performed by each one of the laureates; Superparamagnetic behavior of nanoparticles of substituted ferrites; Self-assembly of proteins at air-water interface; Elastic properties of Biomolecules; Polymeric Electronic Devices; Historical Development of Light; Phase transitions in soft matter systems; Detection of toxic ions in water level; Study alkali metal (Na, Cs) intercalation between Graphene and underlying Ni(111) substrate using angle-resolved photoemission spectroscopy; Electronic Structural and magnetic properties of Dilute Magnetic Semiconductors; Science In History; History Of Science And Technology During Medieval Period :An Overview; : Transition in devices: from Micro</p>

S. No	Particulars	Details
		<p>to nano; The Handling of T-Spice Tool with several examples; Carbon based new nanomaterials of technological importance; In the second talk, the audience was exposed to New innovative sources to trap green energy; Finite Difference Time Domain Method; Introduction to LATEX Software; High Temp. Super Conductivity; Organic Solar Cells: An Overview; Giant Magneto-resistant; Material science: an area of advance; Preparation and properties of nanomaterials; contagious deadly diseases spreading in india including survey on tuberculosis; Review on contagious deadly diseases spreading in india including survey on aids: a comprehensive research on HIV-Tb prevalence and co-morbidity status in the country. Some general concepts of personal development and teach-learning were also included such as;; Big five factor model concept of personality; ethnobotany in relation to human well-being; use of ICT for empowering teaching strategies and effectiveness; intellectual property rights; HANUMAN: God of physical and mental strength; science and technology for social development; characteristics of Ram explained by Goswami Tulsi Das. Book review sessions were also held.</p> <p>iii. The aspect of ‘Discipline specific professional development program’, a programme of seven days duration entitled “Contemporary Applications and Opportunities in Research and Technology” was conducted during July 28- Aug</p>

S. No	Particulars	Details
		<p>3, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Electronics. Twenty five faculty members' participants attended the programme out of which ten were women participants.</p> <p>The topics covered in the programme are as follows: research objectives; concept of research methodology including types of research, hypothesis, data collection, data segmentation and data analysis; concept of advance biomedical engineering; the mathematical modeling of MEMS devices; material science and interaction of radiation with materials, thin films, optical, electrical and gas adsorption properties, metal hydrides, bulk and thin films hydrogen storage characteristics, positron annihilation, defects nucleation, characterization and migration, polymers and semiconductors structure modification by energetic ion, nano filters for gas purification; current scenario of control systems; optimal control, robust control, bio-inspired control and electric drives; concept of genetic algorithms, their use in medical imaging, its futuristic approach; importance of data, quality of data, data collection, data analysis, data statistics and latest statistical tools.</p> <p>iv. Covering the aspect of 'Discipline specific professional development program', a programme of seven days duration entitled "Research Methodology: Tools and Techniques in Earth Sciences" was conducted during Aug 10-16, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Faculty</p>

S. No	Particulars	Details
		<p>of Earth Sciences. Thirty three faculty members including twenty four women participants' from distant areas of the country including West Bengal, Nagpur-Maharashtra, Ajmer and Jaipur participated in the programme.</p> <p>The programme was conducted by the team of eminent academicians possessing in-depth knowledge in the area of earth science research methodologies and project management. It will consist of a series of interactive lectures and practical sessions. The participants were helped to develop the insights for identifying the research problems, new tools, techniques, and research methodology and extensive exposures to diverse aspects of earth science research methodologies was provided. It helped to enhance the skills of the participants to use statistical techniques in geo-environmental research and to understand the approaches for the development of high impact peer reviewed international journal articles and preparation for project proposals.</p> <p>The major aspects of the programme were research types, approaches, process and problems related to Earth Sciences, Research tools and techniques in context with Earth Sciences, Remote Sensing & GIS research approaches in Earth Sciences, Hands on training on Geo statistical tools and techniques in Earth Sciences, Emerging trends in geo-environmental data dissemination for research utilization, Technical guidance to enrich research writing: paper and project proposal. There were</p>

S. No	Particulars	Details
		<p>interactive lectures, discussions, presentations and hands on practice by various experts on topics related with research, and its methods as well as tools and techniques adopted by the Earth scientists from different fields.</p> <p>v. The aspect of ‘Personal Development’, was covered in a programme of seven days duration entitled “Streams of Music: Note, poetry and Meditation” was conducted during Aug 21-23, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Music and Dance. Thirty faculty members including twenty women participated in the programme.</p> <p>vi. The aspect of ‘Discipline specific professional development program’, was covered in a programme of seven days duration entitled “Faculty Development Programme in Neuroscience: Prevention and Management of Neurological Disorders” was conducted during Aug 21-26, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Pharmacy. Thirty one faculty members including nineteen women participated in the programme.</p> <p>The programme included lectures and practical demonstrations – hands on sessions in the thematic area. During this event, the participants benefitted and learned various techniques employed in neuroscience research in addition to understanding the molecular basis of neurological disorders</p>

S. No	Particulars	Details
15	Application of ICT tools. If yes, give details.	<p>The Vidyapith strongly believes in ensuring that teachers acquire a higher order of teaching-learning, critical thinking, problem solving and creative skills by harnessing the power of integrated technologies and methodologies.</p> <p>The Faculty Development Centre is involved in programs for 'faculty of higher education and teacher educators' that would enable teachers who have no, little or some teaching experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable.</p> <p>There a need to promote skills to effectively conduct classes by the faculty of higher education looking at the huge transformation that the students and teaching learning process is undergoing presently. The centre through its programmes emphasizes on the use of ICT to promote skills to integrate technology pedagogy content knowledge.</p> <p>Some of the salient features of the use of ICT in the programmes conducted by the Faculty Development Centre are as follows:</p> <ul style="list-style-type: none"> • Sessions have a right balance through proportionate use of lecture, powerpoint presentations and videos. Smart classrooms are used when necessary. • In some faculty development programmes, as per the requirement, hands on training on very high-end equipment is being provided, viz., FDP on Education and Ethos, the scientific equipment were used to demonstrate the Auric fields and

S. No	Particulars	Details
		<p>impact on human beings; Similarly FESEM, XRD, GIS are being used in the ‘Discipline specific professional development programmes’.</p> <ul style="list-style-type: none"> • For administrative purposes Google forms and docs are used, candidate’s expectations will be invited through Google forms. Program scheduling and management was done through Excel and Google spreadsheets. <p>Technology integration is being done at the Center for the following aspects</p> <ul style="list-style-type: none"> - Critical understanding of the ICT, - Technology-pedagogy-content-knowledge (TPCK) - Utilization of open education resources (OER) in teaching learning
16	Outcome Report Prepared? If yes, give details.	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development.</p> <p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role</p>

S. No	Particulars	Details
		<p>in national development. The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained and educated to cope with their changing and increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>In the programs conducted by the FDC at Banasthali Vidyapith, a wider participation of women is ensured. Interpersonal skills, career development and life planning are gender sensitive issues and need to be addressed at the national level.</p> <p>The reports of the Faculty Development programmes conducted during April – August, 2017 are attached and marked as follows:</p> <ol style="list-style-type: none"> i. Managing Money for Happy Family: Bharatiya Insights; April 15-21, 2017 (Annexure 1). ii. National Workshop on Research Methodology in Natural & Applied Sciences; April 15-29, 2017 (Annexure 2). iii. Talk Happy Therapy: A Step towards Happiness; May 3, 2017 (Annexure 3) iv. National Workshop on Well Being and Happiness; July 9-15, 2017 (Annexure 4) v. National Workshop on Frontiers and advances in science and technology; July 23 -August 19, 2017 (Annexure 5) vi. Contemporary Applications and Opportunities in

S. No	Particulars	Details
		<p>Research and Technology; July 28- Aug 3, 2017 (Annexure 6)</p> <p>vii. Research Methodology: Tools and Techniques in Earth Sciences; August 10-16, 2017 (Annexure 7)</p> <p>viii. Streams of Music; August 21-23, 2017 (Annexure 8)</p> <p>ix. Faculty Development Programme in Neuroscience: Prevention and Management of Neurological Disorders; August 21-26, 2017 (Annexure 9).</p>
17	Assessment Mechanism for Trainees	<p>The programmes run at the Centre are strategically positioned to satisfy the huge need for effective and need-based teacher training programs (pre-service and in-service) across all courses.</p> <p>The programmes conducted by the Center have ‘practise teaching sessions’ for the participating faculty members. In addition, participants have to prepare a project work or give a presentation/ talk on any aspect of the training programme generally in the last two days of the programme.</p>
18	Was/ Were the seminars/ Workshops inclusive? Give details	<p>The programmes conducted at the Faculty Development Centre were inclusive in terms of participation and also content. The programmes are open to all faculty members irrespective of caste creed and religion. Both male and female faculty members are encouraged to join the programmes, however, being a all Womens’ Institution, a much larger participation from women teachers in higher education is being experienced at Banasthali.</p> <p>The content of the programmes are not limited to the broad sub areas, viz., Enrichment of Teacher Educators (faculty of teacher education); Personal</p>

S. No	Particulars	Details
		<p>Development Program (faculty of higher education and teacher educators); Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators); Discipline specific professional development program (faculty of higher education and teacher educators), but generally includes all aspects of faculty development. In each of the programmes conducted, several of the aspects are covered.</p> <p>The programmes run at the Centre are being strategically positioned to satisfy the huge need for effective and need-based teacher training program (pre-service and in-service) across all courses.</p> <p>The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical. It is essential to bridge the gap between teachers and teacher educators and provide opportunities for teachers to become teacher educators.</p>
19	Status of the Content developed.	<p>Teacher education has to be seen in terms of career-long learning and training. During at least the last two decades, the training of educational personnel has been the most frequently discussed topics by educators at all levels of education.</p> <p>Redefined educational goals, along with changes in the concepts and practices of education, and the demands of development, have brought about several significant changes in the roles and functions of teachers and are being adopted and incorporated in the training programmes offered by the CoE in Curriculum and Pedagogy, Faculty Development</p>

S. No	Particulars	Details
		<p>Centre at Banasthali Vidyapith, especially in curriculum design, instructional and professional development for faculties with a multidisciplinary approach. The centre is also emphasizing on research in pedagogy, curriculum development and assessment practices, promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is exploring all possible avenues for content development for the Faculty development programmes and a few collaborations have been initiated in this direction. As for example, collaboration with Mata Gujri Mahavidyalaya Jabalpur for training teachers in financial literacy, Indian Ethos and Entrepreneurship; Collaboration with National Entrepreneurship Network to train teachers in Entrepreneurship.</p>
20	Assessment Tools developed? (If applicable)	Google Doc technology is used in some of the programmes for need assessment; feedback is obtained online during and after the FDP and compared with other FDP feedback.
21	Status of the creation of Research Cell.	‘Teacher Education’ as an academic program is one of the earliest initiatives of Banasthali Vidyapith as ‘College of Teacher Education’ with significant contribution to doctoral research studies (70+) in the area of Teaching-Learning and Pedagogy. The Department of Education at Banasthali has the distinction of venturing to try out a learner centric curricular programme of teacher education, which the students named “Anweshana” in cognizance of its main feature of self-exploration which has been published as best practice in teacher education by NAAC and Commonwealth of Learning, Vancouver.

S. No	Particulars	Details
		<p>The NCERT and NCTE have also appreciated this learner centric program in several of its reports.</p> <p>The Faculty Development Centre at Banasthali Vidyapith is working towards developing effective and efficient teachers by accelerating the teaching learning process through promoting independent and critical and creative thinking with innovative pedagogy.</p> <p>The centre has put adequate emphasize on research in pedagogy, curriculum development and assessment practices; promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is actively promoting research activities in various aspects of faculty development in collaboration with the Departments of the University.</p> <p>Some of the research undertaken are as follows: Knowledge Management Practices in Educational Institutions (With Reference to Select Universities Business Schools in Delhi &NCR; Job Satisfaction and Employee Performance: A case Study of Higher Education Institutions in Bikaner, Rajasthan; Motivation of Academic Staff-A comparative Study of Selected Government and Private Management Institutes of Delhi/NCR; Five-fold educational ideology followed successfully at Banasthali Vidyapith.</p>
22	Modules Developed. If yes give details.	The Faculty Development Center is actively engaged in preparing and also encouraging development of modules for the faculty members of different

S. No	Particulars	Details
		<p>Departments of the University. Some of the modules available for the teachers of Higher Education are: Personal Financial education; Indian Ethos; Linkedin Group of learning Money management, Personal Finance Module; Retirement Planning; Linkedin Repository Module on Personal Finance; Module on Introduction to Indian Ethos; Linkedin Repository Module on Indian Management and Ethos, web-research module in research methodology, communicative English. Some of these modules are being developed in collaboration with the Center for Financial Planning Training and Research for Women, Banasthali Vidyapith.</p>
23	<p>E material developed to be inducted in repository. If yes give details.</p>	<p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role in national development.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained and educated to cope with their changing and increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>The Centre is undertaken initiatives to develop E material of the modules developed for the faculty development programmes.</p>
24	<p>Exchange Programs Conducted. Give Details</p>	<p>The Faculty Development Centre is involved in conceptualizing and organizing programs for the faculty of higher education and teacher educators</p>

S. No	Particulars	Details
		<p>that would enable teachers with no, little or some teaching experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable. The Centre has an immense advantage in the sense that it can leverage the Vidyapiths' vast expertise in providing resources, ideas, professional advice and techniques for teachers, to make the teaching and learning process effective. Banasthali has developed linkages with more than 250 organizations developed over the years for academic, research funding/data collection, community mobilization, students' final placements, discussion session and other extension related purposes is strong enough to yield substantial advantages. The FDC at Banasthali is thus able to attract experts in various fields for its Faculty development Programs.</p>
25	<p>Progress towards achievement of the proposed objective</p>	<p>The target participants of the Faculty Development Centre at Banasthali Vidyapith are both Faculty of Higher Education and Teacher Educators. The University is ensuring that the faculties coming for the programs at the Centre are benefited by the socially and academically rich environment at Banasthali.</p> <p>The following are the objectives of the Faculty Development Centre:</p> <ol style="list-style-type: none"> i. To motivate teachers and promote institutional effectiveness. ii. To enable personal, instructional, organizational and professional growth of faculty. iii. To develop incentive strategies for professional

S. No	Particulars	Details
		<p>growth of teachers.</p> <p>iv. To train and prepare teachers for futuristic educational needs.</p> <p>v. To develop scientific temper, spirit of enquiry and spirit of discovery.</p> <p>The progress towards the achievement of the proposed objectives is summarized as follows:</p> <ul style="list-style-type: none"> • The construction of the state-of-the-art Faculty Development Centre is near its completion. • The Centre is conducting personal development programs for faculty members. Workshops have been conducted to identify features to be incorporated in personal development program Short term programs for developing interpersonal skills; life planning issues is in progress. An online guidance program for career development of faculty members is being planned. • The Centre is conducting programs for development of instructional strategies. Workshops to inculcate institutional ethos, increase awareness about organizational responsibilities and duties are conducted. The Faculty development programmes also foccus to improve learning environment, increase social awareness and suggest ways to incorporate local community in development programs of the institution through seminars. • The Center is also conducting programs to incorporate organizational skills and to improve professional skills among incumbent faculty. Workshops focus on development of professional ethos in teaching and service. Training

S. No	Particulars	Details
		programmes are offered to develop discipline specific methodological rigors for research.
26	Constraints towards achievements of objective	<p>- None.</p> <p>The innovative Centre of Excellence in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme is a major initiative towards the professional and personal preparation of teachers which is crucial for the qualitative improvement of education.</p> <p>The operative freedom extended by MHRD for the Centre has created a conducive environment for successful implementation of the project.</p>
27	Modification (if any) among the proposed objectives	- None
28	Training Schedule (for current and next year)	<p>The programme schedule for the project duration September 2017 – March 2018.</p> <p>i. Ongoing Program title: Internet of Things Proposed dates: August 29 – Sept 3, 2017 (6 days program). Participants: Faculty from Computer Science, Electronics, Physics with basic knowledge of computer programming. (Brochure enclosed and marked as Annexure-10).</p> <p>ii. Proposed Program title: Statistics and Econometrics for Empirical Research Duration and Proposed dates: September 9th – 16th, 2017. (7 days program). Target Participants: College and University teachers</p>

S. No	Particulars	Details
		<p>and researchers are eligible. The course is expected to be particularly useful for those teaching Economics, Finance and Statistics or doing research in this area.</p> <p>(Details enclosed and marked as Annexure-11).</p> <p>iii. Proposed Program title: Revisiting Gandhian Values</p> <p>Duration and Proposed dates: September 11th – 17th, 2017. (7 days program)</p> <p>Target Participants: Faculty members in institutions of higher learning engaged in teaching and research teacher educators, key nonacademic functionaries in institutions of higher learning for better governance and to facilitate efficient use of various fast growing information resources and applications.</p> <p>(Details enclosed and marked as Annexure-12).</p> <p>iv. Proposed Program title Best Practices for Faculty Development</p> <p>Duration and Proposed dates: September 23rd – 25th, 2017. (3 days program)</p> <p>Target Participants: College and University teachers.</p> <p>v. Proposed programme title: Statistics with ‘R’</p> <p>Duration and Proposed dates: September 27th – 30th, 2017. (4 days program)</p> <p>Target participants: College and University Teachers</p> <p>vi. Proposed Program title: Soft Computing</p>

S. No	Particulars	Details
		<p>Techniques and its Applications</p> <p>Duration and Proposed dates: October 1st – 15th, 2017. (15 days program)</p> <p>Target Participants: College and University teachers in with knowledge in computer networks and basic programming.</p> <p>(Details enclosed and marked as Annexure-13).</p> <p>vii. Proposed Program title: National Seminar and Workshop on Inclusive Education: Issues and Concerns</p> <p>Duration and Proposed dates: October 5th – 11th, 2017.</p> <p>Target Participants: College and University teachers in social sciences, commerce, home science, management and allied disciplines.</p> <p>(Details enclosed and marked as Annexure-14).</p> <p>viii. Proposed Program title: Workshop on Emerging trends in Historical Research</p> <p>Duration and Proposed dates: October 7th – 13th, 2017.</p> <p>Target Participants: College and University teachers.</p> <p>ix. Proposed Program title: Advanced Research methods</p> <p>Duration and Proposed dates: October 8th – 10th, 2017.</p> <p>Target Participants: College and University teachers.</p>

S. No	Particulars	Details
		<p>x. Proposed Program title: National Workshop on Research Methodology in Physical Sciences Duration and Proposed dates: November 1st – 21st, 2017. (21 days duration) Target Participants: Senior and middle level Scientists/Academicians from the fields of Science, Technology, Engineering, Agriculture and Medicine (STEM). (Details enclosed and marked as Annexure-15).</p> <p>xi. Proposed Program title: National Workshop on Feminist Research Methodology Duration and Proposed dates: November 6th – 12th, 2017. (7 days duration) Target Participants: The course will be open for faculty members in higher education. (Details enclosed and marked as Annexure-16).</p> <p>xii. Proposed Program title: Course in Social Sciences & Humanities Duration and Proposed dates: December 1st – 28th, 2017. (21 days course) Target Participants: College and University teachers in humanities and allied areas. (Details enclosed and marked as Annexure-17).</p> <p>xiii. Proposed Program title: Constructivism and the Eclectic theory of Knowledge in Contemporary Pedagogy Duration and Proposed dates: December 1st – 28th, 2017. (28 days course) Target Participants: College and University teachers</p>

S. No	Particulars	Details
		<p>in humanities and allied areas. (Details enclosed and marked as Annexure-18).</p> <p>xiv. Proposed Program title: Computer Algebra System and Latex. Duration and Proposed dates: December 15th – 30th, 2018. (15 days programme) Participants: Faculty from Mathematical Sciences, Statistics, Computer Science, Electronics, Physics with basic knowledge of computer programming.</p> <p>xv. Proposed Program title: Computer Network and Cyber Security. Duration and Proposed dates: January 2nd – 16th, 2018. (15 days programme) Participants: Faculty from Computer Science, Electronics, Physics with basic knowledge of computer programming.</p> <p>xvi. Proposed Program title: Emerging Trends in Software Designing and Development. Duration and Proposed dates: March 1st – 21st, 2018. (21 days program) Participants: Faculty members in institutions of higher learning with advanced knowledge of computer programming. (Details enclosed and marked as Annexure-20)</p>

Financial Details : (Amount in lacs)																																								
29.	Fund Approved Recurring Non-recurring	Recurring - Rs. 286.96 lacs Non-recurring - Rs. 428.00 lacs Rs. 714.96 lacs																																						
30.	Fund Received during previous years Recurring (head wise detail) Non-recurring (head wise detail)	<div>(Rs. in lacs)</div> <table> <tr> <th colspan="3">1. Recurring</th></tr> <tr> <td rowspan="2">A.</td><td>Manpower</td><td rowspan="7">114.73</td></tr> <tr> <td>Honorarium to Visiting Faculty</td></tr> <tr> <td>B.</td><td>Consumables</td></tr> <tr> <td>C.</td><td>Travel</td></tr> <tr> <td>D.</td><td>Contingency</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td></tr> <tr> <td>F.</td><td>Training Prog./Workshop/ Seminar/ Conf. etc.</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>114.73</td></tr> <tr> <th colspan="3">2. Non-recurring</th></tr> <tr> <td>A.</td><td>Civil Work</td><td>370.35</td></tr> <tr> <td>B.</td><td>Equipment</td><td>28.00</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>10.00</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>408.35</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>523.08</td></tr> </table>	1. Recurring			A.	Manpower	114.73	Honorarium to Visiting Faculty	B.	Consumables	C.	Travel	D.	Contingency	E.	Learning resources (Books, journals, CDs)	F.	Training Prog./Workshop/ Seminar/ Conf. etc.	Recurring Amount		114.73	2. Non-recurring			A.	Civil Work	370.35	B.	Equipment	28.00	C.	Networking & Computational facilities	10.00	Non-recurring Amount		408.35	Total Amount (1+2)		523.08
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31.	Fund Received during the year 2017-18 Recurring (head wise detail) Non-recurring (head wise detail)	Nil																																						
32.	Details of Fund Utilized during last Quarter and Percentage of Utilization Recurring (head wise detail) Non-recurring (head wise detail) (01.04. 2017 to 30.06.2017)	<table> <tr> <th colspan="2">1. Recurring</th><th>Amount (Rs.)</th></tr> <tr> <td rowspan="2">A.</td><td>Manpower Faculty</td><td>11,37,714/-</td></tr> <tr> <td>& Honorarium to Visiting</td><td>1,20,500/-</td></tr> <tr> <td>B.</td><td>Consumables</td><td>-</td></tr> <tr> <td>C.</td><td>Travel</td><td>1,51,253/-</td></tr> <tr> <td>D.</td><td>Contingency</td><td>-</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td><td>-</td></tr> <tr> <td>F.</td><td>Training Prog./ Workshop/ Seminar/ Conf. etc.</td><td>3,13,135/-</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>17,22,602/-</td></tr> </table>	1. Recurring		Amount (Rs.)	A.	Manpower Faculty	11,37,714/-	& Honorarium to Visiting	1,20,500/-	B.	Consumables	-	C.	Travel	1,51,253/-	D.	Contingency	-	E.	Learning resources (Books, journals, CDs)	-	F.	Training Prog./ Workshop/ Seminar/ Conf. etc.	3,13,135/-	Recurring Amount		17,22,602/-												
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33.	Details of Fund Utilized in the current Quarter and Percentage of Utilization Recurring (head wise detail) Non-recurring (head wise detail) (01.07. 2017 to 31.08.2017)	<table> <tr> <td colspan="2">1. Recurring</td><td>Amount (Rs.)</td></tr> <tr> <td rowspan="2">A.</td><td>Manpower Faculty</td><td>7,80,864/-</td></tr> <tr> <td>& Honorarium to Visiting</td><td>2,17,000/-</td></tr> <tr> <td>B.</td><td>Consumables</td><td>51,835/-</td></tr> <tr> <td>C.</td><td>Travel</td><td>3,30,068/-</td></tr> <tr> <td>D.</td><td>Contingency</td><td>3,82,650/-</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals,CDs)</td><td>-</td></tr> <tr> <td>F.</td><td>Training Prog./ Workshop/ Seminar/ Conf. etc.</td><td>4,84,946/-</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>22,47,363/-</td></tr> <tr> <td colspan="2">2. Non-recurring</td><td></td></tr> <tr> <td>A.</td><td>Civil Work</td><td>-</td></tr> <tr> <td>B.</td><td>Equipment</td><td>-</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>-</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>-</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>22,47,363/-</td></tr> </table>	1. Recurring		Amount (Rs.)	A.	Manpower Faculty	7,80,864/-	& Honorarium to Visiting	2,17,000/-	B.	Consumables	51,835/-	C.	Travel	3,30,068/-	D.	Contingency	3,82,650/-	E.	Learning resources (Books, journals,CDs)	-	F.	Training Prog./ Workshop/ Seminar/ Conf. etc.	4,84,946/-	Recurring Amount		22,47,363/-	2. Non-recurring			A.	Civil Work	-	B.	Equipment	-	C.	Networking & Computational facilities	-	Non-recurring Amount		-	Total Amount (1+2)		22,47,363/-
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34.	Bank interest earned so far on fund received	Nil																																												
35.	Balance outstanding as on date 31.08.2017 Recurring Non-recurring	Recurring - Rs. (-) 7,33,806/- Non-recurring - Rs. (+) 33,48,149/- Rs. 26,14,343/-																																												

Implementation of GoS recommendation in Leadership Training and Faculty Induction Programme

S. No.	Module	Preference
1.	Preference of Module development for Leadership Training	Yes, the same was proposed as salient feature of the Faculty Development Center at Banasthali Vidyapith.*
2.	Preference of Module development for Faculty Induction Programme	-

* Salient features of FDC at Banasthali

- *Nurturing teachers to be good institutional citizens and serve as inspirational leaders for inculcation of moral values and Indian ethos.*

Concept: Originated in only of its kind situation, when a father lost his promising daughter at a tender age and decided to train others the same way to realize the dreams he had for his own daughter, Banasthali has been conceptualized to materialize the ethos of nation-building and Indian culture.

Need: To achieve its objective of ‘synthesis of spiritual values and scientific achievements of the East and the West’, Banasthali has evolved Five-fold Educational Programme (Panchmukhi Shiksha) comprising of the following aspects: (i) Physical, (ii) Practical, (iii) Aesthetic, (iv) Moral and (v) Intellectual. In this way, the students develop an integrated and balanced personality. These courses along with experiential learning create multi faceted citizens with firm grounding in multicultural ethos and legacy of India.

Present activity: The incumbent faculty to Banasthali Vidyapith is oriented to its unique philosophy through ‘Interactions meetings’ with senior faculty members, active participation and organization in university functions, celebrating National festivals for important historic events.

Deliverables: These activities would be formalized through the incorporating specific topics on value education in the programs conducted through ‘*Faculty Development Centre*’. An ideal teacher should be able to identify the reflection of values in the courses that they teach, find ways and means to transact/ highlight these values in their regular classes so that it becomes a natural way of life for the students and is reflected in each and every activity. Through these endeavors teachers would be inspirational role models for the students

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*,
MHRD, Government of India)

Title of the programme: Managing Money for Happy Family: Bharatiya Insights.

Duration: 15th April -21st April 2017

Programme Report

Financial Planning has become very important in today's world as it leads to better social development (work life balance, health, education etc). By considering things like budget and savings, and different components of financial planning one can build a plan to work towards achieving the financial goals. The focus of FDP was to cover all the dimensions of personal finance and the current developments and advancements in this field and the insights from Bharatiya culture for overall happiness of the family.

Sixty eight faculty members, out of whom fifty seven were women candidates, attended the programme. Participants from far off areas like Raipur- Chhattisgarh, Agra, Latur-Maharashtra, Mathura, Jodhpur attended the programme. The FDP started with the inaugural program address by Prof Chitra Purohit, President, Banasthali Vidyapith and Prof Siddharth Shastri, Vice President, Banasthali Vidyapith. After the inaugural the session Shri Ashish Modani, SLA Financial services, Jaipur introduced the concept personal finance and theme of the FDP.

The Role of Emotions in Decision Making was covered by Dr.Sandeep Atre, Director – Socialigence in which he discussed the behavioral aspect of the finance. Later during the day, the *Shastrath* on “Can Money Bring Happiness?” was organized between Dr. Sandeep Atre & Dr. Harsh Purohit. This unique part of the FDP emphasized on bharatiya way of managing money for ultimate happiness.

Prof Vinay Dutta, Fore School of Management, conducted session on Goal based Investment Planning with focus on investment planning for investors and number of investment option available for investors. Another session on importance of insurance was conducted by Smt. Paragita Joshi.

Research methodology in financial planning was conducted by Dr. Harsha Jariwala who has expertise in financial literacy and financial planning. The session helps audience taking new dimension in research related with financial planning and financial literacy.

Importance of income tax, how to fill income tax, avenues to save income tax all these major points were discussed by Shri P.C.Parwal and Shri Rakesh Somani. The participants need planning to file tax and save tax, the learning from the session was very fruitful.

A session was devoted to very important components of financial planning like investment planning, mutual funds and equity products in investment portfolio. Also the behavioral finance and financial capability which can lead to financial freedom were covered along with discussion on retirement planning.

The last day of FDP consisted of case study problems, and presentation by the participants in small teams.

Feedback:

The participants' as well as experts' feedback were that the components of financial planning were very well covered. They appreciated the efforts to integrate the different dimensions of the financial planning and make it so insightful. They suggested conducting FDPs on every component and also a separate FDP on research in financial planning, investment planning and tax planning.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: National Workshop on Research Methodology in Natural & Applied Sciences.

Duration: 15th April -29th April 2017

Programme Report

Faculty Development Centre in collaboration with Department of Physics, Banasthali Vidyapith successfully organized fifteen days National workshop on “Research Methodology in Natural & Applied Sciences” from April 15, 2017 to April 29, 2017. Twenty eight faculty members (twelve female and sixteen male) from universities all over the India participated in this programme. Senior Professors and Scientists from various reputed universities and research laboratories came to share their ideas about teaching and research methodology as well as provide hands on experience on various equipment. Under the program, a field visit to Ranthabore Forte and Ranthabore National Park, Sawai Madhopur, Rajasthan was also organised. During field visit, participants gained knowledge about nature and natural environment. Participants were highly benefitted by this event in terms of novel class room teaching, learning and research ideas.

Prof. B. K. Sarkar, Professor & Head, Department of Physics, Galgotia University, Greater Noida (UP) delivered talks on “Immune-mediated processes in neurodegeneration: where do we stand?” and “Lateral and escalation therapy in relapsing-remitting multiple sclerosis”. Neuro-degeneration is a pathological condition that predominantly affects neurons. It represents a large spectrum of disorders with heterogeneous symptoms and distinct clinical features. In addition to the devastating effects it can have on the affected individual, it constitutes a heavy burden to the society in terms of health care costs. Although the exact cause of neuro- degeneration is not known, there are plenty of evidences supporting the notion that the immune system is strongly associated with various forms of neurodegenerative diseases. Given the numerous functions of immune cells, a change in their expression can either be beneficial or deleterious to the host. A better understanding of the molecular and cellular processes in neuro-degeneration is therefore needed. This could facilitate the development of new therapeutic targets and provide effective means to dampen

the progression of neurodegenerative disorders. The overarching aim of this paper is to provide an overview of the roles that the innate and adaptive immune systems play in the central nervous system, and to discuss their beneficial or detrimental effects during neurodegeneration. This paper also critically examines the contribution of immune and inflammatory-mediated responses in the development of neurodegenerative diseases including Alzheimer's disease (AD), Parkinson's disease (PD), multiple sclerosis (MS), and amyloid lateral sclerosis by illustrating key findings from animal and human studies.

Performing a therapeutic switch in MS is still a matter of debate. Experts compared switching to another first-line therapy with switching to a second-line therapy in persons with relapsing-remitting multiple sclerosis (pwRRMS). A retrospective analysis of data prospectively collected was performed. PwRRMS experiencing on-treatment disease activity were included. No clinical relapse, no sustained disability progression by the Expanded Disability Status Scale (EDSS), and no radiological activity (new T2 and/or gadolinium-enhanced brain lesions) were used as indicators of no disease activity (NEDA 3). Time to reach the first relapse after switch and time to reach an EDSS of 4.0 were also evaluated. Ninety-one pwRRMS were enrolled. Forty-eight (52.7 %) were on lateral switch, and 43 (47.3 %) on escalation switch. At baseline, the two groups differed for T2 and T1 brain lesions number (higher in the escalation group, $p < 0.005$). The proportion of pwRRMS who were NEDA 3 after 24 months from the switch was similar in the two groups (20.8 % in lateral group and 18.6 % in escalation group). No difference in timing to reach the first relapse after switch and an EDSS of 4.0 were found. Therefore, in selected pwRRMS, lateral and escalation strategies showed similar efficacy in delaying MS progression.

Dr. P. A. Alvi offered a lecture on nano-scale heterostructures. He was of the opinion that these structures have played a very important role in optical fiber based communication systems and as well as optoelectronic devices. For the device applications, Most of the heterostructures are based on III-V semiconductors and can be classified as type-I and type-II. Among them, type-II heterostructures are able to emit IR radiations, and particularly, with in NIR and MIR regions. In this lecture, a detailed review on a variety of heterostructures was given. Talks I & II: Another lecture was devoted to MEMS based devices and their applications. Actually, the MEMS are often manufactured with the same batch fabrication techniques used to create integrated circuits (ICs) and many commercial MEMS products are integrated and packaged together with ICs. MEMS fabrication allows micro-sensors, which gather data, and micro-actuators, which convert energy into motion, to integrate on the same

substrate. Although MEMS have a low per-device production cost, packaging can be a challenge. Each MEMS must be packaged so that electrical or optical circuitry and other device components remain free from air and water contamination, while still being able to interact with the surrounding environment and accomodate motion. While the functional elements of MEMS are miniaturized structures, sensors, actuators, and microelectronics, the most notable (and perhaps most interesting) elements are the microsensors and microactuators

Dr SK Gupta talked that researchers in biology, chemistry and physics employ the field emission scanning electron microscope (FESEM) to observe small structures (as small as 1 nanometer = one billion of a millimeter!) on the surface of cells and material. A few examples of object that are studied with a FESEM in practice are organelles and nuclei of cells, synthetical polymeres and coatings of microchips.

Dr. Kishore Kumar Devarepally informed the participants that the dye-sensitized solar cell (DSSC) is a new type of solar cell which converts the visible light into electricity by using the photo-electrochemical system. It is based on the sensitization of the wide band gap semiconductors which is made up of a sandwich-liked structure that consists of a semiconductor formed between a photo-sensitized anode and an electrolyte. In this research, we focused on the TiO_2 photo-electrode by evaluating the particle size of titania, determining the effects of molecular binder PEG towards TiO_2 paste preparation, as well as the effects of natural dye by comparing the blueberry, gardenia blue and yellow and red yeast dye, and evaluating the effect of the multilayer of TiO_2 .

When placed in the sun, photons of the sunlight can excite electrons on the p-type side of the semiconductor, a process known as photoexcitation. In silicon, sunlight can provide enough energy to push an electron out of the lower-energy valence band into the higher- energy conduction band . As the name implies, electrons in the conduction band are free to move about the silicon. When a load is placed across the cell as a whole, these electrons will flow out of the p-type side into the n-type side, lose energy while moving through the external circuit, and then flow back into the p-type material where they can once again re- combine with the valence-band hole they left behind. In this way, sunlight creates an electrical current.

Dr. C. M. S. Negi delivered a talk on Dynamics of Higher Education in 21st Century. The Partnership for 21st Century Skills is a public-private partnership organized to create an overall vision of how 21st century skills can be incorporated into education. Talk is focus on

Six Elements Of 21st Century Learning • Emphasize core subjects • Emphasize learning skills • Use 21st century tools to develop learning skills • Teach and learn in a 21st century context • Teach and learn 21st century content • Use 21st century assessment that measure 21st century skills.

Dr. Amarjeet Singh, dwelled on the Theory of Relativity. Light is electromagnetic radiation within a certain portion of the electromagnetic spectrum. The word usually refers to visible light, which is visible to the human eye and is responsible for the sense of sight. Visible light is usually defined as having wavelengths in the range of 400–700 nanometres (nm), or 4.00×10^{-7} to 7.00×10^{-7} m, between the infrared (with longer wavelengths) and the ultraviolet (with shorter wavelengths). This wavelength means a frequency range of roughly 430–750 terahertz (THz). The theory of relativity usually encompasses two interrelated theories by Albert Einstein: special relativity and general relativity. Special relativity applies to elementary particles and their interactions, describing all their physical phenomena except gravity. General relativity explains the law of gravitation and its relation to other forces of nature. It applies to the cosmological and astrophysical realm, including astronomy. The theory transformed theoretical physics and astronomy during the 20th century, superseding a 200-year-old theory of mechanics created primarily by Isaac Newton. It introduced concepts including spacetime as a unified entity of space and time, relativity of simultaneity, kinematic and gravitational time dilation, and length contraction. In the field of physics, relativity improved the science of elementary particles and their fundamental interactions, along with ushering in the nuclear age. With relativity, cosmology and astrophysics predicted extraordinary astronomical phenomena such as neutron stars, black holes, and gravitational waves.

Prof. Sudhish Kumar offered lecture on XRD and its applications. X-ray diffractometers consist of three basic elements: an X-ray tube, a sample holder, and an X-ray detector. Bruker's X-ray Diffraction D8-Discover instrument. Details X-rays are generated in a cathode ray tube by heating a filament to produce electrons, accelerating the electrons toward a target by applying a voltage, and bombarding the target material with electrons. When electrons have sufficient energy to dislodge inner shell electrons of the target material, characteristic X-ray spectra are produced. These spectra consist of several components, the most common being K_{α} and K_{β} . K_{α} consists, in part, of $K_{\alpha 1}$ and $K_{\alpha 2}$. $K_{\alpha 1}$ has a slightly shorter wavelength and twice the intensity as $K_{\alpha 2}$. The specific wavelengths are characteristic of the target material (Cu, Fe, Mo, Cr).

Rietveld refinement is a technique devised by Hugo Rietveld for use in the characterisation of crystalline materials. The neutron and x-ray diffraction of powder samples results in a pattern characterised by reflections (peaks in intensity) at certain positions. The height, width and position of these reflections can be used to determine many aspects of the material's structure. The Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the measured profile. The introduction of this technique was a significant step forward in the diffraction analysis of powder samples as, unlike other techniques at that time, it was able to deal reliably with strongly overlapping reflections.

Dr. Saurabh Dalela delivered lecture on X-ray Absorption Spectroscopy (XAS) which includes both Extended X-Ray Absorption Fine Structure (EXAFS) and X-ray Absorption Near Edge Structure (XANES). XAS is the measurement of the x-ray absorption of a material as a function of energy. X-rays of a narrow energy resolution are shone on the sample and the incident and transmitted x-ray intensity is recorded as the incident x-ray energy is incremented. The entire discussion is covered in this lecture. X-ray photoelectron spectroscopy (XPS) is a surface-sensitive quantitative spectroscopic technique that measures the elemental composition at the parts per thousand range, empirical formula, chemical state and electronic state of the elements that exist within a material.

XPS also known as Electron Spectroscopy for Chemical Analysis (ESCA) is the most widely used surface analysis technique because it can be applied to a broad range of materials and provides valuable quantitative and chemical state information from the surface of the material being studied.

Dr. S. N. Dolia gave introduction to general magnetic behavior of various magnetic materials will be discussed. Diluted Magnetic Semiconductors. Materials were introduced as possible Systems for Spintronics applications. Synthesis and Magnetic properties of 3d transition metal substituted ZnO in bulk and nanocrystalline form will be discussed. The bulk materials have been synthesized using solid-state reaction method and the nanocrystalline materials by chemical co-precipitation method. The Rietveld refinement of XRD patterns confirmed the formation of Wurtzite type hexagonal structure in single phase in these materials. SQUID measurements show clear evidence of weak ferromagnetic ordering at room temperature in all these samples. The observed ferromagnetism seems to show close correlation with the oxygen vacancy defects. On hydrogenation, there is a noticeable inducement or strengthening of ferromagnetism in these samples. This ordering strengthens further upon cooling down the samples. Spintronics, or spin electronics, refers to the study of the role played by electron

(and more generally nuclear) spin in solid state physics, and possible devices that specifically exploit spin properties instead of or in addition to charge degrees of freedom. For example, spin relaxation and spin transport in metals and semiconductors are of fundamental research interest not only for being basic solid state physics issues, but also for the already demonstrated potential these phenomena have in electronic technology (some short reviews). The prototype device that is already in use in industry as a read head and a memory-storage cell is the giant-magnetoresistive (GMR) sandwich structure which consists of alternating ferromagnetic and nonmagnetic metal layers. Depending on the relative orientation of the magnetizations in the magnetic layers, the device resistance changes from small (parallel magnetizations) to large (antiparallel magnetizations). This change in resistance (also called magnetoresistance) is used to sense changes in magnetic fields. Recent efforts in GMR technology have also involved magnetic tunnel junction devices where the tunneling current depends on spin orientations of the electrodes.

Mr. V. K. Gupta gave lectures on Major Environmental Challenges in India. Environment degradation has adversely affected the poor who depend upon the resources of their immediate surroundings. Thus, the challenge of poverty and the challenge environment degradation are two facts of the same challenge. The population growth is essentially a function of poverty. Because, to the very poor, every child is an earner and helper and global concerns have little relevance for him.

The environmental impact of the energy industry is diverse. Energy has been harnessed by human beings for millennia. Initially it was with the use of fire for light, heat, cooking and for safety, and its use can be traced back at least 1.9 million years. In recent years there has been a trend towards the increased commercialization of various renewable energy sources. Consumption of fossil fuel resources leads to global warming and climate change. In most parts of the world little change is being made to slow these changes. If the peak oil theory proves true, and more explorations of viable alternative energy sources are made, our impact could be less hostile to our environment. Rapidly advancing technologies can achieve a transition of energy generation, water and waste management, and food production towards better environmental and energy usage practices using methods of systems ecology and industrial ecology

Dr. Krishna Prasad Tewari delivered talk on Evaluation and Feedback In Higher Education and Innovative Research Possibilities For All Subjects. He explained evaluation. Evaluation is the making of a judgement about the amount, number, or value of something; assessment.

Educational assessment is the process of documenting knowledge, skills, attitudes, and beliefs. There are Various methods of Evaluation like Written, exam- oral, Subjective-objective, Semester- yearly, trimester, weekly, monthly, Continuous, summative, Internal-external Grading- marks, Assessment by a single examiner, A single question by a single examiner, Online assessment, Remedial assessment, feedback based, ICT based assessment, Performing arts , Soft Skills based, Placement based, Task based Audio- visual, Coursera & MOOC etc.

Innovation means introduction of something new. Thus, Innovation can be defined as the introduction of a new product, service or process into market place. “Innovation is celebration of creativity.” Invention is the "creation of a product or introduction of a process for the first time.“ Innovation happens when someone "improves on or makes a significant contribution“. Creativity is about unleashing the potential of the mind to conceive new ideas.

Dr. A. K. Agrawal offered talks on Ethnobotany in relation to human well-being and Vermibotechnology a key of organic farming in sustainable development. He explained that From ancient time the indigenous people have been using plant genetic resources as edible items, medicines, and other material purposes as their livelihood. This traditional knowledge of the ethnic societies which they could developed over years of observation, trial and error, inference and inheritance, however, remained only with them due to their own distinct culture, belief, taboos , religious rites and traditional habits of food and medicine.

India is an agriculture dependent economy and organic farming is an important pathway for sustainable development. Organic farming is a production system that sustains the health of soils, ecosystems and people. Unfortunately, in developing countries like India, where agriculture is the major resource, we could not maintain/ensure sustainable productivity, maintenance of soil health, conservation of environment as well as processing of agricultural products free from toxic residues.

Dr. S. M. Khan explained the Geographic information system (GIS). Talk I, II, III: A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data. The acronym GIS is sometimes used for geographic information science (GIScience) to refer to the academic discipline that studies geographic information systems and is a large domain within the broader academic discipline of geoinformatics. In general, the term describes any information system that integrates, stores, edits, analyzes, shares, and displays geographic information. GIS

applications are tools that allow users to create interactive queries (user-created searches), analyze spatial information, edit data in maps, and present the results of all these operations. Geographic information science is the science underlying geographic concepts, applications, and systems. GIS can refer to a number of different technologies, processes, and methods. It is attached to many operations and has many applications related to engineering, planning, management, transport/logistics, insurance, telecommunications, and business. For that reason, GIS and location intelligence applications can be the foundation for many location-enabled services that rely on analysis and visualization.

Dr. S. K. Gupta taught Micro Raman spectroscopy. Micro Raman spectroscopy is a technique that uses a specialized Raman spectrometer to measure the spectra of microscopic samples. In general terms, a Raman spectrometer is integrated with a Raman microscope. Different exciting lasers may be used to excite a microscopic sample at different wavelengths so that the micro Raman spectrometer can collect and analyze the vibration spectra.

Dr. A. S. Verma explained how to score API – UGC and UGC Act regarding appointment. These Regulations may be called the University Grants Commission (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education) (4th Amendment), Regulations, 2016. They shall apply to every University established or incorporated by or under a Central Act, Provincial Act or a State Act, every institution including a constituent or an affiliated College recognized by the Commission, in consultation with the University concerned under clause (f) of Section 2 of the University Grants Commission Act, 1956 (3 of 1956) and every Institution Deemed to be a University under Section 3 of the said Act.

Based on the teacher's self-assessment, API scores are proposed for research and academic contributions. The minimum API scores required for teachers from this category are different for different levels of promotion in universities and colleges. The self-assessment score shall be based on verifiable records and shall be finalized by the screening cum evaluation committee for the promotion of Assistant Professor to higher grades and Selection Committee for the promotion of Assistant Professor to Associate Professor and Associate Professor to Professor and for direct recruitment of Associate Professor and Professor.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*,
MHRD, Government of India)

Title of the programme: Talk Happy Therapy: A Step towards Happiness

Duration: 3rd May, 2017

Talk Happy Therapy is an initiative collaborating mental health with media, aiming to minimize common anxieties which are generally due to negative thoughts and obsessions; through entertainment. We believe in its one of a kind approach bringing creativity in action with specifically designed sessions for a target audience.

Simran Luthra is the founder of Talk Happy Therapy apart from experiences as psychologist she has been anchor with Doordarshan National channel, an actor in Mahesh Bhatt's play Daddy which she has also performed internationally in Pakistan and also been a Radio producer with Fever 104 FM in Delhi. Presently she is working as a personality trainer with the Government of India and running campaign for the Energy sector as well.

Aditya Dubey is an ex-copywriter. He left his full time job in Hindustan Times to pursue a career in standup comedy and video content creation. His two prime motives in life are to make people laugh and think.

Kanishk Priyadarshi is an anchor at Brown Street, New Delhi. He is a student at British Council India, an actor in Asmita Theatre Group. Presently he's been assisting Simran Luthra in her new founding therapy.

The participants learned to deal with their anxieties in a rational and happy way through various exercises.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: National Workshop on *Well Being and Happiness*

Duration: July 9- 15, 2017

Faculty Development Centre, Banasthali Vidyapith facilitated by the Home Science Department organized Seven Day National Workshop on Well Being and Happiness under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, MHRD, Government of India from July 9- 15, 2017.

Subjective Wellbeing covers a broad category that includes people's emotional responses, domain satisfactions and global judgments of life satisfaction.

The movement therapy sessions covering a broad range of Eastern and Western movement approaches for promoting physical, mental, emotional and spiritual well-being were conducted by Ms. Sangeeta A Khurana, Co-founder and Director, THOTS, Psycho-somatic Therapist, Expressive Arts/ Dance Movement Therapist and NLP Master Practitioner from Gurugram. Prof. Monika Jain, had the participants eating out of her hands during the session on Food and Mood. Prof. K D Joshi, highlighted issues relating to design for mood. Prof. Himadri Ghosh, Director, brightened the spirits of the participants in the color therapy session. Considering the importance of Self Realization in achieving happiness, a session on Knowing the Real "I" was conducted by Dr. Suvidha,. To manage stress Dr. Usha Tiwari, h conducted session on different acupressure points to relieve tension and anxieties, participants learnt various funny activities to manage stress. Vocal fatigue can play havoc especially in teaching profession and enlightening session on same was conducted by Dr. Namrata Arora Charpe.

Ms. Mehak Arora, Founder of Resonate Psychological Services and her assistant Ms. Yukti Ballani, Gurugram conducted session on Happiness Fulfillment and Relationship Counseling. Prof. Harsh Purohit, did an eye opening session on Money and Happiness. Prof. Sheel Sharma,

conducted a session on Women Health and Quality of Life and called it as an unequivocal index of National Development.

The session on Art for Happiness by Prof. Kiran Sarna and Mr. Manoj Tailor highlighted the fact that art indeed brings greater happiness. Ms. Kirti Khurana, Psychologist and Clinical Hypnotherapist, had the participants spell bound by her session on Effective Communication Skills: The Key to a Happier and Healthier Lifestyle. The concluding session on Self Management through Mind Sciences by Dr. Kavita Bhargava, was dynamic and made the participants realize that a wandering mind is an unhappy mind and focused on how to overcome the same.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: National Workshop on Frontiers and advances in science and technology

Duration: 23rd July-19th August 2017

Report

A twenty-eight days National workshop on “Frontiers and advances in science and technology” from July 23, 2017 to August 19, 2017 was conducted by the Faculty Development Centre, Banasthali University, facilitated by the Department of Physics. Thirty two faculty members from universities all over the India have participated in this program. Faculty and scientists from various reputed universities and research laboratories have come to share their ideas about teaching and research methodology as well as provide hands on experience on various equipment available in the department. Under the program, the Centre has also organized field visit to Bisalpur dam, Rajasthan. During field visit, participants gained knowledge about canal irrigation system and also water purification system. Participants were highly benefitted by this event in terms of novel class room teaching, learning and research ideas.

Dr. A. S. Verma enlightened the audience on University Grants Commission-No.F.1-2/2016 (PS/Amendment) application and commencement. These Regulations may be called the University Grants Commission (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education) (4th Amendment), Regulations, 2016. They shall apply to every University established or incorporated by or under a Central Act, Provincial Act or a State Act, every institution including a constituent or an affiliated College recognized by the Commission, in consultation with the University concerned under clause (f) of Section 2 of the University Grants Commission Act, 1956 (3 of 1956) and every Institution Deemed to be a University under Section 3 of the said Act.

Dr. P. K. Ahluwalia gave an overview of the history of the Nobel Prize in physics and the work performed by each one of the laureates. Their work is described briefly, as it would be a formidable task to engage in the thorough exploration of the physical concepts behind each one of the acknowledged works. This talk is divided into six general areas of knowledge in physics: atomic and particle physics, quantum mechanics, condensed matter, astrophysics, thermodynamics and statistical mechanics, and development of experimental methods and technology. Development growth and human prosperity are heavily dependent on adequate supply, security, and efficient use of energy. With the growth, there is an ever rising demand for energy and challenges of ensuring adequate resources of the energy. Equally important is the need to ensure that the energy is obtained and used responsibly with low or minimal impacts on lives and nature. Progress in general therefore makes it necessary to constantly reform energy sectors in an effort to meet the energy demand and challenges. The oil shocks of the 1970s, which brought about unprecedented threats to energy security worldwide, are a particular example of challenges that can be faced. The challenge of oil shocks was in fact so critical that it forced a worldwide re-evaluation of the dependency on fossil fuels as a dominant energy source.

Dr. S.N. Dolia talked on Superparamagnetic behavior of nanoparticles of substituted ferrites. The origin of magnetism in various types of magnetic materials and Direct and super exchange interactions between magnetic ions will be discussed. The superparamagnetic behaviour of single domain magnetic particles with respect to magnetic field and temperatures will also be discussed in detail. The chemical and magnetic properties of materials behave differently at nanoscale as compared to individual atoms or molecules or bulk materials. Results of overall magnetic behaviour of nanoparticles of various substituted spinel ferrites obtained by SQUID magnetometer and Vibrating Sample Magnetometer synthesized using sol-gel method will also be presented.

Dr. Amarjeet Singh talked about Self-assembly of proteins at air-water interface; Elastic properties of Biomolecules; Polymeric Electronic Devices; Historical Development of Light; Self-assembly of proteins at air-water interface. The growth mechanism of a protein monolayer at the air–water interface was investigated using dynamic surface tension, diffuse X-ray scattering and X-ray fluorescence techniques. To ensure the surface sensitivity, the grazing angle was kept smaller than the critical angle of the total external reflection for water. The protein solution was inserted into liquid in a Langmuir trough and the surface was monitored with time-resolved measurements which demonstrate a sequential mechanism

involving adsorption and relaxation processes characterized with different time-scales. X-ray measurements provide evidence for sudden time-scale shifts which could not be observed with surface pressure measurements. We propose a mechanism to separate adsorption and relaxation processes by simultaneously measuring surface pressure and X-ray scattering. The X-ray fluorescence technique, which is not sensitive to in-plane structural organisation at the surface, supports the X-ray scattering results.

A protein monolayer grown at a water surface decorated with a mild coverage of surfactants, was compressed laterally followed by decompression in a cycle. The surface tension and the thickness of the layer was monitored by using Wilhelmy plate and grazing incidence off-specular X-ray scattering techniques (GIXOS). Under in-plane isothermal compression the thickness of the layer expands. There were two different regimes of expansion- at first it occurs due the conformational changes of proteins under pressure and then buckling of layer into folded layers beyond a critical pressure. On removal of the pressure the layer returns to the original thickness and texture as observed by GIXOS and Brewster Angle Microscope (BAM). To determine elastic constants—Young's modulus and Poisson's ratio—the layer was modeled as a homogeneous and isotropic elastic body. The Young's modulus was found to be of the order of 10 MPa which we account for the elasticity of secondary structures such as α -helix and β -sheets of the protein. The conformational changes are associated with the modification of tertiary structure through the bending and twisting of secondary structures.

A P3HT–PCBM has been synthesised based layered heterostructure system by spin coating and thermal vacuum evaporations. Current density (J) was measured as a function of applied electric field (E) across the system bound between two metal electrodes. J – E relations were analyzed into the backdrop of space charge limited current model and Schottky model. The later was used to predict dc-dielectric constants from the linear slopes of $\ln(J)$ versus $E^{1/2}$. The curves were not monotonously linear, but observe a knee-bend separating into two linear segments for each curve. Thermal annealing from 40 °C to 80 °C was used as an activation tool for driving changes in the internal morphology via inter-diffusion of polymers and current measurements were performed at room temperature after each annealing. At the last stage of annealing the two linear slopes were highly distinct. The presence of sharp knee-bend results in approximately 20 times jump in dielectric constant as a function of electric field. Such high jumps in dielectric constant illustrate the potential for switching applications and charge storage. The high dielectric constants can be understood in terms of space charge polarization due to isolated domains which hindrance to charge transport. The high dielectric

constants were confirmed by another experiment of capacitance measurements of a different set of similar samples. In another sample prepared with low concentrations of polymers (10 mg/ml), negative differential resistance was observed for the first time.

The first systematic study of light is found in a book –*kitaab-al-manazir* by Ibn al Haytaam of Egypt. It completed 1000 years in 2015 which was celebrated as international year of light by United Nations. The journey of light evolved through its own struggle where it's particle and wave manifestations were revealed in different times to give a new twist to the tale every time. Many stalwart such as Galileo, Newton, Huygens, Young and Einstein contributed to the development of light as we understand it today which is both a wave as well as particle.

Dr. C.S.P. Tripathi detailed about Phase transitions in soft matter systems. Soft matter systems comprise a variety of mater in different physical states that are easily deformed by thermal stresses or thermal fluctuations. Soft matter systems include liquids, colloids, polymers, foams, gels, granular materials, and a number of biological materials. To understand self-assembly we've got to understand three things i.e. Equilibrium, Phase transitions, and kinetics of phase transitions.

Dr. D. Guin discussed detection of toxic ions in water level be the one of the major concern of current day research. Disproportionate amount of toxic ions like fluoride, mercury in water is harmful for both human health and agricultural purpose. Till date most of the detection techniques available till date are very expensive. With help of recent development in nanoscience and nanotechnology, researchers now able to introduce more efficient, low cost materials and techniques to detect toxic ions even in ppb level. Optical detection using nanomaterials as optical sensor is the one of the best low cost-efficient alternative to address this problem. First part of my presentation I will talk on the background of nanotechnology and importance and current ongoing research on toxic ions detection. Second part of my talk, I will discuss on my own research activity in this direction.

Dr. Shailendra Kumar shared his thoughts on study alkali metal (Na, Cs) intercalation between Graphene and underlying Ni(111) substrate using angle-resolved photoemission spectroscopy. His lab has investigated the role of alkali metal (Na and Cs) intercalation on the electronic structure of epitaxially grown graphene on the Ni(111) substrate. The graphene was grown on a Ni(111) substrate in a C₂H₂ atmosphere of $\sim 1.0 \times 10^{-6}$ Torr and studied using high-resolution photoelectron spectroscopy (HRPES) angle-resolved photoemission spectroscopy (ARPES) at 10D and 4A2 beamlines of PAL. The ARPES data, measured near

K point for Graphene/Ni(111), shows strong interaction between graphene and Ni 3d bands. To weaken these interaction through decoupling of graphene layer from the Ni(111) substrate, the alkali metals (Na and Cs) were deposited at low temperature (120K) and then the ARPES data was measured with increasing substrate temperature. The alkali metals adsorb on top of the surface at the lowest temperature and then start to intercalate at ~ 125 K. The ARPES data displays that alkali metals intercalates completely at ~ 175 K. These results indicate that the electronic structure of the graphene/Ni(111) recovers the inherent electronic structure of graphene.

Electronic Structural and magnetic properties of Dilute Magnetic Semiconductors was also discussed. Dilute magnetic semiconductors (DMSs) have attracted the attention of the scientific community due to their advanced technological application in spintronics devices such as novel transistors, lasers, integrated magnetic sensors; ultralow power, high-speed memories; and logic and photonic devices by utilizing the spin of charge carriers as well as to understand the underlying physics of these materials. DMSs offer a possible system to realize the control of the charge transport by using the spin degree of freedom. DMSs can be designed and their properties can be tailored by doping of magnetic ion in a semiconducting host matrix. In spite of progress in the search of new materials and device fabrication, a big issue has been discussed controversially at the moment is the nature of room temperature ferromagnetism (RTFM) in these systems, because much of the controversy has originated from the fact that clustering or phase separation of magnetic dopant ion can result in magnetic data that is misleading and unreliable. Till date many potential compounds such as: pure and transition metal (TM) doped ZnO, TiO₂, SnO₂, In₂O₃, CeO₂ and HfO₂etc, have been reported to show RTFM but the intrinsic origination of the FM is still under contest. In this talk, I will discuss the growth and characterization of pure and TM doped oxide based semiconductors nano materials, such as ZnO, CeO₂ and In₂O₃ as well as the origins of the magnetism in these materials.

Dr. Sagufta Parveen dwelled on the topic ‘Science In History’. The study of history dates back to the classical times and its contributions to the development of human society, which have generated a lot of scholarly debate. Scientific and technological advances fired the imagination of historians to such a high degree that they began to question whether the scientific method would not be applied to better understand the human past. The attempt by historians to assert the scientific status of their discipline was the genesis of the heated debate as to whether history is a science, an art or both. This paper argued that scientific method is

not peculiar to the sciences; it is also applicable to history. Scientific and historical methods are systematic, sequential, logical and progress in clearly defined steps. We do not find an example of a civilization, except perhaps that of ancient Greece, which accorded the same exalted place to knowledge and science as did that of India. This paper will throw lights on the sphere of sciences in which ancient Indian excelled. When we go through the study of history regarding science then it is becoming clearer from these studies that India has consistently been a scientific country, right from Vedic to modern times with the usual fluctuations that can be expected of any country.

India had a rich tradition of science and technology; advance in these fields had slowed down after the eighth century but not come to a standstill. The Sultans of Delhi were very much interested in mechanical devices, like Jalal al-Din Khilji (d.1296) is the first Muslim sultan of Delhi to have showed some intellectual curiosity for Hindu learning and Sanskrit studies. Sultan Muhammad bin Tughlaq (d.1351) was a great scholar versed in logic, Greek philosophy, mathematics, astronomy and physical sciences. He had knowledge of medicine. The Mughal age did not witness any breathtaking discoveries in the fields of different branches of science. One of the renowned scientists of Akbar's time was Mir Fatullah Shirazi and he is credited with the invention of mechanical devices and the introduction of a true solar calendar (Ilahi) exposed to the European learning; the impact of the European learning did not penetrate into the areas of Indian sciences. In the beginning of the 16th century, Varthema records the use of iron nails in Indian ships at Calicut. This paper tried to highlight some major technologies developed during medieval period (Sultanate and Mughal both)

Dr. A. M. Khan informed on Transition in devices: from Micro to nano. The lecture focused on device properties which changes due to their scaling. Almost all the device properties such as electrical property, optical property, I-V characteristics, C-V characteristics etc have been found to change due to device scaling from micro to nano. Actually, Miniaturization has the potential to reduce the size, cost, and power requirements of active optical devices. All these various properties have been explained in his lecture.

Another lecture was devoted to handling of T-Spice Tool. The talk focused on: how the linear and complex analog circuits can be simplified by using T-Spice Tool. The basic features of the tool are that it performs fast, accurate simulations for analog and mixed-signal IC designs. Moreover, it provides a user-friendly graphical interface with simple point-and-click environment to let you run, pause, resume, and stop simulations easily.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: Contemporary Applications and Opportunities in Research and Technology

Duration: 28th July-3rd August, 2017

An one week programme on ‘Contemporary Applications and Opportunities in Research and Technology’ was conducted from 28th July-3rd August, 2017, by the Faculty Development Centre, Banasthali Vidyapith facilitated by the Department of Electronics. Twenty five faculty members participated out of whom ten were women faculty members.

Dr. O.P. Sharma mentioned that the purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Research objectives were discussed in the following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it (known as exploratory or formulative research studies);
2. To determine the frequency with which something occurs or with which it is associated with something else (known as diagnostic research studies);
3. To test a hypothesis of a causal relationship between variables (known as hypothesis-testing research studies)

Dr. Rajesh Kumar explained the concept of research methodology including types of research, hypothesis, data collection, data segmentation and data analysis have been discussed and recent development in bio-inspired algorithms, system prediction models, smart power networks, medical assistive systems and data analysis have been discussed.

Dr. Ranajan Maheshwari dwelled upon the concept of advance biomedical engineering has been focused. It is a discipline that advances knowledge in engineering, biology and medicine, and improves human health through cross-disciplinary activities that integrate the engineering sciences with the biomedical sciences and clinical practice. The development of

new devices, algorithms, processes and systems that advance biology and medicine and improve medical practice and health care delivery also have been focused.

Dr. Ankush Jain explained the mathematical modeling of MEMS devices; inertial sensors, UV-LIGA technology, and vacuum packaging have been included in the talk. Discussion of national, international conferences and journals, how to write good research paper have also discussed.

Dr. Y. K. Vijay talked about the material science and interaction of radiation with materials, thin films, optical, electrical and gas adsorption properties, metal hydrides, bulk and thin films hydrogen storage characteristics, positron annihilation, defects nucleation, characterization and migration, polymers and semiconductors structure modification by energetic ion, nano filters for gas purification have been discussed.

Mr. Anil Kumar Yadav discussed the current scenario of control systems. Almost all physical systems are inherently nonlinear in nature. The design of controller for nonlinear systems is a difficult process; hence the controlling of such nonlinear systems continues to be a challenging task for the researchers in the field of control systems. The aim of this proposed work is to find the control solutions that can be applied to any of the nonlinear vehicle systems such as hybrid electric vehicle (HEV), unmanned aerial vehicle (UAV) and heavy duty vehicle (HDV) for speed control applications through the electronic throttle control system (ETCS). A high performance DC and brushless DC servo motor drives are used for the design of ETCS that regulates of desired throttle position rapidly and precisely.

Dr. S. K. Jha discussed optimal control, robust control, bio-inspired control and electric drives. In the face of burgeoning case of inhuman activity world over his current interest extends to discovering and revealing the intertwined link between science and spirituality.

Dr. Saurabh Mukharjee discussed the concept of genetic algorithms, their use in medical imaging, its futuristic approach.

Prof. Sarla Pareek broadly explained the importance of data, quality of data, data collection, data analysis, data statistics and latest statistical tools.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: Contemporary Applications and Opportunities in Research and Technology

Duration: 28th July-3rd August, 2017

Report

The Faculty Development Centre, Banasthali Vidyapith organized a seven day FDP programme on Research Methodology: Tools & Techniques in Earth Sciences through August 10th to 16th, 2017 facilitated by the School of Earth Sciences to enable the participants to develop competence in understanding of recent advances in Earth Sciences research methodologies and to improve pedagogies, with the objectives to inspire and sensitize the faculty members about the vitality and subject implications of research methodology in the field of Earth Sciences. A field visit was conducted to the Ranathambore National Park, Sawai Madhopur. Thirty three faculty members including twenty four women participants' from distant areas of the country including West Bengal, Nagpur-Maharashtra, Ajmer and Jaipur participated in the programme.

The programme was conducted by the team of eminent academicians possessing in-depth knowledge in the area of earth science research methodologies and project management. It will consist of a series of interactive lectures and practical sessions. The participants were helped to develop the insights for identifying the research problems, new tools, techniques, and research methodology and extensive exposures to diverse aspects of earth science research methodologies was provided. It helped to enhance the skills of the participants to use statistical techniques in geo-environmental research and to understand the approaches for the development of high impact peer reviewed international journal articles and preparation for project proposals.

The major aspects of the programme were research types, approaches, process and problems related to Earth Sciences, Research tools and techniques in context with Earth Sciences, Remote Sensing & GIS research approaches in Earth Sciences, Hands on training on Geo

statistical tools and techniques in Earth Sciences, Emerging trends in geo-environmental data dissemination for research utilization, Technical guidance to enrich research writing: paper and project proposal. There were interactive lectures, discussions, presentations and hands on practice by various experts on topics related with research, and its methods as well as tools and techniques adopted by the Earth scientists from different fields.

Prof. Santosh Shukla took very interactive session on “Dimensions of Research: Some issues” covering research methodology just after the inauguration of the FDP program. In the session basics of research methodology and types of different research methods had been discussed. How a research should be done with particular steps had been discussed. Next he took the interactive session on how to write bibliography and research paper and research projects. Different citation methods had been taught to participants. The discussion that followed was guided by questions posed by the participants. It was highly interactive session.

Prof. R. N. Mishra delivered lectures session on “sampling techniques and its applications” and “Role of growth centers in integrated development planning of a region” during the FDP program. In the session basics of sampling methods, its characteristics and types were discussed in regards with various earth sciences parameters. Next he took the interactive session on role of growth centers during which he explained the concept of growth centers. He discussed the methodology used for the selection of rural growth centers, the basic facilities at the growth centers and demonstrated the formulae for centrality score based on social amenity index and functional index. It was highly informative and interesting with lots of practical calculations.

Er. Binay Singh had leaded the session on remote sensing day. He covered the basics of remote sensing, GIS and its applications in earth sciences. Further detailed project based analysis of microwave remote sensing had been covered by him in first morning session. In afternoon session hands on exposure was provided to the participants for the various satellite data products using the software available with school of earth sciences. The method of basic image interpretation analysis was discussed and was done by all participants.

Prof. Piyush Kant Rai covered the basic of research methodology and the various statistical tools available for research use. The introductory session was followed by the demonstration of the SPSS package and its use. The selection of parameters used in research and its digital implementation was covered by the expert. Creating variable and generation of relationships

between the variables in the software was explained. It was very interactive and interesting session.

Prof. Vibhuti Rai highlighted the methods and techniques for research in geology. He started with briefing about key characteristics of a researcher, his duties and how should he approach systematically and scientifically towards attaining his/her target. Prof. Rai told us about various aspects of research. His presentation was insightful and interesting. His lecture was full of examples, anecdotes and quotes from famous thinkers. He also talked about Tenets of scientific faith which includes

1. Determinism: Events have causes that events are determined by other circumstances (i.e.. Causal links can eventually be uncovered and understood)
2. Empiricism: Verifiable by observation and ‘evidence’ (data)
3. Principles of Parsimony: Phenomenon should be explained in the most economical way possible.
4. Generality: More problematic in social & behavioral science.

He summarized his lecture with the discussion about some of the significant traits of academic scholars i.e., confidence, competence, experience, honesty & integrity.

Prof. Pandit sir covered cartography section with geology aspects like geological mapping, its concepts, methods and significance. With basic characteristics of map, toposheet had been discussed. Terrain area parameters like contours, slope, aspect etc. had been discussed in brief.

He explained several points such as how to prepare a geological map, record field details including anomalies, use map symbols, how to prepare lithological and structural map. There was also discussion among participants.

Prof. Sudesh Nangia highlighted on how to apply for funding for research projects. She provided details about the various funding agencies their criteria and requirements. Later on there was hands on Practice session. It helped the participants to gain basic understanding of research proposal, research design, its types, setting hypotheses and formulation of objectives, draft a proposal and likewise.

Prof. MK Jat took the first morning session on remote sensing and GIS. The lecture covered the application of remote sensing and GIS. Major focus was on urban and water resource management. Two different case studies had been taken by him on urban sprawl and

watershed managements. Different parameters of urban morphology and watershed at micro level had been discussed. After the first session there were hands on exercises on watershed delineation on ArcGIS software.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: Faculty Development programme on 'Streams of Music' ('संगीत के प्रवाह')

Duration: 21st – 23rd August, 2017

'संगीत के प्रवाह' पर तीन दिवस संकाय विषय कार्य, पंडित मदन मोहन मालवीय राष्ट्रीय स्तर पर और शिक्षा योजना (पीएमए) के तहत आयोजित किया गया। कार्यक्रम में अठारह महिला सहित उन्तीस संकाय सदस्य ने भाग लिया।

उत्तर भारतीय संगीत में घराने का बड़ा महत्व माना गया है घराने से मतलब किसी विशिष्ट गुरु परंपरा से होता है ग्वालियर घराने के वरिष्ठ कलाकार प्रोफेसर पी एल गोहदकर जीने घराने की ख्याल गायकी की विशेषताओं को उजागर किया आपने कहा कि यहां पर आरंभ स्वर खुला और बुलंद लगाया जाता है आवाज को दबाना या छुपाना इस घराने में निषिद्ध माना जाता है। प्रो. गोहदकर जी ने ग्वालियर घराने से संबंधित सभी प्रचलित रागों अप्रचलित तालों में और अप्रचलित तालों को प्रचलित रागों में गाकर उनकी बारीकियों को समझाकर सभी शिक्षकों का ज्ञान वर्धन किया इसके साथ ही विभिन्न घरानों में इन बंदिशों को किस-किस तरह से गाया बजाया जाता है उसका भी आपने बहुत ही कुशलता के साथ मार्गदर्शन किया तत्पश्चात आपने ग्वालियर घराने की कुछ पुरानी बंदिशों को गाकर सबको समझाया। जिससे शिक्षकों को अपने विद्यार्थियों को ग्वालियर घराने के बारे में जानकारी देने में मदद मिलेगी।

कार्यशाला की अगली कड़ी में प्रोफेसर स्मिता सहस्रबुद्धे जी ने संगीत में प्रयुक्त बंदिश एवं स्वर प्रवाह को किस तरह से निरूपित करके संगीत में गाया जाये एवं उनकी बारीकियों को किस तरह से प्रायोगिक तौर पर लिया गया है एवं उन सब के संबंध में से गायन पर किस तरह से प्रभाव पड़ता है इसका आपने प्रमाण देकर सभी प्रतिभागियों को इससे अवगत कराया तथा साथ ही उनके द्वारा सिखाई गई बंदिशों को प्रतिभागियों द्वारा सुनकर उसको बड़ी ही सुगमता के साथ समझा कर चरितार्थ किया।

संगीत का मूलभूत उपादान स्वर है संगीत चाहे भारतीय या पाश्चात्य स्वर पर आधारित होता है जिसको पाश्चात्य संगीत में नोट कहते हैं स्वरों के विभिन्न समुदायों से संगीत का निर्माण होता है स्वर वह नाद है जो रंजक हो और जिसका अन्य नादों के बीच विशिष्ट स्थान हो, केवल नाद के रंजन होने से वह नाद स्वर नहीं बन सकता, स्वर कहलाने के लिए उसको आन्य नादों या ध्वनियों से संबंध होना आवश्यक होता है। हमारे संगीत में ताल का भी बहुत बड़ा महत्व होता है यदि स्वर को शरीर माना जाए तो ताल प्राण के समान होता है और इन दोनों के सहयोग से ही हम सुखद संगीत की परिकल्पना कर सकते हैं स्वर एवं ताल के इस गूढ़तम रहस्य को प्रोफेसर बागेश्री जोशी जी ने सभी प्रतिभागियों के समक्ष लाकर चरितार्थ किया कि स्वर एवम ताल के संयोग से ही संगीत की परिकल्पना की जा सकती है , एवं संगीत के परमानंद को प्राप्त किया जा सकता है इसी लिये संगीत को ईश्वरोपासना का सबसे सुगम मार्ग कहा गया है जिससे सीधे ईश्वर का साक्षात्कार होता है संगीत के विभिन्न आस्पेक्ट्स को प्रो बागेश्री जोशी जी ने बहुत ही सरलता पूर्वक सभी प्रतिभागियों को समझाया जो बहुत ही ज्ञानवर्धक रहा।

ठुमरी विश्व युद्ध भावपूर्ण गायकी होने के कारण हृदय की कोमल भावनाओं को जागृत करती है ठुमरी की कविता में करुण श्रृंगार भक्ति रस आज के भाव पूर्ण वर्णन होते हैं अस्तु ठुमरी को केवल चंचल प्रकृति कहना उचित नहीं होगा बल्कि स्वरों के माध्यम से मानवीय भावों को प्रकट करने का ठुमरी एक सशक्त माध्यम है प्रोफेसर शारदा वैलेंकर जीने ठुमरी के विभिन्न प्रकारों पर प्रकाश डालते हुए उनकी गायन विधि स्वरों का लगा तथा ताल का समंदर करते हुए सभी सहभागियों को बारीकी के साथ सिखाया तथा उसके दूसरे सत्र में अपने सभी सहभागियों को अभ्यास करा कर प्रदर्शन भी कराया ।

कार्यशाला के अंतिम सत्र में मंच प्रदर्शन हुआ 3 दिन की कार्यशाला में दिखाए गए सभी विधाओं का प्रदर्शन किया गया तथा तत्पश्चात विभाग अध्यक्ष प्रोफेसर ईना शास्त्री जी द्वारा समापन कार्य समारोह का कार्यक्रम संपन्न हुआ।

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Title of the programme: Faculty Development Programme in Neuroscience: Prevention and Management of Neurological Disorders

Duration: 21st – 26th August, 2017

A six-day Faculty Development Programme (FDP) of Neuroscience on ‘Prevention and Management of Neurological Disorders’ under the Scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), MHRD Govt of India facilitated by Department of Pharmacy, Banasthali Vidyapith.

In total, 31 participants from different institutions took part in the event. The programme included theoretical lectures and practical demonstrations in the thematic area. During this event, the participants benefitted and learned various techniques employed in neuroscience research in addition to understanding the molecular basis of neurological disorders.

The FDP included lectures by eminent scientists and academicians to the caliber of like Prof. Arvind Kumar, Centre for Cellular & Molecular Biology, Hyderabad, Dr. Sandhya Koushika, Tata Institute of Fundamental Research, Mumbai, Prof Sarita Aggrawal SGPIMS, Lucknow, Dr. Renu Bisth, Department of Biotechnology, Banasthali Vidyapith and Dr. Saurabh Mukharji, AIM & ACT, Banasthali University.

Prof. Arvind Kumar, Centre for Cellular & Molecular Biology, Hyderabad delivered a lecture on ‘Deregulation of transcriptionally repressive histone lysine methylation based epigenetic mechanisms leads to depression and related psychiatric disorders’. The title of talk of Dr. Koushika was Traffic Jams in Neurons while Prof. Sarita Aggrawal discussed about ‘Genetics of trinucleotide repeat disorders: Past to present’. Dr. Saurabh Mukherjee, Banasthali University delivered a talk on ‘computational perspective of medical images: A soft computing based approach’. Dr. Renu Bist discussed about effect of resveratrol, alpha lipoic acid, ascorbic acid and vitamin E on brain cholinesterase in cerebellum and ponsmedulla of lindane intoxicated mice.

During this six day event, laboratory practice sessions on ‘Demonstration of Sleep Scoring Software; Epoch wireless EEG; Demonstration of Rodent Stereotaxic Surgery; Nerve Conduction Velocity; Any Maze with video tracking software’ were also took place.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Internet of Things for Smart Living

Strategy: 3 days programme with extensive hands on training. (In collaboration with Department of Economics)

Proposed dates: August 29 – Sept. 2, 2017.

About the workshop:

The Internet of Things (IOT) is an environment in which objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. The aim of this FDP is to expand awareness, educate, inform and engage on all aspects of the Internet of Things (IoT) including components, technologies, products, applications, consumer usage and societal impact. During these five days, various researchers and industry experts will share their insights, real life scenarios, practical use cases and their solutions on The Internet of Things-Hands on Development.

Distinguished faculty members of reputed National and International Institutions and experts from Industrial organizations shall be delivering lectures and conducting hands-on-sessions.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Statistics and Econometrics for Empirical Research

Strategy: 7 days programme with extensive hands on training. (In collaboration with Department of Economics)

Proposed dates: September 9th – 15th, 2017.

Target Participants- College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching Economics, Finance and Statistics or doing research in this area.

Tentative Experts:

S. No.	Name of Faculty	Affiliation	Topics
1.	Prof. Neeraj Hatekar	Department of Economics, University of Mumbai	Theory of Statistical Inference
2.	Prof. A.K.Giri	Department of Economics and Finance, BITS, Pilani	Time Series Econometrics
3.	Dr. Ranjan Kumar Dash	Assistant Professor, Symbiosis School of Economics, Pune, formerly associated with Institute of Economic Growth (IEG) & National Council of Applied Economic Research (NCAER), New Delhi	Panel Data Techniques

About the workshop:

The FDP aims to train academicians and researchers who wish to teach as well as use Statistical and Econometric techniques in empirical research. The FDP intends to cover the Theory of Statistical Inference, Time Series Econometrics and an Overview of Panel Data Techniques including hands on training on Eviews.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Revisiting Gandhian Values

Strategy: 7 days programme with extensive hands on training. (In collaboration with Department of Economics)

Proposed dates: September 11th – 17th, 2017.

The contemporary world is passing through a period of great spiritual, economic and moral crisis. The consumerist culture and a declining value system have deeply affected our society. There is a pervasive climate of isolationism and restlessness. At this hour of crisis what India needs, and what in fact the world needs, is a creative synthesis of humanism and values of Gandhi.

M.K. Gandhi was a great karma yogi, a person who kept the highest standard of morality, a true patriot who stood for the social liberation of women, who ended caste oppression and discrimination, and in general, it is he who has applied reason to all aspects of social life. Gandhiji had the vision of a world where all conflicts would be settled without violence. He was one of those philosophers who believed in self-sacrifice, Satyagraha, Truth and Non-Violence. Gandhian philosophy is comprehensive and it has left no aspect of human life untouched. In his philosophy, there are very clear indications of his love for individual and national freedom. As a great social thinker and reformer he represents multidimensional personality with clear vision and definite approach. His philosophy is not an idea but a way of life, on the basis of his values, state, society and all mankind can be benefited and transformed. This is why Gandhian values are timeless and universal.

It is sixty nine years since Gandhi was assassinated and the man is still alive in the Indian psyche. This is a good time to rethink and revisit the Gandhian Values, Philosophy and technique.

Objectives:

- To develop a creative approach among young faculty members by inculcating Gandhian values.
- To motivate scholars for research in Gandhian philosophy and to provide them with a platform for discussion on its relevant issues.
- To make imitable, acceptable and popularize the relevance of Gandhian philosophy among youth.
- To discuss Gandhian thought and technique to resolve contemporary problems of the world.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Soft Computing Techniques and its Applications

Strategy: 15 days programme with extensive hands on training. (In collaboration with Department of Computer Science)

Proposed dates: October 1st – 15th, 2017

Target Participants- Target Participants: College and University teachers in with knowledge in computer networks and basic programming.

Tentative Experts: Will be invited from Industry and Academia

About the workshop:

The workshop will benefit the participants:

- To understand the basics of soft computing and its application area.
- To provide a deep analysis of fundamental concepts of Neural Network, Fuzzy Logic, Genetic Algorithm, Nature inspired computing and hybrid soft computing models to research scholars and faculty members through ‘learning by doing’.
- To demonstrate the use of soft computing techniques in applications like image analysis and computer vision using simulation tools like Matlab, R Studio, Octave and many more.
- To elaborate the applications of soft computing in research fields such as robotics, medical , Financial derivatives , biotechnology , pharmaceutical science , security to name a few.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: National Seminar and Workshop on Inclusive Education: Issues and Concerns

Strategy: Seven days program in collaboration with Department of Home Science

Proposed dates: October 5th – 11th, 2017.

Target Participants- College and University teachers in social sciences, commerce, home science, management and allied disciplines.

Tentative Experts:

- Mrs. Anjali Agrawal
- Bharti Kapoor
- Dr. Mahesh Bhargav
- Hecter Ravinder Dutt

Background of the workshop:

Inclusive education is the need of the hour and there is focus of government on this issue. The inclusive education is still a far flung reality and the workshop –cum- seminar will be organized with the objective of deliberating scientifically on this pertinent issue. Additionally, the workshop will provide training to participants who can in future catalyze the development and enhance the quality of life of exceptional children and disabled population.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: National Workshop on Research Methodology in Physical Sciences

Strategy: 21 days programme with extensive hands on training. (In collaboration with Department of Physics)

Proposed dates: November 1st – 21st, 2017.

Target Participants- Senior and middle level Scientists/Academicians from the fields of Science, Technology, Engineering, Agriculture and Medicine (STEM).

Tentative Experts:

1. Dr. S. K. Mehta, Professor, Department of Chemistry, Panjab University Chandigarh
2. Dr. Garima Jain, Associate Professor & Head, Department of Physics, D A V College, Muzaffarnagar.
3. Dr. Subhash Bajia, Scientist, Mathura Refinery, Mathura.
4. Dr. Kamendra Awasthi, Department of Physics, MNIT Jaipur
5. Dr. Manoj Kumar, Department of Physics, MNIT Jaipur
6. Dr. M H Modi, Scientist, RRCAT, Indore
7. Dr. A K Sinha, Scientist, RRCAT, Indore
8. Dr. V K Khandelwal, Associate Professor, Department of Zoology, K R (PG) College, Mathura
9. Dr. Amarjeet kaur, Associate Professor Department of Physics and Astrophysics University of Delhi, Delhi

About the workshop:

- Provide opportunity for young scientists, academicians and post-graduate students, to learn best practises in Research Methodology, Technical Writing, Language and Soft Skills that could contribute in better research output.

- Equipping the researchers with knowledge about opportunities in applying for Research grants, preparation of proposals for funding agencies, etc.
- Development of soft skills required for researchers and scientists.
- To provide a platform for interaction with eminent scientists and researchers

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: National Workshop on Feminist Research Methodology.

Strategy: Seven days program in collaboration with Department of Sociology

Proposed dates: November 6th – 12th, 2017.

Target Participants: The course will be open for faculty members in higher education..

Background of the workshop:

A methodology is a theory and analysis of how a research should be conducted. Sometimes the methodologies are confused with epistemologies, theories of knowledge, and research methods, which are the actual tools used to carry out the research. From a gender perspective, researchers have noted that traditional methodologies, at times ignore women's knowledge by showing bias towards the male perspective. Important to the concept of research from a gender perspective is the recognition that there is not one specific method or combination of methods that necessarily makes research 'feminist,' but rather that the research comes from an approach that is considerate of the multifaceted nature of gender.

Methodologically, feminist research differs from the traditional research. It actively seeks to remove the power imbalance between research and subject and also begins with the standpoints and experiences of women. A wide range of methods, both qualitative and quantitative, are available to feminist researchers. Instead of focusing on which type of research is better, it makes more sense to allow the context and purpose of the research to guide the choice of research tools and techniques. The Seven Day Workshop on Feminist Research Methodology for faculty members has an objective to facilitate the target group with the need and significance of Feminist Research. Also, the workshop aims to explore epistemologies and methodologies pertaining to Feminist Research. As an outcome, we anticipate our participants to be able to reflect this perspective of Feminist enquiry into their research.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Course in Social Sciences & Humanities.

Strategy: 21 days program in collaboration with Department of Sociology

Proposed dates: December 1st – 28th, 2017.

Target Participants: College and University teachers in humanities and allied areas.

About the workshop:

Rationale:

The Faculty Development Centre, Banasthali Vidyapith, Banasthali organizes Orientation Programme of 4 weeks duration for newly appointed College/University teachers (having less than 6 years of teaching experience) to make them aware of linkages between Society, Environment, Development and Education.

The Objectives of the course are to enable newly appointed faculties to:

- Understand the role of a College/University teacher in the national goal of achieving a secular and egalitarian society.
- Understand the significance of higher education and its role in economic and sociocultural development of the country.
- Analyze the philosophy of education, pedagogy and its significance in Knowledge Creation.
- Contribute to knowledge enhancement
- Create the opportunities for development of personality, inventiveness and creativity.

Programme Curriculum

In order to achieve the above mentioned objectives, the curriculum of Programme includes following five components, which are covered in minimum of 144 contact hours i.e. 6 hours daily for a four-week programme.

Component A: Awareness of linkages between Society, Environment, Development and Education.

Component B: Philosophy of Education, Indian Education, Indian Education System and Pedagogy.

Component C: Resource Awareness and Knowledge Generation

Component D: Management and Personality Development

Evaluation of Participants

The programme experts will assess the participants on the basis of multiple choice objective tests or any other competent means. Candidates will have to get minimum 50 per cent marks for successfully completing the course. The following shall be the grades:

- a) A 75% and above, B 60% to less than 75%, C 50% to less than 60%, F below 50%
- b) The total marks will be fixed at 100 and the same be decided in the following manner:
 - a. Overall response 20, b. Seminar 20, c. Project/Survey/Other 20, d. Micro-teaching/participation 20, e. Multiple choice objective tests 20

The above distribution may be adjusted to meet the specific requirements. The grades will be indicated on the Certificate to be given to the participant at the end of the programme.

Organization

Resource Persons (Tentative)

Dr. Ashwani Kumar Mohapatra, Professor,

International Studies, Centre for West Asian Studies, JNU, N. Delhi

Dr. Rajiv Gupta, Professor,

Department of Sociology, Rajasthan University

Dr. Rakesh Raman, Professor,

Dept. of Economics, Faculty of Social Science, BHU, Varanasi

Dr. Mritunjay Mishra, Professor,

Dept. of Economics, Faculty of Social Science, BHU, Varanasi

Prof. Anjali Gandhi, Former Director,

WSRC, JMI, Delhi

Dr. Mohammad Sajjad, Professor,

Department of History, Aligarh Muslim University, Aligarh

Dr. Shobhita Rajagopal, Professor,

IDS, Jaipur

Dr. Ashok Mittal, Professor,

Department of Economics, Aligarh Muslim University, Aligarh.

Dr. Ramesh Chandra Mishra, Professor, Department of Psychology, BHU, Varanasi

Dr. A Malathi, Professor,

Delhi School of Social Work, Delhi

Mr. Mukul Kesavan, Associate Professor,

Department of History , JMI, Delhi

Dr. Arvinder Ansari, Professor,

Department of Sociology, JMI, Delhi

Prof. P.K. Srivastwa, U.G.C, Emeritus Fellow,

Dept. of History, Lucknow University, Lucknow.

Dr. Deepak Kumar, Professor,

Zakir Hussain Center for Educational Research, JNU, N. Delhi

Dr. Dhananjay Yadav, Professor,

Faculty of Education, University of Allahabad, Allahabad

Dr. Umesh Singh, Professor,

Dept. of Statistics, BHU, Varanasi

Dr. Reeta Kumar, Professor,

Department of Psychology, BHU, Varanasi.

Dr. Sanjeev Kumar H. M., Professor,

Department of Political Science, University of Delhi, Delhi

Dr. J.K. Tiwari, Professor,

Dept. of Sociology, B.H.U., Varanasi.

Dr. Ashok Kaul, Professor,

Department of Sociology, BHU, Varanasi

Dr. Anand Prakash, Professor,

Dept. of Psychology, University of Delhi, Delhi

Dr. Amarnath Mohanty, Professor

Dept. of Political Science, BHU, Varanasi

Dr. D.K. Ojha, Professor

Dept. Of AIHC, BHU, Varanasi

Dr. Shri Prakash Singh, Professor,

Department of Political Science, University of Delhi, Delhi

Dr. Seema Bawa, Professor,

Department of History, University of Delhi, Delhi

Dr. Kameshwar Choudhary, Professor

Department of Sociology, BBAU, Lucknow.

Dr. Yagati Chinna Rao, Professor

Centre for the Study of Discrimination and Exclusion

School of Social Sciences, JNU, N. Delhi

Prof Anita Rastogi, Professor

Faculty of Education, Jamia Millia Islamia, N. Delhi

Dr. A R Venkatachalapathy, Professor

Madras Institute of Development Studies, Chennai

Dr. John Bosco Lourdusamy, Department of Humanities and Social Sciences

IIT Madras, Chennai

Prof. Swaran Singh, Centre for International Politics, School of International Studies.

JNU, New Delhi

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Communicative English and Professional Rhetoric.

Strategy: Twenty eight days program in collaboration with Department of Sociology and Department of History

Proposed dates: December 1st – 28th, 2017.

Target Participants: 25-30 Teachers from different institutions all over India.

Tentative Experts:

1. Professor K. K. Gautam, Jaipur National University, Jaipur
2. Professor V D Singh, Former Professor, CIEFL, Hyderabad.
3. Dr Binod Mishra , Associate Professor, IIT Roorkee, Roorkee
4. Dr Sanjay Arora, Associate Professor, Central University of Rajasthan, Kishangarh
5. Professor Prashant Mishra, Govt. PG College, Neemuch, MP
6. Professor. J N Sharma, Jai Narayan Vyas University, Jodhpur
7. Professor RavinderGargesh, University of Delhi, New Delhi
8. Prof. Gurupdesb Singh, Guru Nanak Dev University, Amritsar

About the workshop:

Pedagogy is a multidimensional activity which involves preparation, presentation, association, generalization and application and it is they which shape an effective pedagogue. The evolution of an effective teacher involves all aforesaid processes however the process of preparation occupies the foremost place in the entire matrix of pedagogy. But the question is how the journey of preparation must begin. The diachronic history of

epistemological construction reveals the fact that the journey of knowledge formation or the preparation of knowledge has always been dialectical, antinomical, and differential. They have always been critical and self-reflective and it is because of their nature of self-reflectivity, they always revisit themselves and question the plenitudes of their thought process.

The philosophy and theory of knowledge, which prepare a pedagogue, from Structuralism to Phenomenology and Hermeneutics, though begin with the discreet nature of knowledge but soon questions itself and transforms itself into an infinite process and hence they debunk the alienated compartmentalization of knowledge. There is an inviolable continuum between all forms of knowledge be it from Sciences, Social Sciences, Humanities, Commerce or from the world of Technology. It seems that they are rhizomatically intertwined and hence it becomes important for the pedagogues of the present time to equip themselves with constructive and eclectic theory of knowledge. And in order to inform and enrich the intellectual and epistemological complexes of the pedagogues of the contemporary world, it is vital to bring them closer to the rich tradition of knowledge in varied discipline so that they may develop an enriched understandings of the culture of their knowledge. The pedagogues may also be informed about the available current trends of knowledge in different disciplines.

Objectives:

1. To enrich the intellectual complexes of pedagogues by informing them about the theory of knowledge in different branches of Social Sciences, Humanities, Natural Sciences, Commerce and Technology.
2. To ameliorate teaching skills of the Pedagogue.
3. To encourage faculty members to be proactive in knowledge formation and dissemination.

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Computer Network and Cyber Security.

Strategy: Fifteen days programme with extensive hands on training. (In collaboration with Department of Computer Science)

Proposed dates: January 2nd – 16th, 2018

Target Participants- Faculty from Computer Science, Electronics, Physics with basic knowledge of computer programming.

Tentative Experts: Will be invited from Industry and Academia

About the workshop:

- The main objective of this course to acquire knowledge and pursue more specialized advanced skills, research & innovation in the networking area.
- This course gives comprehensive coverage of networking topics, from fundamentals to advanced applications, while providing opportunities for hands-on practical experience and networking skills development. Some of topic includes
- IPv4 & IPv6 migration, sub-netting, Security issues in Computer Network, emerging trends in networking

Faculty Development Centre

Banasthali Vidyapith

(under the scheme *Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching*, MHRD, Government of India)

Proposed Program Title: Emerging Trends in Software Designing and Development

Strategy: 21 days programme with extensive hands on training. (In collaboration with Department of Computer Sciences)

Proposed dates: March 1st – 21st, 2018.

Target Participants- Faculty members in institutions of higher learning with advanced knowledge of computer programming

About the workshop:

FDP is devoted to addressing the need to enhance the knowledge about the latest technologies pertaining to Software Development and is open for Faculty members of Computer Science and other allied department.

The objective of this programme is honing the teaching and research skills of faculty members. It is an endeavor intended for teachers and researchers working in various colleges and professional institutes.

The major focus of the FDP is on upgrading the teaching, training, and research skills of the teachers with recent developments and advancements.

The topics are:

1. Web Designing
2. Android Application Development
3. Python
4. Touch & Augmented Reality
5. PHP & Advanced PHP with MySQL

Progress Report

FACULTY DEVELOPMENT CENTRE (Centre of Excellence for Curriculum and Pedagogy)

Under the scheme

**PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON
TEACHERS AND TEACHING**

Supported by



**Ministry of Human Resource Development
Department of Higher Education
Government of India**

Submitted by



(October, 2017 – December, 2017)

**Banasthali Vidyapith
Banasthali Vidyapith-304 022 (Raj.) India**

Tel.: + 91-1438-228373/ 228787

Fax: + 91-1438-228365

Website: <http://www.banasthali.org>

**PANDIT MADAN MOHAN MALVIYA NATIONAL MISSION ON
TEACHER AND TEACHING (PMMMNMTT)**

QUARTERLY REVIEW

FACULTY DEVELOPMENT CENTRE (FDC)

BANASTHALI VIDYAPITH

S. No	Particulars	Details
1	Name of the Institute	Banasthali Vidyapith
2	Project Duration	3 years (01.01. 2016 to 31.12.2018) F.No. 3-22/2015-PN II & December 30, 2015
3	Period of initiation	January 1, 2016
4	PAB (in which proposal got approved)	Fourth Project Approval Board(PAB) Meeting of the Pandit Madan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) held on 15 th December, 2015.
5	Detail of Coordinator and present corresponding Program Coordinator (Name, Phone no/Mob., & E mail)	Prof. Aditya Shastri Banasthali Vidyapith P.O. Banasthali Vidyapith-304 022 (Raj.) Ph.: 91-1438-228787 e-mail: adityashastri@banasthali.in
6	Details of Fund Received in the last Quarter (Percentage of Annual fund)	Nil
7	Details of Fund Received in the current Quarter (Percentage of Annual fund)	Nil
8	Details of Fund Utilized in the last Quarter(Percentage of Annual fund)	Recurring - Rs. 17,22,602/- Non-recurring - Rs. 54,26,584/- Total - Rs. 71,49,186/-
9	Disciplines Covered	The faculty development programmes conducted at the Centre are fulfilling to a large extent the urgent need for effective and need-based programs for teachers across all disciplines of Higher Education, viz., Teacher Education, Fine Arts, Home Sciences, Humanities, Life Sciences, Management, Mathematics, Computing, Physical Sciences, Social Sciences, Design, Law etc.

S. No	Particulars	Details
		<p>The FDC programmes conducted in the Centre encompass all the four types of development (personal, instructional, organizational and professional) of faculty of higher education and teacher educators as envisioned under the PMMMNMTT scheme.</p> <p>The Centre through its various programmes is covering the following aspects of faculty development:</p> <ul style="list-style-type: none"> - Enrichment of Teacher Educators (faculty of teacher education) - Personal Development Program (faculty of higher education and teacher educators) - Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators) - Discipline specific professional development program (faculty of higher education and teacher educators) <p>Additionally, the Centre has been mandated to deliver Induction programmes for newly joined faculty by the MHRD. The first such programme which has been started from December 2017.</p>
10	Number of Beneficiaries	<p>April - June 2017:</p> <p style="padding-left: 40px;">Total Number of participants: 140, Female faculty members: 111, Male faculty members: 29.</p> <p>July – August 26, 2017:</p> <p style="padding-left: 40px;">Total Number of participants: 237 Female faculty members: 148, Male faculty members: 89</p> <p>April – August 26, 2017:</p> <p style="padding-left: 40px;">Total Number of Participants: 377 Female faculty members: 259 Male faculty members: 118.</p>

S. No	Particulars	Details
		<p>September – December 2017:</p> <p>Total Number of Participants: 286</p> <p>Female faculty members: 151</p> <p>Male faculty members: 135.</p> <p>Total number of direct beneficiaries during the project duration April – December, 2017 is as follows:</p> <p>Total Number of Participants: 663</p> <p>Female faculty members: 410</p> <p>Male faculty members: 253</p>
11	Geographical Area Covered (If applicable)	<p>The Faculty development programmes conducted in the present quarter by the Faculty Development Centre, Banasthali Vidyapith has participation of faculty members from all over India. In addition to candidates from Rajasthan (Jaipur, Jodhpur, Ajmer, Tonk); participants have come from Chhattisgarh (Raipur), Uttar Pradesh (Aligarh, Agra, Bijnor, Mathura, Kanpur, Gonda, Badayun, Noida, Varanasi, Muzaffarnagar), Maharashtra (Mumbai, Nagpur, Latur, Lonar), Madhya Pradesh (Indore, Jabalpur), Himachal Pradesh (Shimla), Gujrat (Rajkot), Uttarakhand (Dehradun), Delhi and West Bengal.</p>
12	Number of Workshops/ Seminar covered with duration (In previous & current quarter)	<p>July – September 2017: 10 programmes completed.</p> <p>October – December 2017: 7 programmes conducted</p>
13	Details of aspect(s) of Faculty Development undertaken in the previous quarter (July - September 2017)	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively issues related to teachers, teaching, teacher preparation and professional development.</p>

S. No	Particulars	Details
		<p>The aspects of Faculty Development undertaken in the previous quarter (July– September 2017) specifically addressed the following sub-areas</p> <ul style="list-style-type: none"> - Personal Development Program - Discipline specific pedagogy/ instructional development program - Discipline specific professional development program <p>i. Deliberating on the aspect of ‘Personal Development’, a programme of seven days duration entitled “National Workshop on Well Being and Happiness” was conducted during July 9-15, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Home Science Department. Forty two participants attended the programme out of which thirty nine were women participants.</p> <p>Subjective Wellbeing covers a broad category that includes people’s emotional responses, domain satisfactions and global judgments of life satisfaction. The movement therapy sessions covering a broad range of Eastern and Western movement approaches for promoting physical, mental, emotional and spiritual well-being were conducted. Several topics covered are: movement therapy sessions, Food and Mood, design for mood, color therapy session, Knowing the Real “I”, stress management, Happiness Fulfillment and Relationship Counseling, Women Health and Quality of Life, on Effective Communication Skills etc.</p> <p>ii. Dealing with the aspect of ‘Discipline specific professional development program’, and ‘Discipline specific pedagogy/ instructional development’ a programme of twenty eight days duration entitled “Frontiers and advances in science and technology”</p>

S. No	Particulars	Details
		<p>was conducted during 23rd July-August 19th, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Physics. Thirty three participants attended the programme out of which seventeen were women participants. Participants from distant places like Ajmer, Aligarh, Mathura, Shimla came to attend the programme.</p> <p>Faculty and scientists from various reputed universities and research laboratories came to share their ideas about teaching and research methodology as well as provide hands on experience on high end sophisticated equipment available in the University. The various talks and interaction – hands on sessions conducted under this programme are as follows: Nobel Prize in physics and the work performed by each one of the laureates; Superparamagnetic behavior of nanoparticles of substituted ferrites; Self-assembly of proteins at air-water interface; Elastic properties of Biomolecules; Polymeric Electronic Devices; Historical Development of Light; Phase transitions in soft matter systems; Detection of toxic ions in water level; Study alkali metal (Na, Cs) intercalation between Graphene and underlying Ni(111) substrate using angle-resolved photoemission spectroscopy; Electronic Structural and magnetic properties of Dilute Magnetic Semiconductors; Science In History; History Of Science And Technology During Medieval Period :An Overview; : Transition in devices: from Micro to nano; The Handling of T-Spice Tool with several examples; Carbon based new nanomaterials of technological importance; In the second talk, the audience was exposed to New innovative sources to trap green energy; Finite Difference Time Domain Method; Introduction to LATEX Software; High</p>

S. No	Particulars	Details
		<p>Temp. Super Conductivity; Organic Solar Cells: An Overview; Giant Magneto-resistant; Material science: an area of advance; Preparation and properties of nano materials; contagious deadly diseases spreading in India including survey on tuberculosis; Review on contagious deadly diseases spreading in india including survey on aids: a comprehensive research on HIV-Tb prevalence and co-morbidity status in the country. Some general concepts of personal development and teach-learning were also included such as; Big five factor model concept of personality; ethno botany in relation to human well-being; use of ICT for empowering teaching strategies and effectiveness; intellectual property rights; HANUMAN: God of physical and mental strength; science and technology for social development; characteristics of Ram explained by Goswami Tulsi Das. Book review sessions were also held.</p> <p>iii. The aspect of 'Discipline specific professional development program', a programme of seven days duration entitled "Contemporary Applications and Opportunities in Research and Technology" was conducted during July 28- Aug 3, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Electronics. Twenty five faculty members' participants attended the programme out of which ten were women participants.</p> <p>The topics covered in the programme are as follows: research objectives; concept of research methodology including types of research, hypothesis, data collection, data segmentation and data analysis; concept of advance biomedical engineering; the mathematical modeling of MEMS devices; material science and interaction of</p>

S. No	Particulars	Details
		<p>radiation with materials, thin films, optical, electrical and gas adsorption properties, metal hydrides, bulk and thin films hydrogen storage characteristics, positron annihilation, defects nucleation, characterization and migration, polymers and semiconductors structure modification by energetic ion, nano filters for gas purification; current scenario of control systems; optimal control, robust control, bio-inspired control and electric drives; concept of genetic algorithms, their use in medical imaging, its futuristic approach; importance of data, quality of data, data collection, data analysis, data statistics and latest statistical tools.</p> <p>iv. Covering the aspect of ‘Discipline specific professional development program’, a programme of seven days duration entitled “Research Methodology: Tools and Techniques in Earth Sciences” was conducted during August 10-16, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Faculty of Earth Sciences. Thirty three faculty members including twenty four women participants’ from distant areas of the country including West Bengal, Nagpur-Maharashtra, Ajmer and Jaipur participated in the programme.</p> <p>The programme was conducted by a team of eminent academicians possessing in-depth knowledge in the area of earth science research methodologies and project management. It will consist of a series of interactive lectures and practical sessions. The participants were helped to develop the insights for identifying the research problems, new tools, techniques, and research methodology and extensive exposures to diverse aspects of earth science research methodologies</p>

S. No	Particulars	Details
		<p>was provided. It helped to enhance the skills of the participants to use statistical techniques in geo-environmental research and to understand the approaches for the development of high impact peer reviewed international journal articles and preparation for project proposals.</p> <p>The major aspects of the programme were research types, approaches, process and problems related to Earth Sciences, Research tools and techniques in context with Earth Sciences, Remote Sensing & GIS research approaches in Earth Sciences, Hands on training on Geo statistical tools and techniques in Earth Sciences, Emerging trends in geo-environmental data dissemination for research utilization, Technical guidance to enrich research writing: paper and project proposal. There were interactive lectures, discussions, presentations and hands on practice by various experts on topics related with research, and its methods as well as tools and techniques adopted by the Earth scientists from different fields.</p> <p>v. The aspect of ‘Personal Development’, was covered in a programme of seven days duration entitled “Streams of Music: Note, poetry and Meditation” was conducted during Aug 21-23, 2017, by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Music and Dance. Thirty faculty members including twenty women participated in the programme.</p> <p>vi. The aspect of ‘Discipline specific professional development program’, was covered in a programme of seven days duration entitled “Faculty Development Programme in Neuroscience: Prevention and Management of Neurological</p>

S. No	Particulars	Details
		<p>Disorders” was conducted during Aug 21-26, 2017 by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Pharmacy. Thirty one faculty members including nineteen women participated in the programme.</p> <p>The programme included lectures and practical demonstrations – hands on sessions in the thematic area. During this event, the participants benefitted and learned various techniques employed in neuroscience research in addition to understanding the molecular basis of neurological disorders</p> <p>vii. The aspect of ‘Discipline specific professional development programme’, was covered in a programme of seven days duration entitled “ICT integration with Teaching and Learning” was conducted during Aug 28 – September 3, 2017, by the Faculty Development Centre, Banasthali Vidyapith, facilitated by the Department of Computer Science. Forty one faculty members including nineteen women participated in the programme.</p> <p>The participants were from different universities and colleges and from different domains: computer science, electronics and Remote Sensing. During these seven days, experts from industries and Academician shared their experiences, real life scenarios, practical uses of The Internet of Things. The programme specifically included several hands on sessions and included topics on IoT Evolution, IoT applications, opportunities and its implementation, the Arduino and Raspberry Pi micro controllers, their software and technical details and usages, creating one’s own embedded projects at low cost and WiFi sensor connectivity, security and data Privacy, crowd sense technology,</p>

S. No	Particulars	Details
		<p>protocol designing and Real time systems. The sessions helped the participants to understand the programming of the embedded system. The Participants were indeed curious when they provided their mobile's acceleration data to cloud and updated mobile orientation live.</p> <p>The participants also visited industrial area in Jaipur. They interacted with the staff and management of the companies Forsk Technologies and Thrillophilia setup in the premises provided by the Government of India. The participants had interaction sessions with these companies and discussed many aspects of IoT. They shared many ideas to address the challenges of IoT. The visit and interaction was primarily focused on the bridging the gap between industry and academia.</p> <p>viii. Covering the aspect of 'Discipline specific professional development program', a programme of seven days duration entitled "Applied Econometrics" was conducted during September 9-15, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty two faculty members including nineteen women participants' from distant areas of the country including Gonda, Badayun, Agra, Kanpur and Indore, Tonk, Ajmer and Jaipur participated in the programme.</p> <p>Important advancements in the field of econometrics in the recent years have occurred in the area of time Series and Panel Data Analysis. A variety of techniques of varying levels of sophistication have been developed over the years to conduct time series and panel data analysis. Though application of these techniques can be relatively complicated but their adoption has led to significant improvements in conducting empirical research. The program was designed in such a way</p>

S. No	Particulars	Details
		<p>that it could also benefit the beginners in the field of econometrics as well as the researchers who are already using Econometric Modeling in their research. The sessions were conducted in lecture cum workshop mode. The participants were also provided hands on training on Eviews package. They also got opportunity to discuss various aspects of research with resource persons and fellow participants. The program provided an opportunity to the participants to learn the contemporary Econometric Techniques essential for conducting empirical research in the area of Economics and Finance.</p> <p>ix. Covering the aspect of ‘Personal Development Program’, a programme of seven days duration entitled “Revisiting Gandhian Values” was conducted during September 9-15, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty faculty members including from distant areas of the country participated in the programme.</p> <p>The contemporary world is passing through a period of great spiritual, economic and moral crisis. The consumerist culture and a declining value system have deeply affected our society. There is a pervasive climate of isolationism and restlessness. At this hour of crisis what India needs, and what in fact the world needs, is a creative synthesis of humanism and values of Gandhi.</p> <p>M.K. Gandhi was a great karma yogi, a person who kept the highest standard of morality, a true patriot who stood for the social liberation of women, who ended caste oppression and discrimination, and in general, it is he who has applied reason to all aspects of social life. Gandhiji had the vision of a world where all conflicts would be settled without</p>

S. No	Particulars	Details
		<p>violence. He was one of those philosophers who believed in self-sacrifice, Satyagraha, Truth and Non-Violence. Gandhian philosophy is comprehensive and it has left no aspect of human life untouched. In his philosophy, there are very clear indications of his love for individual and national freedom. As a great social thinker and reformer he represents multidimensional personality with clear vision and definite approach. His philosophy is not an idea but a way of life, on the basis of his values, state, society and all mankind can be benefited and transformed. This is why Gandhian values are timeless and universal.</p> <p>It is sixty nine years since Gandhi was assassinated and the man is still alive in the Indian psyche. The programme provided a good opportunity to rethink and revisit the Gandhian Values, Philosophy and technique.</p>
14	Details of aspect(s) of Faculty Development undertaken in the current quarter (October – December, 2017)	<p>The aspects of Faculty Development undertaken in the current quarter (October – December 2017) specifically addressed the following sub-areas</p> <ul style="list-style-type: none"> - Personal Development Program - Discipline specific pedagogy/ instructional development program - Discipline specific professional development program <p>i. Covering the aspect of ‘Discipline specific professional development program’, a programme of seven days duration entitled “Quantitative Techniques in Research Methodology” was conducted during September 8-10, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Twenty one faculty members including eleven women participants’ from distant areas of the country including Noida, Varanasi, Muzaffarnagar participated in the programme</p>

S. No	Particulars	Details
		<p>Research comprises of working in the knowledge domain to better understand phenomenon using scientific tools and/ or develop new sets of innovative techniques to explore new frontiers. Taking various forms research is initiated in the numerous areas, some of the following are: economics and policy, finance, marketing, human resource and psychology etc. The current focus of this FDP was to cover some of the available techniques in order to address some of the issues which are recurrently faced by a researcher: tilted Quantitative Techniques in Research.</p> <p>After the inaugural the session, Prof. D. Israel, XLRI, Jamshedpur, introduced the concept of quantitative techniques in research methods by furthering discussion on Factor analysis and its components: Exploratory and Confirmatory Factor Analysis. Post Lunch Prof. Israel practicing the methods to experience the working with primary data, held in the computer lab using Statistical Software of SPSS version 22.</p> <p>The concept and use of Structural equation modeling was introduced by Prof. D. Israel with the help of actual data and application of SPSS Amos has also been discussed. Participants have also made PowerPoint presentation on the aspects of scale development and other topics covered which was already provided in the form of study material.</p> <p>The basics of Econometrics was introduced by Prof. P.C. Padhan, XLRI, Jamshedpur and he also used some of his data for the clarity of the participants to explain the topics. He also introduced the Classical assumptions related to Regression Analysis.</p>

S. No	Particulars	Details
		<p>Prof P.C. Padhan conducted session on analysis of classical assumptions of Regression analysis and suggest the ways to improve a research paper based upon the clarity of these assumptions and further discussed multi-regression analysis. Post Lunch session was conducted by Prof. Ameet Kumar Banerjee on time series data mainly addressing the volatility models of ARCH & GARCH with the help of E-Views software.</p> <p>The participants' feedback was that the components of Research Methodology were very well covered. They appreciated the efforts to integrate the different dimensions of the Quantitative Research and hands on analysis through lab sessions were a great learning from the angle of faculty development. They requested to conduct FDPs on Advanced Research Methods and also a separate FDP on writing skills of a research paper and case studies.</p> <p>ii. Covering the aspect of 'Discipline specific professional development program', a programme of seven days duration entitled "National workshop on Emerging Sophisticated Analytical Techniques" was conducted during November 1-21, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty faculty members including eleven women participants' from distant areas of the country participated in the programme.</p> <p>Analytical chemistry is the science concerned with the systematic identification or characterisation of established chemical species and their determination to known degrees of certainty at any level of concentration and in any matrix in which they may occur.</p>

S. No	Particulars	Details
		<p>Analytical technique contribute to any phase of analytical operations, including sampling, chemical reactions, separations, instrumentation, measurements, and data processing. Papers dealing with known analytical methods should offer a significant, original application of the method, a noteworthy improvement, or results on an important analyst.</p> <p>The primary goal of the workshop was to promote research and developmental activities in science. The focus of the workshop will be to explore the emerging trends in electro analytical techniques and to enhance the contribution of science and technology in these techniques. In this context, this workshop will provide a platform to academicians, scientists and R& D personnel's to exchange their knowledge. The National workshop will be cover all aspects of sophisticated analytical instruments and its application and implementation including the following themes of physical sciences: Chemical Sciences, polymer chemistry, Life Science, Environmental Science, Solar energy, Nanotechnology, Water chemistry, Electronics including electrodes and sensors etc.</p> <p>iii. Covering the aspect of 'Personal development program', a programme of three days duration entitled "Emerging trends in Business: The Bharatiya Perspectives" was conducted during November 27-29, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty three faculty members including nineteen women participants' from distant areas of the country including Jabalpur, Delhi, Mumbai participated in the programme</p> <p>Domain specific sessions were conducted for marketing, finance, and human resource streams.</p>

S. No	Particulars	Details
		<p>One combined session was also organized on management teachers of the future.</p> <p>The dynamic marketing domain demands for changing marketing strategies & efforts from marketers to meet the changing demands of business, so the focus of this FDP was to address some of these issues and sought solution from Bharatiya perspective</p> <p>The formal inaugural address is followed up by faculty presentations which touched upon many new emerging trends in marketing area like - New sales and distribution channels in Insurance services, New Initiatives of customer services in e-commerce based businesses, Rural marketing & its potential etc. The resource person Prof. Srini Srinivasan provided valuable inputs to faculty presentations concerning these areas.</p> <p>The new teaching pedagogy of using Hollywood movies for relating to management concepts was discussed by Prof. Srini and in later half of session a case-let of HOSTILE ACQUISITION was discussed.</p> <p>The touch of Bharatiya Perspective was maintained incorporated by all the presenters in their delivery. Pink leadership and psychological empowerment were attractive topics during the day. Along with them the role of gender budgeting in the organizations was also discussed. Drop and go errors in recruitment were also discussed at stretch.</p> <p>An enlightening dialogue was delivered about group and its dynamics by Prof. David Selvinathan. Later he talked about the need and importance of experiential learning in teaching and demonstrated it well via an activity of bridge</p>

S. No	Particulars	Details
		<p>making. The day was concluded by closing ceremony in which the resource person was presented with a memento and thank you note was delivered.</p> <p>The focus of this FDP was to make the participants aware about the usage of excel in teaching Financial Management. As this reduces lot of paper work and enhances the skill, know day's industries demand. The resource person for the program was CA Mehernosh J Randeria.</p> <p>Forecasting of data, calculation of profit & loss account, balance sheet and cash flow on excel was taught by the resource person.</p> <p>The participants found the course content to be relevant, sessions of value in their academic career, and overall programme to be an effective utilization of their time. The presentation skills of the resource persons were appreciated. All the participants mentioned key takeaway from the FDP. Participants also suggested themes for future programmes – like Big Data Analytics, HR Analytics, Data Science, Emerging Teaching Pedagogy etc</p> <p>iv. Covering the aspect of 'Discipline specific professional development program' a programme of three days duration entitled "Emerging trends in Legal Education: The Bhartiya Perspectives" was conducted during November 30- December 2, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Twenty one faculty members including twelve women participants' from distant areas of the country including Chittorgarh, Dehradun, Jaipur participated in the programme</p>

S. No	Particulars	Details
		<p>In the last three decades, liberalization, globalization and information technology have had a huge impact on the development of the law, which has resulted in the entry of the law in new areas. Indian legal system has also not been untouched by these changes and it is trying to reconcile with continuous changes. In this order, the field of legal education in India needs to be broadened and expanded. For this, the study of the emerging areas of law in legal education is essential and at the same time, it is necessary to evaluate all these in Indian perspective so that Indian law can be made consistent and useful. For the same purpose, the above FDP was organized in which Private International Law and IPR were highlighted by experts on the emerging areas and at the same time emphasizing the importance of research methodology.</p> <p>In a panel discussion on “The right pedagogy of teaching the law courses” Ms. Nidhi Gupta presented her views in the context of Indian perspective of legal education and highlighted the importance of legal education of Indian values. She also highlighted merits of traditional Indian education system, where law was treated as “Dharma” which everyone has to follow under conscience. Then Dr. Gargi Chakrabarti gave a lecture on Intellectual Property and its interface with Competition Law by various leading cases. After lunch, Ms.Nidhi Gupta highlighted the origins of the Private International law, its basic principles its usefulness, and its importance in Indian legal context. With defining future prospects she emphasized that it is need of time, to add Private International Law in law course curriculum. Then she gave answers to the questions asked by the faculty members. At the</p>

S. No	Particulars	Details
		<p>end of the session, Dr. Gargi Chakrabarti and Ms. Nidhi Gupta calmed many inquiries of faculty members related to research.</p> <p>Prof. (Dr.) Karunesh Saxena (Ex-Director, FMS-Mohanlal Sukhadia University, Udaipur) highlighted the usefulness and importance of Personal Effectiveness and Emotional Intelligence. He introduced faculty members to various dimensions of Personal Effectiveness and Emotional Intelligence through PPT and video clips, so that faculty members could develop their personality in a better way.</p> <p>He also told what should be avoided and what should be added in synopsis. In this context, he mentioned methods and techniques of empirical and non empirical research in sequence. At the end of FDP valedictory session was conducted in which participants gave thanks to all resource persons and Prof. (Dr.) Harsh Purohit for organizing such a useful FDP which enlighten them.</p> <p>The resource persons as well as participants appreciated the idea of bringing Bharatiya insights into legal education discourse. The idea to bridge the gap between research and practice was also generated good interest. The participants' feedback was that the components of Research Methodology were very well covered and it gave good understanding of how research methods can be used to develop skills in writing international level research papers and dissertation. Also as a teacher the importance of stress management and emotional intelligence was discussed. The FDP greatly expanded understanding of mindfulness. Many ideas for future programmes were shared by</p>

S. No	Particulars	Details
		<p>the participants like – research methodology, international law, banking laws etc.</p> <p>v. An Induction Programme was conducted during December 9 – January 9, 2017 by the Faculty Development Centre, Banasthali Vidyapith. 40 newly inducted teaching faculties from colleges/universities of India participated in the programme.</p> <p>The one-month Induction Training Programme was inaugurated in the gracious presence of Professor Siddharth Shastri, vice-president of Banasthali Vidyapith, Professor Gopa Sabharwal, eminent sociologist and former vice-chancellor of Nalanda University, Bihar, Professor Preeti Sharma, Dean of Faculty of Social Sciences, and Professor Manju Singh, Coordinator of Women’s Studies & Research Centre of Banasthali Vidyapith. Professor Siddharth Shastri in his presidential address talked about the role of Pandit Madan Mohan Malaviya in building a foundation for higher education in India and of Pandit Hira Lal Shastri, the founding father of Banasthali Vidyapith for his endeavours of empowering women through education.</p> <p>Professor Gopa Sabharwal delivered her talk on “Role and Responsibilities of an Academic” Professor Kapil Sharma of Institute of Management Studies, Devi Ahilya University, Indore, delivered his talk on “Academic Leadership for Nation Building.”</p> <p>Professor S. P. Singh, Department of Political Science, Delhi University delivered his talk on, “Indigenous tradition of learning in India,” in which he highlighted how the indigenous past of India, its ancient, mythological, and Vedic</p>

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		<p>histories have been neglected by colonial and post-colonial historians.</p> <p>Professor P. Hemlatha Reddy, Principal of Shri Venkateswara College, Delhi University delivered her talk on “College structure and administration,” in which she discussed the university/college structures in India and how they work in control and cooperation with the government, Ministry of Human Resource Development and University Grants Commission, besides several other institutions like ICSSR, CSIR, ICHR et al which promote quality pedagogy and researches at higher education levels.</p> <p>Professor Yagati Chinna Rao, Centre for the Study of Discrimination and Exclusion, Jawaharlal Nehru University delivered his talk on, “Understanding Exclusion,” in which he talked about the various dimensions of society’s hierarchies based on caste and class.</p> <p>Professor Sthabir Khora, School of Education, Tata Institute of Social Sciences, Mumbai delivered his talk on, “Teacher Professionalism.”</p> <p>Professor Rajiv Gupta, former Head of Department of Sociology, Rajasthan University delivered his talk on, “Administrative structure of a university: Statuettes and Officers.” Professor Kumar Suresh of Department of Education and Administration, NUEPA, New Delhi. delivered his talk on, “Global trends in higher education and its influence on India.” In another lecture titled, “Diversity and Equity in Higher Education – Policy Perspective and Institutional Context,” in which he highlighted about different parameters, criteria like teaching, research, citation, peer review et al in making a university worthy of holding a respectable rank internationally.</p>

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		<p>Professor Shivaputra Patagundi, former Dean (Academic & Training), Higher Education Academy, Karnataka delivered his talk on, “Revised Assessment and Accreditation Framework of NAAC.”</p> <p>Professor Sanjeev Kumar H M, Department of Political Science, University of Delhi delivered his talk on, “Pedagogy beyond textbooks.” Professor Shivaputra Patagundi, on “Role of IQAC.” In this lecture he discussed the structure, importance and role of Internal Quality Assurance Cell.</p> <p>Professor D R Sahu, Head of Department of Sociology, University of Lucknow delivered his talk on, “Sociology of Education.” Professor Subhash Sharma, Director, Indus Business Academy, Bengaluru delivered his talk on, “Creative Meditative Research in Psychology and Management.”</p> <p>Professor Kiran Sarna, Head of Department of Visual Arts, Banasthali Vidyapith. She gave a lecture on “Art as a therapy.”</p> <p>Professor D. K. Singh, Librarian, Central Library, Banaras Hindu University. His talk of the session was titled, “The challenges of citation and referencing: A case study of MLA, Chicago and APA styles.”</p> <p>Professor Sophie Titus, Head of Department of Physical Education, Banasthali Vidyapith. Her talk was based on “Sports in everyday life.”</p> <p>Professor Vandana Goswami, Dean, Faculty of Education, Banasthali Vidyapith delivered her talk on “Micro teaching.” In this lecture she discussed various methods of teaching or pedagogy at</p>

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		<p>university level.</p> <p>Professor Rekha Pande, Head of Centre for Women's Studies, University of Hyderabad delivered her talk on "Gender Sensitization: Issues and Perspectives."</p> <p>Professor Gopal Vijay, Registrar of Rajasthan University lecture was based on "The Administrative Structure of University: Statues and Officers."</p> <p>Professor Vasanth Kiran, Director, School of Performing Arts, Reva University, Bengaluru delivered his talk on, "Academic leadership and transformative education."</p> <p>Professor (emeritus) Shashi Arora, Department of History, Rajasthan University on the topic "College administration and its functioning."</p> <p>Professor Manish Kumar Verma, Department of Sociology, Babasaheb Bhimrao Ambedkar University, Lucknow delivered his talk on, "Social and Environmental Movements," and "Development and Displacement."</p> <p>Professor Harsh Purohit, Dean Faculty of Law and Management, Banasthali Vidyapith conducted the session on "New Experiments in devising a suitable pedagogy."</p> <p>Professor Anil S. Sutar of Tata Institute of Social Sciences, who delivered two lectures spread over the next day of the induction training programme – the first part being given in the post lunch session on "How to make teaching and learning more effective in university classrooms?"</p>

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		<p>Professor Alka Sharma, Head of Department of Sociology, Jay Pee Institute, Noida delivered her talk on “Academic leadership.” In this lecture Professor Sharma talked about what leadership is all about</p> <p>Professor K Srinivas, Head Information and Communications Technology, National University of Education and Planning, New Delhi lectures covered topics viz., “Online teaching, learning and assessment;” “Moodle MOOC delivery platform;” “Flipped Clasa Room;” and “Blended learning.” In the first lecture he discussed different ways, tools and platforms based on satellite technology, internet and smartphone applications for making learning and teaching interesting and effective.</p> <p>Professor Kelly Bryan Rudin, Professor of History, Montgomery College, Washington DC, spoke on “Pedagogy at Montgomery College.</p> <p>Dr. Arti Srivastava, Associate Professor, National University of Education and Planning, New Delhi delivered her talk on “Academic community and social responsibility” Dr. Arti Srivastava, comprised lectures on “Training and placement office and facilitating employability.” She highlighted the importance of training and placement facility in a university system.</p> <p>Professor Sanjay Kumar of Centre for the Study of Developing Societies, New Delhi gave two lectures on “Women in Indian electoral politics,” and “Indian youth and the problem of unemployment.”</p> <p>Professor Aziz Rahman Siddiqui, Department of Geography, Allahabad University gave two lectures. One was based on “Role of satellite</p>

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		<p>derived data and GIS application in researches,”</p> <p>Professor Rupa Mathur, and Dr Chandrani Sen, from Department of Psychology, IIS University, Jaipur gave a demonstration and activity based talk on “Stress management in academic space.”</p> <p>Professor (retired) S.K. Tripathi, Indian Institute of Technology, Roorkee delivered his talk on, “Soil water conservation and management.” Professor M.S. Gaur, Head of Department of Physics, Hindustan College of Science and Technology, Mathura. He spoke on “Gandhian science and Engineering: Getting more from less for more.”</p> <p>The participants, on the occasion of the completion of the one month long induction training programme, were taken on excursion to Jaipur.</p> <p>vi. Covering the aspect of ‘Personal development program’, a programme of three days duration entitled ‘Rethinking about Climate Change: A Psychological Perspective’ was conducted during December 16-22, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Forty faculty members including twenty women participants’ from distant areas of the country including Tonk, Alwar, Bareilly, Purnea-Bihar, Jaipur participated in the programme</p> <p>Nature always pays back and so is going on regarding climate change and human health and wellbeing. There is evident interplay between human activity and nature. Due to manmade activities there are notable changes in climate which are threatening human health and wellbeing and this is the concern of psychologists. Thus, according to Dr Susie Burke (Senior Psychologist Public Interest, Aus.), there are solid reasons for psychology to play critical role and responsibility in addressing climate change. Dr. Sreekish started</p>

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		<p>his lecture on climate change just after the inauguration of the workshop. He discussed about the climate and the scientific basis of climate change, for example heavy carbon emission and heat trapping. He also discussed about the anthropogenic influence on climate. The difference between the minimum and maximum temperature is increasing due to climate change in India. Further, he raised the psychological issues related to climate change and binded up his session with a significant question that how Psychology can Help Prevent Climate Change?</p> <p>Prof. Rashmi Sharma discussed about the causes of climate changes – Physical and Human. For example, variation in solar radiation, volcanic eruption will increase the atmosphere pollution that minimises the temperature so, the earth will experience cold or reduced temperature and it also decreases in solar radiation. She also discussed about Co2 theory and Green house effect. Further, she elaborated on Effects of Climate change – temperature increase, melting glacier, Sea level increase, submerge of coastal area, loss of fertile soil, flood, drought , perennial streams run dry, changing in cropping pattern, less agricultural productivity, starvation, civil conflict, displacement & migration, change in migration and breeding period of birds, treat to bio-diversity and increase skin and eye related diseases, and Impact of Climate change – health, Agriculture, Forest, Water Resources, Coastal and natural areas impact</p> <p>Lawyer Amit Gupta started with general concern of climate change and legal aspects of it in India. He discussed about the issues related to climate change and politics-that how politics is more</p>

S. No	Particulars	Details
		<p>important than anything else in India, for example, electricity production mainly depends on the coal / thermal power plants but it emits more CO₂ in the atmosphere. Government will never ever think of reducing it because if there is a power cut at least for two hours, the govt. will lose in the election. He said that there are alternative for carbon emission such as renewable energy production but policies are to be made user friendly. Further, he stated that when we interfere with the nature it will revert by the way of natural disasters.</p> <p>Dr. R. D. Doi, Department of Geography, University of Rajasthan, Jaipur started his session with general introduction of climate change and its consequences. He said that climate change is not global warming, it is dynamic phenomenon, it implies past, present and future changes too (climochronology). Further, he said that a very few of people are aware about the negative effect of climate change and there is no action but there are many talks are going on to minimize global warming</p> <p>Dr. T. I. Khan, Indira Gndhi Centre for Human Ecology, Environment and Population studies University of Rajasthan, Jaipur presented his viewpoints regarding climate starting with general introduction about climate change and talked about how the chemistry of the global atmosphere regulated and about the role of biological process in producing and consuming trace gases?</p> <p>Further, he talked about the impact of climate change on environment, for example, impact on ICE and Snow, Ocean and coast, Hydrological system, Eco systemic and Vegetation. He also presented his concern for impacts of climate change on society</p>

S. No	Particulars	Details
		<p>Dr. Pankaj Kumar, Department of Geography, University of Delhi, Delhi, said that weather is a short term phenomena climate is a long term phenomena. Climate change is a change a change in the statistical distribution of weather pattern when that change lasts for an extended period of time (Decades to millions of years). He talked about the facts and indicators of climate change and mechanism of climate change.</p> <p>vii. Covering the aspect of ‘Personal development program’, a programme of three days duration entitled ‘Emerging trends in Banking: Contributing to the development of new Bharat’ was conducted during December 21-23, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Nineteen faculty members including eleven women participants’ from distant areas of the country including Ballabgarh and Jaipur participated in the programme</p> <p>Sessions covered changing scenario of Banking, future of Banking and some technical sessions on financing.</p> <p>The formal inaugural session was followed by session of Shri Jyoti Ghosh, Sr. Advisor, Bandhan Bank. He discussed the 'NPA Management in Banks'. The speaker also shared micro level approaches that can help to mitigate the NPAs. The next session by Dr. J. N. Misra, CEO, Indian Institute of Banking and Finance was on the Design Thinking in New Age Banking. The speaker shared how the innovative and creative approach of design thinking can be adopted for delivering effective Banking education and service. The day ended with a session by Ms. Pawandeep, who has been into Banking industry for about a decade and has an academic experience too. She</p>

S. No	Particulars	Details
		<p>discussed the journey of Banking industry, the change it has witnessed and the role of future managers. She shared the need to develop managers with emotional intelligence for new age banking.</p> <p>The session on MSME Financing and Entrepreneurship was taken by Shri Abhishek Pareek, who has been head of Corporate Banking and heads the Atal Incubation cell at Banasthali Vidyapith. He shared the latest trends in Banking and focus of government on promoting entrepreneurship as an opportunity for Banks to grow their businesses. Later during the day, Dr. Nishtha Pareek discussed the need to look beyond the numbers in the financing and credit policy.</p> <p>Prof. Harsh Purohit, Dean of FMS-WISDOM, discussed how the Banks can survive in future and what kind of complete personal finance solutions can be provided by Banks to be able to attract customers in the age of digitalization and mechanization of routine jobs. He also discussed the role educational institutions can play in imparting personal finance education.</p> <p>The participants found the course content to be relevant, sessions of value in their academic career, and overall programme to be an effective utilization of their time. The innovative ideas shared in the programme were appreciated by the participants. All the participants mentioned key take away from the FDP.</p> <p>viii. Covering the aspect of ‘Personal development program’, a programme of three days duration entitled “Soft Computing Techniques and Applications” organized by Faculty Development Center, Banasthali Vidyapith from 23 - 28 December 2017, Seventy nine faculty members including eleven women participants’ from distant</p>

S. No	Particulars	Details
		<p>areas of the country including Ballabhgarh and Jaipur participated in the programme</p> <p>Prof. Sarla Pareek formally welcome all the dignitaries present on the dais and participants from various universities, colleagues & students. She emphasized the significance of Big Data various statistical tools and their applications and encouraged the participants to gain maximum advantage from this learning opportunity.</p> <p>Prof. G. N. Purohit gave a brief glimpse of ideals and achievements of Banasthali Vidyapith as a premium institute in the field of women education and introduced the concept of Soft Computing differentiating it from the more mathematical and traditional Hard Computing techniques. He discussed about genetic algorithms and their applications, Fuzzy Logics, Artificial Neural Networks and use of Soft Computing techniques in IOT.</p> <p>Prof. A.S. Mandal threw light on current scenario of technological advances including Smart Cities, IOT, and Cognitive Computing and talked about latest ten emerging technologies that are changing the face of world. He also told about certain live projects involving use of soft computing.</p> <p>Prof. C.K. Jha (Convener of the Faculty Development Program) proposed the vote of thanks to all the dignitaries including Prof. Aditya Shastri, Vice Chancellor, Banasthali University. He thanked all the invited guests and participants for gracing the occasion by their solemn presence. He also thanked MHRD for providing all kind of facilities for conducting the Faculty Development program.</p> <p>Prof. A.S. Mandal, Chief Scientist, Cognitive Computing Lab, CEERI, Pilani started with keynote lecture on use of Soft Computing in</p>

S. No	Particulars	Details
		<p>research areas like Neuro Science, Medicine and future computing technologies. This session covered modeling the concept of visual cortex for object recognition using Neurocomputing. He has discussed insights of the cognitive computing concepts using mathematical modeling. In Session-II speaker described the model development of horizontal connectors and demonstrated the role of RGC model in the Neurovision.</p> <p>Dr. Saurabh Mukherjee talked about computational perspective of medical images and forensic medicine involving use of soft computing based approaches. He also discussed digital image processing in depth along with cognitive computation and approaches to take cognitive decisions using Soft Computing algorithms.</p> <p>Prof. A.S. Mandal, Chief Scientist, Cognitive Computing Lab, CEERI, Pilani talked about Perceptual Computing for image processing and computer vision applications. The title of his talk was ‘Haptic Rendering of Emotion Expressions to the Blind : A Low Cost Solution’. He also discussed about cognitive engineering including Bio Technology based and Bio Chemistry based principles of cognitive science. He familiarized the audience with concepts of Emotion Recognition through facial expressions via discussion of ongoing projects. In this session, Prof. A.S. Mandal, demonstrated techniques for improving the neural behavior of human beings. He discussed about the problems in interconnection networks and their solution with new algorithm. The session was very interesting because he shared his research outcomes also</p> <p>Prof. Alok Singh, Department of Computer Science, University of Hyderabad. talked about</p>

S. No	Particulars	Details
		<p>“Artificial Bee Colony Algorithm and its applications”. He also discussed about Swarm Intelligence, Discrete Optimization Problems, Minimum Routing Cost Spanning Tree Problem, Quadratic Minimum Spanning Tree Problem, Early/Tardy Scheduling Problem and Block model Problem. He discussed several case studies for these techniques.</p> <p>Dr. Devendra Tayal, Indira Gandhi Technical University for Women, New Delhi, discussed about another branch of soft computing that is Fuzzy Logics. He talked about review about Fuzzy Sets & Logic and Where Fuzzy Logic can be applied and where not. He also shares some research outcomes problems and some sort of solutions. The session become very interesting when he discussed Fuzzy sets for solving Reviewer Assignment Problem and their solutions.</p> <p>Prof. P.K. Nanda, Dean Research, Shiksha O Anushandhan University, Bhubneshwar, Former Head, Department of EE, NIT Rourkela, talked about Parallel Genetic Algorithm Based ADAPTIVE thresholding schemes for image segmentation. The outline of talk was GA and PGA based clustering, PGA based Feature Less (FL) and Feature Based (FB) thresholding, PGA based Minimum Mean Square Error (MMSE) for thresholding, MMSE based thresholding for crack detection and Adaptive thresholding.</p> <p>Prof. R.K. Agrawal, SCSS, JNU, New Delhi, Prof. R.K. Agrawal addressed the basics of Machine Learning and then discussed about the concept of Deep Learning including Single Perceptron Model, Non Linearity problem and its solution with Multi Perceptron model. He has also covered concepts related to Gradient Descent Diminishing effect and many more.</p>

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15	Application of ICT tools. If yes, give details.	<p>The Vidyapith strongly believes in ensuring that teachers acquire a higher order of teaching-learning, critical thinking, problem solving and creative skills by harnessing the power of integrated technologies and methodologies.</p> <p>The Faculty Development Centre is involved in programs for 'faculty of higher education and teacher educators' that would enable teachers who have no, little or some teaching experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable.</p> <p>There a need to promote skills to effectively conduct classes by the faculty of higher education looking at the huge transformation that the students and teaching learning process is undergoing presently. The centre through its programmes emphasizes on the use of ICT to promote skills to integrate technology pedagogy content knowledge.</p> <p>Some of the salient features of the use of ICT in the programmes conducted by the Faculty Development Centre are as follows:</p> <ul style="list-style-type: none"> • Sessions have a right balance through proportionate use of lecture, powerpoint presentations and videos. Smart classrooms are used when necessary. • In some faculty development programmes, as per the requirement, hands on training on very high-end equipment is being provided, viz., FDP on Education and Ethos, the scientific equipment were used to demonstrate the Auric fields and impact on human beings; Similarly FESEM, XRD, GIS are being used in the 'Discipline specific professional development programmes'. • For administrative purposes Google forms and

S. No	Particulars	Details
		<p>docs are used, candidate's expectations will be invited through Google forms. Program scheduling and management was done through Excel and Google spreadsheets.</p> <p>Technology integration is being done at the Center for the following aspects</p> <ul style="list-style-type: none"> - Critical understanding of the ICT, - Technology-pedagogy-content-knowledge (TPCK) - Utilization of open education resources (OER) in teaching learning
16	Outcome Report Prepared? If yes, give details.	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development.</p> <p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role in national development. The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained and educated to cope with their changing and</p>

S. No	Particulars	Details
		<p>increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>In the programs conducted by the FDC at Banasthali Vidyapith, a wider participation of women is ensured. Interpersonal skills, career development and life planning are gender sensitive issues and need to be addressed at the national level.</p>
17	Assessment Mechanism for Trainees	<p>The programmes run at the Centre are strategically positioned to satisfy the huge need for effective and need-based teacher training programs (pre-service and in-service) across all courses.</p> <p>The programmes conducted by the Center have ‘practise teaching sessions’ for the participating faculty members. In addition, participants have to prepare a project work or give a presentation/ talk on any aspect of the training programme generally in the last two days of the programme.</p>
18	Was/ Were the seminars/ Workshops inclusive? Give details	<p>The programmes conducted at the Faculty Development Centre were inclusive in terms of participation and also content. The programmes are open to all faculty members irrespective of caste creed and religion. Both male and female faculty members are encouraged to join the programmes, however, being a all Womens’ Institution, a much larger participation from women teachers in higher education is being experienced at Banasthali.</p> <p>The content of the programmes are not limited to the broad sub areas, viz., Enrichment of Teacher Educators (faculty of teacher education); Personal Development Program (faculty of higher education and teacher educators); Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators); Discipline specific professional development program (faculty of higher education and</p>

S. No	Particulars	Details
		<p>teacher educators), but generally includes all aspects of faculty development. In each of the programmes conducted, several of the aspects are covered.</p> <p>The programmes run at the Centre are being strategically positioned to satisfy the huge need for effective and need-based teacher training program across all discipline.</p> <p>The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical. It is essential to bridge the gap between teachers and teacher educators and provide opportunities for teachers to become teacher educators.</p>
19	Status of the Content developed.	<p>Teacher education has to be seen in terms of career-long learning and training. During at least the last two decades, the training of educational personnel has been the most frequently discussed topics by educators at all levels of education.</p> <p>Redefined educational goals, along with changes in the concepts and practices of education, and the demands of development, have brought about several significant changes in the roles and functions of teachers and are being adopted and incorporated in the training programmes offered by the CoE in Curriculum and Pedagogy, Faculty Development Centre at Banasthali Vidyapith, especially in curriculum design, instructional and professional development for faculties with a multidisciplinary approach. The centre is also emphasizing on research in pedagogy, curriculum development and assessment practices, promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is exploring all possible avenues for content development for the Faculty development programmes and a few collaborations have been initiated in this</p>

S. No	Particulars	Details
		direction. As for example, collaboration with Mata Gujri Mahavidyalaya Jabalpur for training teachers in financial literacy, Indian Ethos and Entrepreneurship; Collaboration with National Entrepreneurship Network to train teachers in Entrepreneurship.
20	Assessment Tools developed? (If applicable)	Google Doc technology is used in some of the programmes for need assessment; feedback is obtained online during and after the FDP and compared with other FDP feedback.
21	Status of the creation of Research Cell.	<p>‘Teacher Education’ as an academic program is one of the earliest initiatives of Banasthali Vidyapith as ‘College of Teacher Education’ with significant contribution to doctoral research studies (70+) in the area of Teaching-Learning and Pedagogy. The Department of Education at Banasthali has the distinction of venturing to try out a learner centric curricular programme of teacher education, which the students named “Anweshana” in cognizance of its main feature of self-exploration which has been published as best practice in teacher education by NAAC and Commonwealth of Learning, Vancouver. The NCERT and NCTE have also appreciated this learner centric program in several of its reports.</p> <p>The Faculty Development Centre at Banasthali Vidyapith is working towards developing effective and efficient teachers by accelerating the teaching learning process through promoting independent and critical and creative thinking with innovative pedagogy.</p> <p>The centre has put adequate emphasize on research in pedagogy, curriculum development and assessment practices; promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is actively promoting research activities in various aspects of faculty development in collaboration</p>

S. No	Particulars	Details
		<p>with the Departments of the University.</p> <p>Some of the research undertaken are as follows: Knowledge Management Practices in Educational Institutions (With Reference to Select Universities Business Schools in Delhi & NCR; Job Satisfaction and Employee Performance: A case Study of Higher Education Institutions in Bikaner, Rajasthan; Motivation of Academic Staff-A comparative Study of Selected Government and Private Management Institutes of Delhi/NCR; Five-fold educational ideology followed successfully at Banasthali Vidyapith.</p>
22	Modules Developed. If yes give details.	<p>The Faculty Development Center is actively engaged in preparing and also encouraging development of modules for the faculty members of different Departments of the University. Some of the modules available for the teachers of Higher Education are: Personal Financial education; Indian Ethos; Linkedin Group of learning Money management, Personal Finance Module; Retirement Planning; Linkedin Repository Module on Personal Finance; Module on Introduction to Indian Ethos; Linkedin Repository Module on Indian Management and Ethos, web-research module in research methodology, communicative English. Some of these modules are being developed in collaboration with the Center for Financial Planning Training and Research for Women, Banasthali Vidyapith.</p>
23	E material developed to be inducted in repository. If yes give details.	<p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role in national development.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained</p>

S. No	Particulars	Details
		<p>and educated to cope with their changing and increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>The Centre is undertaken initiatives to develop E material of the modules developed for the faculty development programmes.</p>
24	Exchange Programs Conducted. Give Details	<p>The Faculty Development Centre is involved in conceptualizing and organizing programs for the faculty of higher education and teacher educators that would enable teachers with no, little or some teaching experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable. The Centre has an immense advantage in the sense that it can leverage the Vidyapiths' vast expertise in providing resources, ideas, professional advice and techniques for teachers, to make the teaching and learning process effective. Banasthali has developed linkages with more than 250 organizations developed over the years for academic, research funding/data collection, community mobilization, students' final placements, discussion session and other extension related purposes is strong enough to yield substantial advantages. The FDC at Banasthali is thus able to attract experts in various fields for its Faculty development Programs.</p>
25	Progress towards achievement of the proposed objective	<p>The target participants of the Faculty Development Centre at Banasthali Vidyapith are both Faculty of Higher Education and Teacher Educators. The University is ensuring that the faculties coming for the programs at the Centre are benefited by the socially and academically rich environment at Banasthali.</p> <p>The following are the objectives of the Faculty Development Centre:</p> <ol style="list-style-type: none"> i. To motivate teachers and promote institutional effectiveness.

S. No	Particulars	Details
		<p>ii. To enable personal, instructional, organizational and professional growth of faculty.</p> <p>iii. To develop incentive strategies for professional growth of teachers.</p> <p>iv. To train and prepare teachers for futuristic educational needs.</p> <p>v. To develop scientific temper, spirit of enquiry and spirit of discovery.</p> <p>The progress towards the achievement of the proposed objectives is summarized as follows:</p> <ul style="list-style-type: none"> • The construction of the state-of-the-art Faculty Development Centre is near its completion. • The Centre is conducting personal development programs for faculty members. Workshops have been conducted to identify features to be incorporated in personal development program Short term programs for developing interpersonal skills; life planning issues is in progress. An online guidance program for career development of faculty members is being planned. • The Centre is conducting programs for development of instructional strategies. Workshops to inculcate institutional ethos, increase awareness about organizational responsibilities and duties are conducted. The Faculty development programmes also foccuss to improve learning environment, increase social awareness and suggest ways to incorporate local community in development programs of the institution through seminars. • The Center is also conducting programs to incorporate organizational skills and to improve professional skills among incumbent faculty. Workshops focus on development of professional ethos in teaching and service. Training programmes are offered to develop discipline

S. No	Particulars	Details
		specific methodological rigors for research.
26	Constraints towards achievements of objective	<p>- None.</p> <p>The innovative Centre of Excellence in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme is a major initiative towards the professional and personal preparation of teachers which is crucial for the qualitative improvement of education.</p> <p>The operative freedom extended by MHRD for the Centre has created conducive environment for successful implementation of the project.</p>
27	Modification (if any) among the proposed objectives	- Induction Programme has been incorporated
28	Training Schedule (for current and next year)	<p>The programme schedule for the project duration January– March 2018.</p> <p>i. Ongoing Program title: Induction Orogramme Dates: December 9, 2017 – January 9, 2018 (1 month program). Participants: Newly inducted Faculty from colleges and Universities.</p> <p>ii. Proposed programme: Open Educational Resources for Teaching and Research Date: 20th March 2018 Participants: Faculty from colleges and Universities.</p> <p>iii. Proposed programme: Delinquency of Adolescents: A Serious Concern Date: 25th March 2018 Participants: Faculty from colleges and Universities.</p>

Salient features of FDC at Banasthali

- *Nurturing teachers to be good institutional citizens and serve as inspirational leaders for inculcation of moral values and Indian ethos.*

Concept: Originated in only of its kind situation, when a father lost his promising daughter at a tender age and decided to train others the same way to realize the dreams he had for his own daughter, Banasthali has been conceptualized to materialize the ethos of nation-building and Indian culture.

Need: To achieve its objective of ‘synthesis of spiritual values and scientific achievements of the East and the West’, Banasthali has evolved Five-fold Educational Programme (Panchmukhi Shiksha) comprising of the following aspects: (i) Physical, (ii) Practical, (iii) Aesthetic, (iv) Moral and (v) Intellectual. In this way, the students develop an integrated and balanced personality. These courses along with experiential learning create multi faceted citizens with firm grounding in multicultural ethos and legacy of India.

Present activity: The incumbent faculty to Banasthali Vidyapith is oriented to its unique philosophy through ‘Interactions meetings’ with senior faculty members, active participation and organization in university functions, celebrating National festivals for important historic events.

Deliverables: These activities would be formalized through the incorporating specific topics on value education in the programs conducted through ‘*Faculty Development Centre*’. An ideal teacher should be able to identify the reflection of values in the courses that they teach, find ways and means to transact/ highlight these values in their regular classes so that it becomes a natural way of life for the students and is reflected in each and every activity. Through these endeavors teachers would be inspirational role models for the students.

Financial Details till December 2017

Financial Details : (Amount in lacs)																																									
29.	Fund Approved Recurring Non-recurring	Recurring - Rs. 286.96 lacs Non-recurring - Rs. 428.00 lacs Rs. 714.96 lacs																																							
30.	Fund Received during previous years Recurring (head wise detail) Non-recurring (head wise detail)	(Rs. in lacs) <table border="1"> <tr> <th colspan="3">1. Recurring</th></tr> <tr> <td>A.</td><td>Manpower</td><td rowspan="7">114.73</td></tr> <tr> <td></td><td>Honorarium to Visiting Faculty</td></tr> <tr> <td>B.</td><td>Consumables</td></tr> <tr> <td>C.</td><td>Travel</td></tr> <tr> <td>D.</td><td>Contingency</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td></tr> <tr> <td>F.</td><td>Training Prog./Workshop/ Seminar/ Conf. etc.</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>114.73</td></tr> <tr> <th colspan="3">2. Non-recurring</th></tr> <tr> <td>A.</td><td>Civil Work</td><td>370.35</td></tr> <tr> <td>B.</td><td>Equipment</td><td>28.00</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>10.00</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>408.35</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>523.08</td></tr> </table>	1. Recurring			A.	Manpower	114.73		Honorarium to Visiting Faculty	B.	Consumables	C.	Travel	D.	Contingency	E.	Learning resources (Books, journals, CDs)	F.	Training Prog./Workshop/ Seminar/ Conf. etc.	Recurring Amount		114.73	2. Non-recurring			A.	Civil Work	370.35	B.	Equipment	28.00	C.	Networking & Computational facilities	10.00	Non-recurring Amount		408.35	Total Amount (1+2)		523.08
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Total Amount (1+2)		523.08																																							
31.	Expenditure incurred upto 31.03.2017 Recurring Non-recurring	Recurring - Rs. 82,37,211/- Non-recurring - Rs. 3,20,60,267/- Rs. 4,02,97,478/-																																							
32.	Balance Grant available on 01.04.2017 Recurring Non-recurring	Recurring - Rs. 32,35,789/- Non-recurring - Rs. 87,74,733/- Rs. 1,20,10,522/-																																							
33.	Fund Received during the year 2017-18 Recurring (head wise detail) Non-recurring (head wise detail)	Nil																																							

34.	Details of Fund Utilized during last two Quarters and Percentage of Utilization Recurring (head wise detail) Non-recurring (head wise detail) (01.04. 2017 to 30.06.2017)	<table border="1"> <thead> <tr> <th colspan="2">1. Recurring</th><th>Amount (Rs.)</th></tr> </thead> <tbody> <tr> <td rowspan="2">A.</td><td>Manpower Faculty</td><td>11,37,714/-</td></tr> <tr> <td>& Honorarium to Visiting</td><td>1,20,500/-</td></tr> <tr> <td>B.</td><td>Consumables</td><td>-</td></tr> <tr> <td>C.</td><td>Travel</td><td>1,51,253/-</td></tr> <tr> <td>D.</td><td>Contingency</td><td>-</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td><td>-</td></tr> <tr> <td>F.</td><td>Training Prog./ Workshop/ Seminar/ Conf. etc.</td><td>3,13,135/-</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>17,22,602/-</td></tr> <tr> <th colspan="2">2. Non-recurring</th><th></th></tr> <tr> <td>A.</td><td>Civil Work</td><td>54,26,584/-</td></tr> <tr> <td>B.</td><td>Equipment</td><td>-</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>-</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>54,26,584/-</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>71,49,186/-</td></tr> </tbody> </table>	1. Recurring		Amount (Rs.)	A.	Manpower Faculty	11,37,714/-	& Honorarium to Visiting	1,20,500/-	B.	Consumables	-	C.	Travel	1,51,253/-	D.	Contingency	-	E.	Learning resources (Books, journals, CDs)	-	F.	Training Prog./ Workshop/ Seminar/ Conf. etc.	3,13,135/-	Recurring Amount		17,22,602/-	2. Non-recurring			A.	Civil Work	54,26,584/-	B.	Equipment	-	C.	Networking & Computational facilities	-	Non-recurring Amount		54,26,584/-	Total Amount (1+2)		71,49,186/-
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35.	Details of Fund Utilized in the current Quarter and Percentage of Utilization Recurring (head wise detail) Non-recurring (head wise detail) (01.07. 2017 to 31.12.2017)	<table border="1"> <thead> <tr> <th colspan="2">1. Recurring</th><th>Amount (Rs.)</th></tr> </thead> <tbody> <tr> <td rowspan="2">A.</td><td>Manpower Faculty</td><td>22,87,214/-</td></tr> <tr> <td>& Honorarium to Visiting</td><td>4,93,500/-</td></tr> <tr> <td>B.</td><td>Consumables</td><td>51,835/-</td></tr> <tr> <td>C.</td><td>Travel</td><td>10,10,485/-</td></tr> <tr> <td>D.</td><td>Contingency</td><td>3,87,538/-</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td><td>14,355/-</td></tr> <tr> <td>F.</td><td>Training Prog./ Workshop/ Seminar/ Conf. etc.</td><td>13,41,697/-</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>55,86,624/-</td></tr> <tr> <th colspan="2">2. Non-recurring</th><th></th></tr> <tr> <td>A.</td><td>Civil Work</td><td>-</td></tr> <tr> <td>B.</td><td>Equipment</td><td>-</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>2,93,230/-</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>-</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>2,93,230/-</td></tr> </tbody> </table>	1. Recurring		Amount (Rs.)	A.	Manpower Faculty	22,87,214/-	& Honorarium to Visiting	4,93,500/-	B.	Consumables	51,835/-	C.	Travel	10,10,485/-	D.	Contingency	3,87,538/-	E.	Learning resources (Books, journals, CDs)	14,355/-	F.	Training Prog./ Workshop/ Seminar/ Conf. etc.	13,41,697/-	Recurring Amount		55,86,624/-	2. Non-recurring			A.	Civil Work	-	B.	Equipment	-	C.	Networking & Computational facilities	2,93,230/-	Non-recurring Amount		-	Total Amount (1+2)		2,93,230/-
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36.	Bank interest earned so far on fund received	Nil																																												
37.	Balance outstanding as on date 31.12.2017 Recurring Non-recurring	Recurring - Rs. (-) 40,73,437/- Non-recurring - Rs. (+) 30,54,919/- Rs. (-) 10,18,518/-																																												

Quarterly Report

FACULTY DEVELOPMENT CENTRE

(Centre of Excellence for Curriculum and Pedagogy)

Under the scheme

**PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON
TEACHERS AND TEACHING**

Supported by



**Ministry of Human Resource Development
Department of Higher Education
Government of India**

Submitted by



(January 2018 –March, 2018)

**Banasthali Vidyapith
Banasthali Vidyapith-304 022 (Raj.) India**

Tel.: + 91-1438-228373/ 228787

Fax: + 91-1438-228365

Website: <http://www.banasthali.org>

**PANDIT MADAN MOHAN MALVIYA NATIONAL MISSION ON
TEACHER AND TEACHING (PMMMNMTT)**

QUARTERLY REVIEW

FACULTY DEVELOPMENT CENTRE (FDC)

BANASTHALI VIDYAPITH

S. No	Particulars	Details
1.	Name of the Institute	Banasthali Vidyapith
2.	Project Duration	3 years (01.01. 2016 to 31.12.2018) F.No. 3-22/2015-PN II & December 30, 2015
3.	Period of initiation	January 1, 2016
4.	PAB (in which proposal got approved)	Fourth Project Approval Board (PAB) Meeting of the Pandit Madan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) held on 15 th December, 2015.
5.	Detail of Coordinator and present corresponding Program Coordinator (Name, Phone no/Mob., & E mail)	Prof. Aditya Shastri Banasthali Vidyapith P.O. Banasthali Vidyapith-304 022 (Raj.) Ph.: 91-1438-228787 e-mail: adityashastri@banasthali.in
6.	Details of Fund Received in the last Quarter (Percentage of Annual fund)	Nil
7.	Details of Fund Received in the current Quarter (Percentage of Annual fund)	Nil
8.	Details of Fund Utilized in the last Quarter (Percentage of Annual fund)	Recurring - Rs. 27,12,183/- Non-recurring - Rs. 7,78,224/- Total - Rs. 34,90407/-
9.	Disciplines Covered	The programme run at the Centre is be strategically positioned to satisfy the huge need for effective and need-based teacher training programs (pre-service and in-service) across all courses, viz., Faculty development of Higher Education and Teacher Education, Fine Arts,

S. No	Particulars	Details
		<p>Home Sciences, Humanities, Life Sciences, Management, Mathematics and Computing, Physical Sciences, Social Sciences, Design, Law.</p> <p>The FDC programmes include all the four types of development (personal, instructional, organizational and professional) of faculty of Higher education and teacher educators as envisioned under the PMMMNMTT scheme.</p> <p>The Centre through its various programmes is covering the following aspects of faculty development:</p> <ul style="list-style-type: none"> - Enrichment of Teacher Educators (faculty of teacher education) - Personal Development Program (faculty of higher education and teacher educators) - Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators) - Discipline specific professional development program (faculty of higher education and teacher educators)
10.	Number of Beneficiaries	<p>Total number of direct beneficiaries during the project duration Jan – March, 2018 is as follows:</p> <p>Total Number of Participants: 31</p> <p>Female faculty members: 20</p> <p>Male faculty members: 11</p>
11.	Geographical Area Covered (If applicable)	<p>The Faculty development programmes conducted in the previous and present quarter by the Faculty Development Centre, Banasthali Vidyapith has a near pan-India participation. In addition to candidates from Rajasthan (Jaipur, Jodhpur, Ajmer); participants have come from Chhattisgarh (Raipur), Uttar Pradesh (Aligarh, Agra, Bijnor, Mathura), Maharashtra (Nagpur, Latur, Lonar), Himachal Pradesh (Shimla), Gujrat (Rajkot) and West Bengal.</p>
12.	Number of Workshops/ Seminar covered with	<p>April - June 2017 : 3 programmes conducted.</p>

S. No	Particulars	Details
	duration (In previous & current quarter)	<p>July – September 2017: 10 programmes completed.</p> <p>Oct. –Dec. 2017 : 6 programme completed.</p> <p>Jan. – Mar. 2018 : 1 programme completed</p>
13.	Details of aspect(s) of Faculty Development undertaken in the previous quarter (Oct -Dec 2017)	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development.</p> <p>The aspects of Faculty Development undertaken in the current quarter (October – December 2017) specifically addressed the following sub-areas</p> <ul style="list-style-type: none"> - Personal Development Program - Discipline specific pedagogy/ instructional development program - Discipline specific professional development program <p>i. Covering the aspect of ‘Discipline specific professional development program’, a programme of seven days duration entitled “Quantitative Techniques in Research Methodology” was conducted during September 8-10, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Twenty one faculty members including eleven women participants’ from distant areas of the country including Noida, Varanasi, Muzaffarnagar participated in the programme</p> <p>Research comprises of working in the knowledge domain to better understand phenomenon using scientific tools and/ or develop new sets of innovative techniques to explore new frontiers. Taking various forms research is initiated in the numerous areas, some of the following are: economics and policy, finance, marketing, human</p>

S. No	Particulars	Details
		<p>resource and psychology etc. The current focus of this FDP was to cover some of the available techniques in order to address some of the issues which are recurrently faced by a researcher: tilted Quantitative Techniques in Research.</p> <p>After the inaugural the session, Prof. D. Israel, XLRI, Jamshedpur, introduced the concept of quantitative techniques in research methods by furthering discussion on Factor analysis and its components: Exploratory and Confirmatory Factor Analysis. Post Lunch Prof. Israel practicing the methods to experience the working with primary data, held in the computer lab using Statistical Software of SPSS version 22.</p> <p>The concept and use of Structural equation modeling was introduced by Prof. D. Israel with the help of actual data and application of SPSS Amos has also been discussed. Participants have also made PowerPoint presentation on the aspects of scale development and other topics covered which was already provided in the form of study material.</p> <p>The basics of Econometrics was introduced by Prof. P.C. Padhan, XLRI, Jamshedpur and he also used some of his data for the clarity of the participants to explain the topics. He also introduced the Classical assumptions related to Regression Analysis.</p> <p>Prof P.C. Padhan conducted session on analysis of classical assumptions of Regression analysis and suggest the ways to improve a research paper based upon the clarity of these assumptions and further discussed multi-regression analysis. Post Lunch session was conducted by Prof. Ameet Kumar Banerjee on time series data mainly addressing the volatility models of ARCH & GARCH with the help of E-Views software.</p>

S. No	Particulars	Details
		<p>The participants' feedback was that the components of Research Methodology were very well covered. They appreciated the efforts to integrate the different dimensions of the Quantitative Research and hands on analysis through lab sessions were a great learning from the angle of faculty development. They requested to conduct FDPs on Advanced Research Methods and also a separate FDP on writing skills of a research paper and case studies.</p> <p>ii. Covering the aspect of 'Discipline specific professional development program', a programme of seven days duration entitled "National workshop on Emerging Sophisticated Analytical Techniques" was conducted during November 1-21, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty faculty members including eleven women participants' from distant areas of the country participated in the programme.</p> <p>Analytical chemistry is the science concerned with the systematic identification or characterisation of established chemical species and their determination to known degrees of certainty at any level of concentration and in any matrix in which they may occur.</p> <p>Analytical technique contribute to any phase of analytical operations, including sampling, chemical reactions, separations, instrumentation, measurements, and data processing. Papers dealing with known analytical methods should offer a significant, original application of the method, a noteworthy improvement, or results on an important analyst.</p> <p>The primary goal of the workshop was to promote research and developmental activities in science. The focus of the workshop will be to explore the emerging trends in electro analytical techniques and</p>

S. No	Particulars	Details
		<p>to enhance the contribution of science and technology in these techniques. In this context, this workshop will provide a platform to academicians, scientists and R& D personnel's to exchange their knowledge. The National workshop will be cover all aspects of sophisticated analytical instruments and its application and implementation including the following themes of physical sciences: Chemical Sciences, polymer chemistry, Life Science, Environmental Science, Solar energy, Nanotechnology, Water chemistry, Electronics including electrodes and sensors etc.</p> <p>iii. Covering the aspect of 'Personal development program', a programme of three days duration entitled "Emerging trends in Business: The Bharatiya Perspectives" was conducted during November 27-29, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Thirty three faculty members including nineteen women participants' from distant areas of the country including Jabalpur, Delhi, Mumbai participated in the programme</p> <p>Domain specific sessions were conducted for marketing, finance, and human resource streams. One combined session was also organized on management teachers of the future.</p> <p>The dynamic marketing domain demands for changing marketing strategies & efforts from marketers to meet the changing demands of business, so the focus of this FDP was to address some of these issues and sought solution from Bharatiya perspective</p> <p>The formal inaugural address is followed up by faculty presentations which touched upon many new emerging trends in marketing area like - New sales and distribution channels in Insurance services, New Initiatives of customer services in e-</p>

S. No	Particulars	Details
		<p>commerce based businesses, Rural marketing & its potential etc. The resource person Prof. Srinivasa Srinivasan provided valuable inputs to faculty presentations concerning these areas.</p> <p>The new teaching pedagogy of using Hollywood movies for relating to management concepts was discussed by Prof. Srinivasa and in later half of session a case-let of HOSTILE ACQUISITION was discussed.</p> <p>The touch of Bharatiya Perspective was maintained incorporated by all the presenters in their delivery. Pink leadership and psychological empowerment were attractive topics during the day. Along with them the role of gender budgeting in the organizations was also discussed. Drop and go errors in recruitment were also discussed at stretch.</p> <p>An enlightening dialogue was delivered about group and its dynamics by Prof. David Selvinathan. Later he talked about the need and importance of experiential learning in teaching and demonstrated it well via an activity of bridge making. The day was concluded by closing ceremony in which the resource person was presented with a memento and thank you note was delivered.</p> <p>The focus of this FDP was to make the participants aware about the usage of excel in teaching Financial Management. As this reduces lot of paper work and enhances the skill, know day's industries demand. The resource person for the program was CA Mehernosh J Randeria.</p> <p>Forecasting of data, calculation of profit & loss account, balance sheet and cash flow on excel was taught by the resource person.</p> <p>The participants found the course content to be</p>

S. No	Particulars	Details
		<p>relevant, sessions of value in their academic career, and overall programme to be an effective utilization of their time. The presentation skills of the resource persons were appreciated. All the participants mentioned key takeaway from the FDP. Participants also suggested themes for future programmes – like Big Data Analytics, HR Analytics, Data Science, Emerging Teaching Pedagogy etc</p> <p>iv. Covering the aspect of ‘Discipline specific professional development program’ a programme of three days duration entitled "Emerging trends in Legal Education: The Bhartiya Perspectives" was conducted during November 30- December 2, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Twenty one faculty members including twelve women participants’ from distant areas of the country including Chittorgarh, Dehradun, Jaipur participated in the programme</p> <p>In the last three decades, liberalization, globalization and information technology have had a huge impact on the development of the law, which has resulted in the entry of the law in new areas. Indian legal system has also not been untouched by these changes and it is trying to reconcile with continuous changes. In this order, the field of legal education in India needs to be broadened and expanded. For this, the study of the emerging areas of law in legal education is essential and at the same time, it is necessary to evaluate all these in Indian perspective so that Indian law can be made consistent and useful. For the same purpose, the above FDP was organized in which Private International Law and IPR were highlighted by experts on the emerging areas and at the same time emphasizing the importance of research methodology.</p>

S. No	Particulars	Details
		<p>In a panel discussion on “The right pedagogy of teaching the law courses” Ms. Nidhi Gupta presented her views in the context of Indian perspective of legal education and highlighted the importance of legal education of Indian values. She also highlighted merits of traditional Indian education system, where law was treated as “Dharma” which everyone has to follow under conscience. Then Dr. Gargi Chakrabarti gave a lecture on Intellectual Property and its interface with Competition Law by various leading cases. After lunch, Ms.Nidhi Gupta highlighted the origins of the Private International law, its basic principles its usefulness, and its importance in Indian legal context. With defining future prospects she emphasized that it is need of time, to add Private International Law in law course curriculum. Then she gave answers to the questions asked by the faculty members. At the end of the session, Dr. Gargi Chakrabarti and Ms. Nidhi Gupta calmed many inquiries of faculty members related to research.</p> <p>Prof. (Dr.) Karunesh Saxena (Ex-Director, FMS-Mohanlal Sukhadia University, Udaipur) highlighted the usefulness and importance of Personal Effectiveness and Emotional Intelligence. He introduced faculty members to various dimensions of Personal Effectiveness and Emotional Intelligence through PPT and video clips, so that faculty members could develop their personality in a better way.</p> <p>He also told what should be avoided and what should be added in synopsis. In this context, he mentioned methods and techniques of empirical and non empirical research in sequence. At the end of FDP valedictory session was conducted in which participants gave thanks to all resource</p>

S. No	Particulars	Details
		<p>persons and Prof. (Dr.) Harsh Purohit for organizing such a useful FDP which enlighten them.</p> <p>The resource persons as well as participants appreciated the idea of bringing Bharatiya insights into legal education discourse. The idea to bridge the gap between research and practice was also generated good interest. The participants' feedback was that the components of Research Methodology were very well covered and it gave good understanding of how research methods can be used to develop skills in writing international level research papers and dissertation. Also as a teacher the importance of stress management and emotional intelligence was discussed. The FDP greatly expanded understanding of mindfulness. Many ideas for future programmes were shared by the participants like – research methodology, international law, banking laws etc.</p> <p>v. Covering the aspect of 'Personal development program', a programme of three days duration entitled 'Rethinking about Climate Change: A Psychological Perspective' was conducted during December 16-22, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Forty faculty members including twenty women participants' from distant areas of the country including Tonk, Alwar, Bareilly, Patna-Bihar, Jaipur participated in the programme</p> <p>Nature always pays back and so is going on regarding climate change and human health and wellbeing. There is evident interplay between human activity and nature. Due to manmade activities there are notable changes in climate which are threatening human health and wellbeing and this is the concern of psychologists. Thus, according to Dr Susie Burke (Senior Psychologist Public Interest, Aus.), there are solid reasons for</p>

S. No	Particulars	Details
		<p>psychology to play critical role and responsibility in addressing climate change. Dr. Sreekesh started his lecture on climate change just after the inauguration of the workshop. He discussed about the climate and the scientific basis of climate change, for example heavy carbon emission and heat trapping. He also discussed about the anthropogenic influence on climate. The difference between the minimum and maximum temperature is increasing due to climate change in India. Further, he raised the psychological issues related to climate change and binded up his session with a significant question that how Psychology can Help Prevent Climate Change?</p> <p>Prof. Rashmi Sharma discussed about the causes of climate changes – Physical and Human. For example, variation in solar radiation, volcanic eruption will increase the atmosphere pollution that minimizes the temperature so, the earth will experience cold or reduced temperature and it also decreases in solar radiation. She also discussed about Co2 theory and Green house effect. Further, she elaborated on Effects of Climate change – temperature increase, melting glacier, Sea level increase, submerge of coastal area, loss of fertile soil, flood, drought , perennial streams run dry, changing in cropping pattern, less agricultural productivity, starvation, civil conflict, displacement & migration, change in migration and breeding period of birds, treat to bio-diversity and increase skin and eye related diseases, and Impact of Climate change – health, Agriculture, Forest, Water Resources, Coastal and natural areas impact</p> <p>Lawyer Amit Gupta started with general concern of climate change and legal aspects of it in India. He discussed about the issues related to climate change and politics-that how politics is more</p>

S. No	Particulars	Details
		<p>important than anything else in India, for example, electricity production mainly depends on the coal / thermal power plants but it emits more CO₂ in the atmosphere. Government will never ever think of reducing it because if there is a power cut at least for two hours, the govt. will lose in the election. He said that there are alternative for carbon emission such as renewable energy production but policies are to be made user friendly. Further, he stated that when we interfere with the nature it will revert by the way of natural disasters.</p> <p>Dr. R. D. Doi, Department of Geography, University of Rajasthan, Jaipur started his session with general introduction of climate change and its consequences. He said that climate change is not global warming, it is dynamic phenomenon, it implies past, present and future changes too (climochronology). Further, he said that a very few of people are aware about the negative effect of climate change and there is no action but there are many talks are going on to minimize global warming</p> <p>Dr. T. I. Khan, Indira Gndhi Centre for Human Ecology, Environment and Population studies University of Rajasthan, Jaipur presented his viewpoints regarding climate starting with general introduction about climate change and talked about how the chemistry of the global atmosphere regulated and about the role of biological process in producing and consuming trace gases?</p> <p>Further, he talked about the impact of climate change on environment, for example, impact on ICE and Snow, Ocean and coast, Hydrological system, Eco systemic and Vegetation. He also presented his concern for impacts of climate change on society</p> <p>Dr. Pankaj Kumar, Department of Geography, University of Delhi, Delhi, said that weather is a</p>

S. No	Particulars	Details
		<p>short term phenomena climate is a long term phenomena. Climate change is a change a change in the statistical distribution of weather pattern when that change lasts for an extended period of time (Decades to millions of years). He talked about the facts and indicators of climate change and mechanism of climate change.</p> <p>vi. Covering the aspect of 'Personal development program', a programme of three days duration entitled 'Emerging trends in Banking: Contributing to the development of new Bharat' was conducted during December 21-23, 2017 by the Faculty Development Centre, Banasthali Vidyapith. Nineteen faculty members including eleven women participants' from distant areas of the country including Ballabhgarh and Jaipur participated in the programme</p> <p>Sessions covered changing scenario of Banking, future of Banking and some technical sessions on financing.</p> <p>The formal inaugural session was followed by session of Shri Jyoti Ghosh, Sr. Advisor, Bandhan Bank. He discussed the 'NPA Management in Banks'. The speaker also shared micro level approaches that can help to mitigate the NPAs. The next session by Dr. J. N. Misra, CEO, Indian Institute of Banking and Finance was on the Design Thinking in New Age Banking. The speaker shared how the innovative and creative approach of design thinking can be adopted for delivering effective Banking education and service. The day ended with a session by Ms. Pawandeep, who has been into Banking industry for about a decade and has an academic experience too. She discussed the journey of Banking industry, the change it has witnessed and the role of future managers. She shared the need to develop managers with emotional intelligence for new age</p>

S. No	Particulars	Details
		<p>banking.</p> <p>The session on MSME Financing and Entrepreneurship was taken by Shri Abhishek Pareek, who has been head of Corporate Banking and heads the Atal Incubation cell at Banasthali Vidyapith. He shared the latest trends in Banking and focus of government on promoting entrepreneurship as an opportunity for Banks to grow their businesses. Later during the day, Dr. Nishtha Pareek discussed the need to look beyond the numbers in the financing and credit policy.</p> <p>Prof. Harsh Purohit, Dean of FMS-WISDOM, discussed how the Banks can survive in future and what kind of complete personal finance solutions can be provided by Banks to be able to attract customers in the age of digitalization and mechanization of routine jobs. He also discussed the role educational institutions can play in imparting personal finance education.</p> <p>The participants found the course content to be relevant, sessions of value in their academic career, and overall programme to be an effective utilization of their time. The innovative ideas shared in the programme were appreciated by the participants. All the participants mentioned key take away from the FDP.</p> <p>vii. Covering the aspect of ‘Personal development program’, a programme of three days duration entitled “Soft Computing Techniques and Applications” organized by Faculty Development Center, Banasthali Vidyapith from 23 - 28 December 2017, Seventy nine faculty members including eleven women participants’ from distant areas of the country including Ballabhgarh and Jaipur participated in the programme</p> <p>Prof. Sarla Pareek formally welcome all the dignitaries present on the dais and participants from various universities, colleagues & students. She emphasized the significance of Big Data</p>

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		<p>various statistical tools and their applications and encouraged the participants to gain maximum advantage from this learning opportunity.</p> <p>Prof. G. N. Purohit gave a brief glimpse of ideals and achievements of Banasthali Vidyapith as a premium institute in the field of women education and introduced the concept of Soft Computing differentiating it from the more mathematical and traditional Hard Computing techniques. He discussed about genetic algorithms and their applications, Fuzzy Logics, Artificial Neural Networks and use of Soft Computing techniques in IOT.</p> <p>Prof. A.S. Mandal threw light on current scenario of technological advances including Smart Cities, IOT, and Cognitive Computing and talked about latest ten emerging technologies that are changing the face of world. He also told about certain live projects involving use of soft computing.</p> <p>Prof. C.K. Jha (Convener of the Faculty Development Program) proposed the vote of thanks to all the dignitaries including Prof. Aditya Shastri, Vice Chancellor, Banasthali University. He thanked all the invited guests and participants for gracing the occasion by their solemn presence. He also thanked MHRD for providing all kind of facilities for conducting the Faculty Development program.</p> <p>Prof. A.S. Mandal, Chief Scientist, Cognitive Computing Lab, CEERI, Pilani started with keynote lecture on use of Soft Computing in research areas like Neuro Science, Medicine and future computing technologies. This session covered modeling the concept of visual cortex for object recognition using Neurocomputing. He has discussed insights of the cognitive computing concepts using mathematical modeling. In Session-II speaker described the model development of horizontal connectors and</p>

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		<p>demonstrated the role of RGC model in the Neurovision.</p> <p>Dr. Saurabh Mukherjee talked about computational perspective of medical images and forensic medicine involving use of soft computing based approaches. He also discussed digital image processing in depth along with cognitive computation and approaches to take cognitive decisions using Soft Computing algorithms.</p> <p>Prof. A.S. Mandal, Chief Scientist, Cognitive Computing Lab, CEERI, Pilani talked about Perceptual Computing for image processing and computer vision applications. The title of his talk was ‘Haptic Rendering of Emotion Expressions to the Blind : A Low Cost Solution’. He also discussed about cognitive engineering including Bio Technology based and Bio Chemistry based principles of cognitive science. He familiarized the audience with concepts of Emotion Recognition through facial expressions via discussion of ongoing projects. In this session, Prof. A.S. Mandal, demonstrated techniques for improving the neural behavior of human beings. He discussed about the problems in interconnection networks and their solution with new algorithm. The session was very interesting because he shared his research outcomes also</p> <p>Prof. Alok Singh, Department of Computer Science, University of Hyderabad. talked about “Artificial Bee Colony Algorithm and its applications”. He also discussed about Swarm Intelligence, Discrete Optimization Problems, Minimum Routing Cost Spanning Tree Problem, Quadratic Minimum Spanning Tree Problem, Early/Tardy Scheduling Problem and Block model Problem. He discussed several case studies for these techniques.</p> <p>Dr. Devendra Tayal, Indira Gandhi Technical University for Women, New Delhi, discussed</p>

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		<p>about another branch of soft computing that is Fuzzy Logics. He talked about review about Fuzzy Sets & Logic and Where Fuzzy Logic can be applied and where not. He also shares some research outcomes problems and some sort of solutions. The session become very interesting when he discussed Fuzzy sets for solving Reviewer Assignment Problem and their solutions.</p> <p>Prof. P.K. Nanda, Dean Research, Shiksha O Anushandhan University, Bhubneshwar, Former Head, Department of EE, NIT Rourkela, talked about Parallel Genetic Algorithm Based ADAPTIVE thresholding schemes for image segmentation. The outline of talk was GA and PGA based clustering, PGA based Feature Less (FL) and Feature Based (FB) thresholding, PGA based Minimum Mean Square Error (MMSE) for thresholding, MMSE based thresholding for crack detection and Adaptive thresholding.</p> <p>Prof. R.K. Agrawal, SCSS, JNU, New Delhi, Prof. R.K. Agrawal addressed the basics of Machine Learning and then discussed about the concept of Deep Learning including Single Perceptron Model, Non Linearity problem and its solution with Multi Perceptron model. He has also covered concepts related to Gradient Descent Diminishing effect and many more.</p>
14.	Details of aspect(s) of Faculty Development undertaken in the current quarter (July – August, 2017)	<p>The aspects of Faculty Development undertaken in the previous quarter (Jan – March 2017) specifically is as follows:</p> <ol style="list-style-type: none"> An Induction Programme was conducted during December 9 – January 9, 2017 by the Faculty Development Centre, Banasthali Vidyapith. 31 newly inducted teaching faculties participated in the programme. <p>The one-month Induction Training Programme was inaugurated in the gracious presence of Professor Siddharth Shastri, vice-president of</p>

S. No	Particulars	Details
		<p>Banasthali Vidyapith, Professor Gopa Sabharwal, eminent sociologist and former vice-chancellor of Nalanda University, Bihar, Professor Preeti Sharma, Dean of Faculty of Social Sciences, and Professor Manju Singh, Coordinator of Women's Studies & Research Centre of Banasthali Vidyapith Professor Siddharth Shastri in his presidential address talked about the role of Pandit Madan Mohan Malaviya in building a foundation for higher education in India and of Pandit Hira Lal Shastri, the founding father of Banasthali Vidyapith for his endeavours of empowering women through education.</p> <p>Professor Gopa Sabharwal delivered her talk on "Role and Responsibilities of an Academic" Professor Kapil Sharma of Institute of Management Studies, Devi Ahilya University, Indore, delivered his talk on "Academic Leadership for Nation Building."</p> <p>Professor S. P. Singh, Department of Political Science, Delhi University delivered his talk on, "Indigenous tradition of learning in India," in which he highlighted how the indigenous past of India, its ancient, mythological, and Vedic histories have been neglected by colonial and post-colonial historians.</p> <p>Professor P. Hemlatha Reddy, Principal of Shri Venkateswara College, Delhi University delivered her talk on "College structure and administration," in which she discussed the university/college structures in India and how they work in control and cooperation with the government, Ministry of Human Resource Development and University Grants Commission, besides several other institutions like ICSSR, CSIR, ICHR et al which promote quality pedagogy and researches at higher education levels.</p>

S. No	Particulars	Details
		<p>Professor Yagati Chinna Rao, Centre for the Study of Discrimination and Exclusion, Jawaharlal Nehru University delivered his talk on, “Understanding Exclusion,” in which he talked about the various dimensions of society’s hierarchies based on caste and class.</p> <p>Professor Sthabir Khora, School of Education, Tata Institute of Social Sciences, Mumbai delivered his talk on, “Teacher Professionalism.”</p> <p>Professor Rajiv Gupta, former Head of Department of Sociology, Rajasthan University delivered his talk on, “Administrative structure of a university: Statuettes and Officers.” Professor Kumar Suresh of Department of Education and Administration, NUEPA, New Delhi. delivered his talk on, “Global trends in higher education and its influence on India.” In another lecture titled, “Diversity and Equity in Higher Education – Policy Perspective and Institutional Context,” in which he highlighted about different parameters, criteria like teaching, research, citation, peer review et al in making a university worthy of holding a respectable rank internationally.</p> <p>Professor Shivaputra Patagundi, former Dean (Academic & Training), Higher Education Academy, Karnataka delivered his talk on,, “Revised Assessment and Accreditation Framework of NAAC.”</p> <p>Professor Sanjeev Kumar H M, Department of Political Science, University of Delhi delivered his talk on, “Pedagogy beyond textbooks.” Professor Shivaputra Patagundi, on “Role of IQAC.” In this lecture he discussed the structure, importance and role of Internal Quality Assurance Cell.</p> <p>Professor D R Sahu, Head of Department of</p>

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		<p>Sociology, University of Lucknow delivered his talk on, "Sociology of Education." Professor Subhash Sharma, Director, Indus Business Academy, Bengaluru delivered his talk on, "Creative Meditative Research in Psychology and Management."</p> <p>Professor Kiran Sarna, Head of Department of Visual Arts, Banasthali Vidyapith. She gave a lecture on "Art as a therapy."</p> <p>Professor D. K. Singh, Librarian, Central Library, Banaras Hindu University. His talk of the session was titled, "The challenges of citation and referencing: A case study of MLA, Chicago and APA styles."</p> <p>Professor Sophie Titus, Head of Department of Physical Education, Banasthali Vidyapith. Her talk was based on "Sports in everyday life."</p> <p>Professor Vandana Goswami, Dean, Faculty of Education, Banasthali Vidyapith delivered her talk on "Micro teaching." In this lecture she discussed various methods of teaching or pedagogy at university level.</p> <p>Professor Rekha Pande, Head of Centre for Women's Studies, University of Hyderabad delivered her talk on "Gender Sensitization: Issues and Perspectives."</p> <p>Professor Gopal Vijay, Registrar of Rajasthan University lecture was based on "The Administrative Structure of University: Statues and Officers."</p> <p>Professor Vasanth Kiran, Director, School of Performing Arts, Reva University, Bengaluru delivered his talk on, "Academic leadership and transformative education."</p> <p>Professor (emeritus) Shashi Arora, Department of</p>

S. No	Particulars	Details
		<p>History, Rajasthan University on the topic “College administration and its functioning.”</p> <p>Professor Manish Kumar Verma, Department of Sociology, Babasaheb Bhimrao Ambedkar University, Lucknow delivered his talk on, “Social and Environmental Movements,” and “Development and Displacement.”</p> <p>Professor Harsh Purohit, Dean Faculty of Law and Management, Banasthali Vidyapith conducted the session on “New Experiments in devising a suitable pedagogy.”</p> <p>Professor Anil S. Sutar of Tata Institute of Social Sciences, who delivered two lectures spread over the next day of the induction training programme – the first part being given in the post lunch session on “How to make teaching and learning more effective in university classrooms?”</p> <p>Professor Alka Sharma, Head of Department of Sociology, Jay Pee Institute, Noida delivered her talk on “Academic leadership.” In this lecture Professor Sharma talked about what leadership is all about.</p> <p>Professor K Srinivas, Head Information and Communications Technology, National University of Education and Planning, New Delhi lectures covered topics viz., “Online teaching, learning and assessment;” “Moodle MOOC delivery platform;” “Flipped Clasa Room;” and “Blended learning.” In the first lecture he discussed different ways, tools and platforms based on satellite technology, internet and smartphone applications for making learning and teaching interesting and effective.</p> <p>Professor Kelly Bryan Rudin, Professor of History, Montgomery College, Washington DC, spoke on “Pedagogy at Montgomery College.</p>

S. No	Particulars	Details
		<p>Dr. Arti Srivastava, Associate Professor, National University of Education and Planning, New Delhi delivered her talk on “Academic community and social responsibility” Dr. Arti Srivastava, comprised lectures on “Training and placement office and facilitating employability.” She highlighted the importance of training and placement facility in a university system.</p> <p>Professor Sanjay Kumar of Centre for the Study of Developing Societies, New Delhi gave two lectures on “Women in Indian electoral politics,” and “Indian youth and the problem of unemployment.”</p> <p>Professor Aziz Rahman Siddiqui, Department of Geography, Allahabad University gave two lectures. One was based on “Role of satellite derived data and GIS application in researches,”</p> <p>Professor Rupa Mathur, and Dr Chandrani Sen, from Department of Psychology, IIS University, Jaipur gave a demonstration and activity based talk on “Stress management in academic space.”</p> <p>Professor (retired) S.K. Tripathi, Indian Institute of Technology, Roorkee delivered his talk on, “Soil water conservation and management.” Professor M.S. Gaur, Head of Department of Physics, Hindustan College of Science and Technology, Mathura. He spoke on “Gandhian science and Engineering: Getting more from less for more.”</p> <p>The participants, on the occasion of the completion of the one month long induction training programme, were taken on excursion to Jaipur.</p>
15.	Application of ICT tools. If yes, give details.	The Vidyapith strongly believes in ensuring that teachers acquire a higher order of teaching-learning, critical thinking, problem solving and creative skills by harnessing the power of integrated technologies and

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		<p>methodologies.</p> <p>The Faculty Development Centre is involved in programs for 'faculty of higher education and teacher educators' that would enable teachers who have no, little or some teaching experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable.</p> <p>There a need to promote skills to effectively conduct classes by the faculty of higher education looking at the huge transformation that the students and teaching learning process is undergoing presently. The centre through its programmes emphasizes on the use of ICT to promote skills to integrate technology pedagogy content knowledge.</p> <p>Some of the salient features of the use of ICT in the programmes conducted by the Faculty Development Centre are as follows:</p> <ul style="list-style-type: none"> • Sessions have a right balance through proportionate use of lecture, powerpoint presentations and videos. Smart classrooms are used when necessary. • In some faculty development programmes, as per the requirement, hands on training on very high-end equipment is being provided, viz., FDP on Education and Ethos, the scientific equipment were used to demonstrate the Auric fields and impact on human beings; Similarly FESEM, XRD, GIS are being used in the 'Discipline specific professional development programmes'. • For administrative purposes Google forms and docs are used, candidate's expectations will be invited through Google forms. Program scheduling and management was done through Excel and Google spreadsheets.

S. No	Particulars	Details
		<p>Technology integration is being done at the Center for the following aspects</p> <ul style="list-style-type: none"> - Critical understanding of the ICT, - Technology-pedagogy-content-knowledge (TPCK) - Utilization of open education resources (OER) in teaching learning
16.	Outcome Report Prepared? If yes, give details.	<p>The innovative CoE in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme has initiated several programmes or the professional and personal preparation towards the mission to address comprehensively all issues related to teachers, teaching, teacher preparation and professional development.</p> <p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role in national development. The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained and educated to cope with their changing and increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>In the programs conducted by the FDC at Banasthali Vidyapith, a wider participation of women is ensured. Interpersonal skills, career development and life</p>

S. No	Particulars	Details
		planning are gender sensitive issues and need to be addressed at the national level.
17.	Assessment Mechanism for Trainees	<p>The programmes run at the Centre are strategically positioned to satisfy the huge need for effective and need-based teacher training programs (pre-service and in-service) across all courses.</p> <p>The programmes conducted by the Center have ‘practise teaching sessions’ for the participating faculty members. In addition, participants have to prepare a project work or give a presentation/ talk on any aspect of the training programme generally in the last two days of the programme.</p>
18.	Was/ Were the seminars/ Workshops inclusive? Give details	<p>The programmes conducted at the Faculty Development Centre were inclusive in terms of participation and also content. The programmes are open to all faculty members irrespective of caste creed and religion. Both male and female faculty members are encouraged to join the programmes, however, being a all Womens’ Institution, a much larger participation from women teachers in higher education is being experienced at Banasthali.</p> <p>The content of the programmes are not limited to the broad sub areas, viz., Enrichment of Teacher Educators (faculty of teacher education); Personal Development Program (faculty of higher education and teacher educators); Discipline specific pedagogy/ instructional development program (faculty of higher education and teacher educators); Discipline specific professional development program (faculty of higher education and teacher educators), but generally includes all aspects of faculty development. In each of the programmes conducted, several of the aspects are covered.</p> <p>The programmes run at the Centre are being strategically positioned to satisfy the huge need for effective and need-based teacher training program (pre-service and in-service) across all courses.</p>

S. No	Particulars	Details
		<p>The programmes at the Centre are focused to facilitate ways and means for improved faculty performance in a variety of domains including institutional, intellectual, personal, social, and pedagogical. It is essential to bridge the gap between teachers and teacher educators and provide opportunities for teachers to become teacher educators.</p>
19.	Status of the Content developed.	<p>Teacher education has to be seen in terms of career-long learning and training. During at least the last two decades, the training of educational personnel has been the most frequently discussed topics by educators at all levels of education.</p> <p>Redefined educational goals, along with changes in the concepts and practices of education, and the demands of development, have brought about several significant changes in the roles and functions of teachers and are being adopted and incorporated in the training programmes offered by the CoE in Curriculum and Pedagogy, Faculty Development Centre at Banasthali Vidyapith, especially in curriculum design, instructional and professional development for faculties with a multidisciplinary approach. The centre is also emphasizing on research in pedagogy, curriculum development and assessment practices, promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is exploring all possible avenues for content development for the Faculty development programmes and a few collaborations have been initiated in this direction. As for example, collaboration with Mata Gujri Mahavidyalaya Jabalpur for training teachers in financial literacy, Indian Ethos and Entrepreneurship; Collaboration with National Entrepreneurship Network to train teachers in Entrepreneurship.</p>
20.	Assessment Tools developed? (If applicable)	<p>Google Doc technology is used in some of the programmes for need assessment; feedback is obtained online during and after the FDP and compared with</p>

S. No	Particulars	Details
		other FDP feedback.
21.	Status of the creation of Research Cell.	<p>‘Teacher Education’ as an academic program is one of the earliest initiatives of Banasthali Vidyapith as ‘College of Teacher Education’ with significant contribution to doctoral research studies (70+) in the area of Teaching-Learning and Pedagogy. The Department of Education at Banasthali has the distinction of venturing to try out a learner centric curricular programme of teacher education, which the students named “Anweshana” in cognizance of its main feature of self-exploration which has been published as best practice in teacher education by NAAC and Commonwealth of Learning, Vancouver. The NCERT and NCTE have also appreciated this learner centric program in several of its reports.</p> <p>The Faculty Development Centre at Banasthali Vidyapith is working towards developing effective and efficient teachers by accelerating the teaching learning process through promoting independent and critical and creative thinking with innovative pedagogy.</p> <p>The centre has put adequate emphasize on research in pedagogy, curriculum development and assessment practices; promote skills to integrate technology pedagogy content knowledge.</p> <p>The Center is actively promoting research activities in various aspects of faculty development in collaboration with the Departments of the University.</p> <p>Some of the research undertaken are as follows: Knowledge Management Practices in Educational Institutions (With Reference to Select Universities Business Schools in Delhi &NCR; Job Satisfaction and Employee Performance: A case Study of Higher Education Institutions in Bikaner, Rajasthan; Motivation of Academic Staff-A comparative Study of Selected Government and Private Management Institutes of</p>

S. No	Particulars	Details
		Delhi/NCR; Five-fold educational ideology followed successfully at Banasthali Vidyapith.
22.	Modules Developed. If yes give details.	The Faculty Development Center is actively engaged in preparing and also encouraging development of modules for the faculty members of different Departments of the University. Some of the modules available for the teachers of Higher Education are: Personal Financial education; Indian Ethos; Linkedin Group of learning Money management, Personal Finance Module; Retirement Planning; Linkedin Repository Module on Personal Finance; Module on Introduction to Indian Ethos; Linkedin Repository Module on Indian Management and Ethos, web-research module in research methodology, communicative English. Some of these modules are being developed in collaboration with the Center for Financial Planning Training and Research for Women, Banasthali Vidyapith.
23.	E material developed to be inducted in repository. If yes give details.	<p>To achieve the objectives set at the onset of the project, it is ensured that the programmes at the Centre work towards creation of a faculty development system that is structured and organized in a way that enables the faculty members to respond dynamically to the emergence of new educational problems and challenges, and help education fulfill its revered role in national development.</p> <p>Incorporation of innovations in the training and initiatives to ensure that teachers are adequately trained and educated to cope with their changing and increasingly demanding roles in society are of at most importance to the FDC programs.</p> <p>The Centre is undertaken initiatives to develop E material of the modules developed for the faculty development programmes.</p>
24.	Exchange Programs Conducted. Give Details	The Faculty Development Centre is involved in conceptualizing and organizing programs for the faculty of higher education and teacher educators that would enable teachers with no, little or some teaching

S. No	Particulars	Details
		<p>experience, with technology tools and effective pedagogy techniques to make the teaching-learning experience in the classroom effective and enjoyable. The Centre has an immense advantage in the sense that it can leverage the Vidyapiths' vast expertise in providing resources, ideas, professional advice and techniques for teachers, to make the teaching and learning process effective. Banasthali has developed linkages with more than 250 organizations developed over the years for academic, research funding/data collection, community mobilization, students' final placements, discussion session and other extension related purposes is strong enough to yield substantial advantages. The FDC at Banasthali is thus able to attract experts in various fields for its Faculty development Programs.</p>
25.	<p>Progress towards achievement of the proposed objective</p>	<p>The target participants of the Faculty Development Centre at Banasthali Vidyapith are both Faculty of Higher Education and Teacher Educators. The University is ensuring that the faculties coming for the programs at the Centre are benefited by the socially and academically rich environment at Banasthali.</p> <p>The following are the objectives of the Faculty Development Centre:</p> <ol style="list-style-type: none"> To motivate teachers and promote institutional effectiveness. To enable personal, instructional, organizational and professional growth of faculty. To develop incentive strategies for professional growth of teachers. To train and prepare teachers for futuristic educational needs. To develop scientific temper, spirit of enquiry and spirit of discovery. <p>The progress towards the achievement of the proposed objectives is summarized as follows:</p> <ul style="list-style-type: none"> The structure of the state-of-the-art Faculty

S. No	Particulars	Details
		<p>Development Centre is complete. Finishing, furbishing and furnishing is ongoing.</p> <ul style="list-style-type: none"> • The Centre is conducting personal development programs for faculty members. Workshops have been conducted to identify features to be incorporated in personal development program Short term programs for developing interpersonal skills; life planning issues is in progress. An online guidance program for career development of faculty members is being planned. • The Centre is conducting programs for development of instructional strategies. Workshops to inculcate institutional ethos, increase awareness about organizational responsibilities and duties are conducted. The Faculty development programmes also foccus to improve learning environment, increase social awareness and suggest ways to incorporate local community in development programs of the institution through seminars. • The Center is also conducting programs to incorporate organizational skills and to improve professional skills among incumbent faculty. Workshops focus on development of professional ethos in teaching and service. Training programmes are offered to develop discipline specific methodological rigors for research.
26.	Constraints towards achievements of objective	<p>- None.</p> <p>The innovative Centre of Excellence in Curriculum and Pedagogy, the Faculty Development Centre at Banasthali Vidyapith supported by MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching program (PMMMNTT) scheme is a major initiative towards the professional and personal preparation of teachers which is crucial for the qualitative improvement of education.</p> <p>The operative freedom extended by MHRD for the</p>

S. No	Particulars	Details
		Centre has created a conducive environment for successful implementation of the project.
27.	Modification (if any) among the proposed objectives	- Induction Programme has been incorporated
28.	Training Schedule (for current and next year)	<p>The programme schedule for the next year is as follows:</p> <ul style="list-style-type: none"> i. Proposed Program title: Induction Programme II. Proposed dates: April 4 - May 4, 2018 (1 months program). Participants: Newly inducted faculty from Universities and colleges. ii. Proposed Program title: Recent Trends in Industrial Automation. Proposed dates: May 2 - May 7, 2018 (6 days program). Participants: Faculty from Computer Science, Electronics, Physics with basic knowledge of Automation. iii. Proposed Program title: Interdisciplinary Dimension of Chemical Engineering. Duration and Proposed dates: June 29 – July 5, 2018. (7 days program). Target Participants: College and University teachers in chemical engineering discipline are eligible. iv. Proposed Program title: Workshop on experimental scanning electron microscopy for basic Sciences. Duration and Proposed dates: July 12 – July 14, 2018. (3 days program). Target Participants: College and University teachers are eligible. The course is expected to be particularly useful for those teaching or doing research. Workshop is designed for new and intermediate users of Experimental physics, who want to better apply the capabilities of the different equipment available in the department to their research/analytical work.

S. No	Particulars	Details
		<p>v. Proposed Program title: Induction Programme II. Proposed dates: July 15 – August 15, 2018 (1 months program). Participants: Newly inducted faculty from Universities and colleges.</p> <p>vi. Proposed Program title: An Indigenous Wall Painting Technique Duration and Proposed dates: August 1-7, 2018. (7 days program). Target Participants: College and University teachers especially from fine arts are eligible. The course is expected to be particularly useful for those teaching or doing research.</p> <p>vii. Proposed Program title: Understanding Gender Relations in Public and Private Lives Duration and Proposed dates: August 7-15, 2018. (7 days program). Target Participants: College and University teachers are eligible. The course is expected to be particularly useful for those teaching or doing research. The workshop shall be conducted in both lecture and interactive mode. In addition to the interactive classroom lectures, participants will also have an opportunity to discuss the various aspect of research with the resource persons and fellow participants.</p> <p>viii. Proposed Program title: Academic Writings: Material, Method And Manner Duration and Proposed dates: August 27 – September 2, 2018. (6 days program). Target Participants: College and University teachers are eligible. The course is expected to be particularly useful for those teaching or doing research.</p> <p>ix. Proposed Program title: Computer Network and Cyber Security</p>

S. No	Particulars	Details
		<p>Duration and Proposed dates: September 2-7, 2018. (5 days program).</p> <p>Target Participants: College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching or doing research. The main objective of this course to acquire knowledge and pursue more specialized advanced skills, research & innovation in the networking area</p> <p>x. Proposed Program title: Effective Communication and Public Speaking</p> <p>Duration and Proposed dates: September 2, 2018. (1 days programme).</p> <p>Target Participants: College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching or doing research. The goal of proposed FDP is to provide training in some core skills; one can use to begin the journey of becoming comfortable with speaking in class and public. It is meant for young scholars, research associates and assistant professors who are new to teaching.</p> <p>xi. Proposed Program title: Workshop on Raman technique and use of Surface Enhanced Raman Spectroscopy for characterization</p> <p>Duration and Proposed dates: September 5-7, 2018. (3 days programme).</p> <p>Target Participants: College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching or doing research. Workshop is designed for new and intermediate users of Experimental physics, who want to better apply the capabilities of the different equipment available in the department to their research/analytical work.</p> <p>xii. Proposed Program title: Managing Money for Sustainable Happiness: Bharatiya Insights</p>

S. No	Particulars	Details
		<p>Duration and Proposed dates: September 5-11, 2018. (7 days programme).</p> <p>Target Participants: College and University teachers are eligible. The course is expected to be particularly useful for those teaching or doing research. Providing strong foundation in managing money and understanding the inherent Bharatiya cultural aspects emphasizing a holistic view. It would also impart necessary IT skills and legal inputs for facing challenges in managing money.</p> <p>xiii. Proposed Program title: Inclusive Education : Issues & Concerns</p> <p>Duration and Proposed dates: October 10-16, 2018. (7 days programme).</p> <p>Target Participants: College and University teachers are eligible. The course is expected to be particularly useful for those teaching or doing research.</p> <p>xiv. Proposed Program title: Relevance of Literary Theory in the Pedagogy of Comparative Literature</p> <p>Duration and Proposed dates: November 26–December 16, 2018. (21 days programme).</p> <p>Target Participants: College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching or doing research.</p> <p>xv. Proposed Program title: How to use latex for writing your research work</p> <p>Duration and Proposed dates: December 19–December 21, 2018. (3 days programme).</p> <p>Target Participants: College and University teachers and researchers are eligible. The course is expected to be particularly useful for those teaching or doing research.</p>

Financial Details till March 2018

Financial Details : (Amount in lacs)																																									
29.	Fund Approved Recurring Non-recurring	Recurring - Rs. 286.96 lacs Non-recurring - Rs. 428.00 lacs Rs. 714.96 lacs																																							
30.	Fund Received during previous years Recurring (head wise detail) Non-recurring (head wise detail)	(Rs. in lacs) <table border="1"> <tr> <th colspan="3">1. Recurring</th></tr> <tr> <td>A.</td><td>Manpower</td><td rowspan="7">114.73</td></tr> <tr> <td></td><td>Honorarium to Visiting Faculty</td></tr> <tr> <td>B.</td><td>Consumables</td></tr> <tr> <td>C.</td><td>Travel</td></tr> <tr> <td>D.</td><td>Contingency</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td></tr> <tr> <td>F.</td><td>Training Prog./Workshop/ Seminar/ Conf. etc.</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>114.73</td></tr> <tr> <th colspan="3">2. Non-recurring</th></tr> <tr> <td>A.</td><td>Civil Work</td><td>370.35</td></tr> <tr> <td>B.</td><td>Equipment</td><td>28.00</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>10.00</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>408.35</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>523.08</td></tr> </table>	1. Recurring			A.	Manpower	114.73		Honorarium to Visiting Faculty	B.	Consumables	C.	Travel	D.	Contingency	E.	Learning resources (Books, journals, CDs)	F.	Training Prog./Workshop/ Seminar/ Conf. etc.	Recurring Amount		114.73	2. Non-recurring			A.	Civil Work	370.35	B.	Equipment	28.00	C.	Networking & Computational facilities	10.00	Non-recurring Amount		408.35	Total Amount (1+2)		523.08
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31.	Expenditure incurred upto 31.03.2017 Recurring Non-recurring	Recurring - Rs. 82,36,841/- Non-recurring - Rs. 3,20,52,760/- Rs. 4,02,89,601/-																																							
32.	Balance Grant available on 01.04.2017 Recurring Non-recurring	Recurring - Rs. 32,36,159/- Non-recurring - Rs. 87,74,733/- Rs. 1,20,10,892/-																																							
33.	Fund Received during the year 2017-18 Recurring (head wise detail) Non-recurring (head wise detail)	Nil																																							

34.	Details of Fund Utilized during last two Quarters and Percentage of Utilization Recurring (head wise detail) Non-recurring (head wise detail) (01.04. 2017 to 31.12.2017)	<table border="1"> <thead> <tr> <th colspan="2">1. Recurring</th><th>Amount (Rs.)</th></tr> </thead> <tbody> <tr> <td rowspan="2">A.</td><td>Manpower Faculty</td><td>34,24,928/-</td></tr> <tr> <td>& Honorarium to Visiting</td><td>6,14,000/-</td></tr> <tr> <td>B.</td><td>Consumables</td><td>51,835/-</td></tr> <tr> <td>C.</td><td>Travel</td><td>11,61,738/-</td></tr> <tr> <td>D.</td><td>Contingency</td><td>3,87,538/-</td></tr> <tr> <td>E.</td><td>Learning resources (Books, journals, CDs)</td><td>14,355/-</td></tr> <tr> <td>F.</td><td>Training Prog./ Workshop/ Seminar/ Conf. etc.</td><td>16,54,832/-</td></tr> <tr> <td colspan="2">Recurring Amount</td><td>73,09,226/-</td></tr> <tr> <td colspan="2">2. Non-recurring</td><td></td></tr> <tr> <td>A.</td><td>Civil Work</td><td>54,26,584/-</td></tr> <tr> <td>B.</td><td>Equipment</td><td>-</td></tr> <tr> <td>C.</td><td>Networking & Computational facilities</td><td>2,93,230/-</td></tr> <tr> <td colspan="2">Non-recurring Amount</td><td>57,19,814/-</td></tr> <tr> <td colspan="2">Total Amount (1+2)</td><td>1,30,29,040/-</td></tr> </tbody> </table>	1. Recurring		Amount (Rs.)	A.	Manpower Faculty	34,24,928/-	& Honorarium to Visiting	6,14,000/-	B.	Consumables	51,835/-	C.	Travel	11,61,738/-	D.	Contingency	3,87,538/-	E.	Learning resources (Books, journals, CDs)	14,355/-	F.	Training Prog./ Workshop/ Seminar/ Conf. etc.	16,54,832/-	Recurring Amount		73,09,226/-	2. Non-recurring			A.	Civil Work	54,26,584/-	B.	Equipment	-	C.	Networking & Computational facilities	2,93,230/-	Non-recurring Amount		57,19,814/-	Total Amount (1+2)		1,30,29,040/-
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36.	Bank interest earned so far on fund received	Nil																																												
37.	Balance outstanding as on date 31.12.2017 Recurring Non-recurring	Recurring - Rs. (-) 40,73,437/- Non-recurring - Rs. (+) 30,54,919/- Rs. (-) 10,18,518/-																																												