

**SHOOLINI  
UNIVERSITY  
SOLAN, HP**

**ANNUAL QUALITY ASSURANCE REPORT  
2016-17**



**Annual Quality Assurance Report (AQAR)  
For the Assessment Year 2016-17**

## Annual Quality Assurance Report (AQAR) for the Academic Year (2016-17)

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# The Annual Quality Assurance Report (AQAR) of the IQAC

For the Academic Year 2016-17

## Part – A

### 1. Details of the Institution

#### 1.1 Name of the Institution

Shoolini University of Biotechnology and Management Sciences

#### 1.2 Address Line 1

Village Bajhol

#### Address Line 2

Post Office Sultanpur

#### City/Town

SOLAN

#### State

Himachal Pradesh

#### Pin Code

173229

#### Institution e-mail address

registrar@shooliniuniversity.com

#### Contact Nos.

01792- 308000

#### Name of the Head of the Institution:

Prof.P.K.Khosla

#### Tel. No. with STD Code:

01792 – 308000 (O) 01792 – 221340 (R)

#### Mobile:

+919816064182

Name of the IQAC Co-ordinator: Ms.Varsha Patil

Mobile: +919857550999

IQAC e-mail address: iqac@shooliniuniversity.com

**1.3 NAAC Track ID** (For ex. MHC0GN 18879) HPUNGN11360

**1.4 NAAC Executive Committee No. & Date:**  
(For Example, EC/32/A&A/143 dated 3-5-2004.  
This EC no. is available in the right corner- bottom  
of your institution's Accreditation Certificate)

EC(SC)/20/A & A/28.1 dated 16  
Dec, 2016  
(DOI 29 Nov to 01 Dec, 2016)

**1.5 Website address:** www.shooliniuniversity.com

Web-link of the AQAR: <http://www.shooliniuniversity.com/pdf/AQAR.pdf>

For ex. <http://www.ladykeanecollege.edu.in/AQAR2012-13.doc>

### 1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 <sup>st</sup> Cycle	B++	2.92	2016	5 yrs.

**1.7 Date of Establishment of IQAC:** DD/MM/YYYY 26/12/2014

**1.8 AQAR for the year (for example 2010-11)** 2016-17

**1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((for example AQAR 2010-11 submitted to NAAC on 12-10-2011)**

i. AQAR \_\_\_\_\_ NA \_\_\_\_\_ (DD/MM/YYYY)

**1.10 Institutional Status**

University State  Central  Deemed  Private

Affiliated College Yes  No

Constituent College Yes  No

Autonomous college of UGC Yes  No

Regulatory Agency approved Institution Yes  No

(eg. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education  Men  Women

Urban  Rural  Tribal

Financial Status Grant-in-aid  UGC 2(f)  UGC 12B

Grant-in-aid + Self Financing  Totally Self-financing

**1.11 Type of Faculty/Programme**

Arts  Science  Commerce  Law  (Phys Edu)

TEI (Edu)  Engineering  Health Science  Management

Others (Specify)

Biotechnology, Life Sciences

**1.12 Name of the Affiliating University (for the Colleges)**

NA

**1.13 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc.**

Autonomy by State/Central Govt. / University

University with Potential for Excellence

UGC-CPE

DST Star Scheme

UGC-CE

UGC-Special Assistance Programme

DST-FIST

UGC-Innovative PG programmes

Any other (Specify)

UGC-COP Programmes

**DST-FIST grant**

Shoolini University has been awarded DST-FIST grant for the “Establishment of Advanced Research Facility for Proteomics (No. SR/FST/LSI-633/2015)

The DST-FIST project was sanctioned in view of our strength in proteomics, drug discovery, agriculture, industrial enzymes and food technology.

Funds Sanctioned: 65 lakh (50:50 mode)

**Objectives:**

- a) Proteomics for identifying Polo-Like Kinase (PLK) targets to develop specific therapeutics for cancer
- b) Proteomic analysis of PLK as biomarker for cancer in Indian cases

- c) Purification and commercial production of industrially important enzymes
- d) Microbial ecology, plant-symbiont and soil-plant-microbe interactions, microbial taxonomy, and bio-prospecting of microbial (thermophiles, halophiles, psychrophiles) under different stress conditions to unravel the novel proteins and biomolecules responsible for the interaction and adaptation.
- e) Proteomics for host-pathogen interaction to identify global changes in the host/pathogen proteome during infection.
- f) To establish specific proteome database (protein-based expression as biomarkers for health and disease) for the identification of drug targets, diagnostic and vaccine development against protozoal and multidrug-resistant bacterial diseases.
- g) Study the role of biotic elicitors (Plant Growth Promoting Rhizobacteria, Arbuscular Mycorrhizal Fungi, Phytohormones etc.) in improving antioxidant potential, growth, productivity and secondary metabolite production in medicinal plants under environmental stress conditions.
- h) Yeast proteomics as a tool to develop an assay for functional food.

**Table 1.1 Other Grants received by the university in the Academic year 2016-17**

<b>Funding agency</b>	<b>Amount (lakh)</b>
Ministry of food processing industry (New Delhi)	73.71
Food Testing Lab (MoFPI) (Grant released)	285.39 crore

**Creation of Infrastructure for B.Tech Food Technology Degree Course**

This grant in aid was given by the Ministry of Food Processing Industry Govt. of India (New Delhi) to support Food Technology program in the University. This grant was utilized for the purchase of books, journals and 27 major equipment's related to various fields of the Food Technology. This infrastructure will help students in their specialization viz. fruits and vegetable technology, dairy technology, bakery and confectionary, meat technology and fermentation technology during the offered program.

**Creation of Food Testing Laboratory**

This laboratory is being set up as a separate entity in the name M/s Shoolini Life Sciences Pvt. Ltd. with the technical and scientific support of School of Bioengineering and Food Technology, Shoolini University, Solan, HP. The main aim of this laboratory is to provide nutritional labeling and food safety certification to various entrepreneurship setups and industrial units in Himachal Pradesh and adjoining states. Besides this facility will also be available for analysis of research samples of the host and other universities and R & D units of the country.

## **2. IQAC Composition and Activities**

**2.1 No. of Teachers**

6

**2.2 No. of Administrative/Technical staff**

1

**2.3 No. of students**

2

**2.4 No. of Management representatives**

2

**2.5 No. of Alumni**

1

**2.6 No. of any other stakeholder and  
Community representatives**

0

**2.7 No. of Employers/ Industrialists**

0

**2.8 No. of other External Experts**

2

**2.9 Total No. of members**

14

**2.10 No. of IQAC meetings held**

**2.11 No. of meetings with various stakeholders:**

4

No.

Faculty

4

Non-Teaching Staff Students

1

Alumni

1

Others

**2.12 Has IQAC received any funding from UGC during the year?** Yes

No

If yes, mention the amount

NA

**2.13 Seminars and Conferences (only quality related)**

(i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos.

64

International

1

National

4

State

0

Institution Level

59



University has organized total 59 events in 2016-17. All schools are proactively involved in promoting learning from leaders across various fields and walks of society. The University has a plethora of outreach programs that include seminars, guest lectures, workshops, panel discussions, alumni talk, etc. which aims to provide a wholesome learning environment to the students. The University has initiated **Guru Series** of talk wherein an eminent person holds a talk on a regular basis for the staff and students.

(ii) Themes

**Table 1.2 GURU SERIES organized during the Academic year 2016-17**

S.no	Date	Name of the Guest Speaker	Designation/ Industry	Topic
1	5/7/2016	Ms. Shinjini Kumar	CEO Paytm, a former central banker and senior executive at consultancy PWC.	"Significance of Paytm"
2	25/07/2016	Yuji Nishikawa San	India Liaison Representatives JST (Japan Science and Technology Agency)	"Science and Technology"
3	9/9/2016	Lt General Kamal Davar	Rtd. Lt. General	"Leadership Building"
4	22/09/2016	Anandmurti Gurumaa	Gurumaa at Rishi Chaitanya Ashram	"An Awakened being, a Profound Mystic and a Contemporary Master"
5	14/10/2016	Prof. Saranjit Singh	Head the Deptt of Pharma NIPER, Mohali	"Industrial prospects of Quality Control and Quality Assurance"
6	11/9/2016	Prof Howarth	Professor of Allergy and Respiratory Medicine and Honorary Consultant Physician within Medicine at the University of Southampton.	"Micro and Nanostructures for The Light Control"
7	18/11/2016	Prof Peter H. Raven	Botanist and advocate of conservation and biodiversity. Trustee of the National Geographic Society and Chairman of the Board of the Center for Plant Conservation, a national organization	"Conservation of Biodiversity"
8	18/11/2016	Prof Harrison	Professor of Physics and Distinguished Research Professor at Florida State University, USA	"Cosmology and High Energy"
9	17/02/2017	Dr. Rajendra Singh Paroda	Former Director General of the ICAR and Secretary, Department of Agricultural Research and Education (DARE), Government of India.	Plant Breeding and Genetics'

<b>10</b>	23/02/2017	Dr. (Mrs) Renu Thakur	Renowned counselor	Challenges faced by fresher's in the university after school'
<b>11</b>	3/3/2017	Dr. Naresh Chandan	Illinois USA	Fever of unknown origin'
<b>12</b>	17/03/2017	Major Priya Jhingan	The first lady to have been commissioned as an officer in the Indian Army, and presently teaches English at the Lawrence School Sanawar.	Leadership Skills'
<b>13</b>	27/03/2017	Miss Heather	CEO/MD of Wallick Consulting Dripping Springs Texas USA and has worked at Harvard University for eleven years.	Myths, Diversity and Holistic Approach'
<b>14</b>	31/03/2017	Gen (retd) K.J. Singh	Retd. Gen.	The importance of character building in the youth'
<b>15</b>	18/04/2017	Mr. Vinamra Longani	Author	Wel Come on Board'
<b>16</b>	21/04/2017	Lt General (retd)Vijay Oberoi	Retd. Lt. General	
<b>17</b>	28/04/2017	Brig retd. Govind Singh Sisodia	Retd. Brig.	Oversaw the terrorist attack on the hotel 'Taj' in Mumbai
<b>18</b>	19/05/2017	Mr. Neevan Chawala former Chief El. Comm.India	Former Chief El. Comm. India	
<b>19</b>	2/6/2017	Dr. Rajkumar Vishvacharya	Renowned Motivational Speaker and Spiritualist	'How to be what you can be'



“Sri Sri Ravishanker Ji ” Addressing the students during Convocation



Mr. Arun Shourie - Guru Series Lecture



Graduation ceremony for MBA Students addressed by Sandeep Bakshi CEO of ICICI Prudential



Mr. Howarth Bouis - Guru Series Lecture

<b><u>Table 1.3 Conferences /Workshops organized by the University in the Academic Year 2016-17</u></b>		
<b><u>Sr.No.</u></b>	<b><u>Date of the Event</u></b>	<b><u>Theme</u></b>
1	April 22-23, 2016	National Conference cum Workshop - exploration of Himalayan Natural Wealth for Drug Discovery (DST Agilant Gentech sponsored) – Shoolini University
2	July 11-18, 2016	Workshop cum Training Program on Technical Skill Development 2016
3	Feb 1, 2016	International Dialogue on Himalayan Ecology organized by Dialogue Highway Chandigarh and Shoolini University
4	March 16, 2017	Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)”.
5	on 2 <sup>nd</sup> and 3 <sup>rd</sup> March 2017	2 <sup>nd</sup> National Conference on “New Horizons in Human Health and Nutrition” Organized by School of Bioengineering and food technology faculty of applied sciences and biotechnology.
6	23-24 <sup>th</sup> Feb 2017	National Conference on Environment and Natural Resource Management, by SERB, DST; Dept. of Tourism and aviation, Shimla; Center of research on Himalayan sustainability and development, Shoolini University; HIM Science Congress 7 Association, HP; held at Shoolini University from
7	24 <sup>th</sup> October 2016	Faculty Development Program (FDP) on “Building a World Class University”, Shoolini University, Solan.
8	13 <sup>th</sup> September 2017	Workshop on Presentation Skills, Shoolini University,
9	20 Jan, 2017	FDP on ‘Mentoring Skills’ by Mr. Sanjay Sharma at Shoolini University Solan
10	23-25 May, 2017	National Seminar cum Workshop on Advanced Scientific techniques –Educational tour of MSc and BSc students to CIL., PU for training on SEM and TEM
11	Jan, 2017	CMOS VLSI Design

IN addition to the above events, **SPRINT** (Skills Progression through Rapid Intensive and Innovative Training) workshops are also organized regularly on various themes for students of all streams.

SPRINT was initiated to provide accelerated learning to rural and semi-urban youth – with the intent of raising their employable threshold.

This program was developed as a blend of Soft and Technical Skills and patterned on the lines of Stanford University’s Mini MBA. SPRINT has been phenomenally successful in creating employment as well as the personal and professional growth of students and has become one of our biggest strengths. Started as a pilot project for MBA students, the program has now been expanded to all Schools across the University. SPRINT has the potential to be extended beyond the campus – both as an extension and consultancy.

The success story of this program is a feather in the University’s cap. The pioneering program adopts a multi-pronged approach of adding, supplementing, updating, and reinforcing formal learning that students have acquired in their regular courses.

**Table 1.4 SPRINT Workshops organized during the Academic year 2016-17**

<b>Sr No.</b>	<b>Theme</b>	<b>Date</b>
1	Sprint workshop for MBA Quad 3 on Selling Skills	5 <sup>th</sup> and 6 <sup>th</sup> Jan, 2016
2	Sprint workshop for B Tech Student on Pre Placement	8 <sup>th</sup> Feb 2016
3	Sprint workshop for MBA II on Pre Placement	15 <sup>th</sup> Feb 2016
4	Sprint workshop for SILB Student on Preplacement	2 <sup>nd</sup> May 2016
5	Sprint workshop for Anand Students on Leadership	16 <sup>th</sup> May 2016
6	Sprint workshop for B Com Students on Confidence Building	4 <sup>th</sup> may, 2016
7	Sprint workshop for Science, Pharma, Biotech and Foodtech 8 <sup>th</sup> Sem student on Grooming	12 <sup>th</sup> and 13 <sup>th</sup> May 2016
8	Sprint workshop for MBA Quad 4 on Getting Ready for Internship	16 <sup>th</sup> May 2016
9	Sprint workshop for Pharmacy and Science on Refresher	3, 4 <sup>th</sup> June 2016
10	Sprint workshop for MBA Quad 1 on Induction	16, 17, 18, 19 <sup>th</sup> August 2016
11	Sprint workshop for MBA 2 <sup>nd</sup> Year on Business Plan	22, 23, 24, 26 <sup>th</sup> August 2016
12	Sprint workshop for Engineer on Pre Placement	19 to 23 <sup>rd</sup> August 2016

13	Sprint workshop for Pharmacy on Improving Communication	26 to 30 <sup>th</sup> August 2016
14	Sprint workshop for MBA I on Transformation	7 to 12 <sup>th</sup> November 2016
15	Sprint workshop for MBA II on Leadership	15 to 19 <sup>th</sup> November 2016
16	Sprint workshop for UG All on Persona Enhancement	10 and 11 <sup>th</sup> Dec 2016
17	Sprint workshop for Engineering 5 <sup>th</sup> Sem on Building Confidence	12 <sup>th</sup> Dec 2016
18	Sprint workshop for Engineering 3 <sup>rd</sup> Sem on Building Confidence	12 <sup>th</sup> Dec 2016
19	Sprint workshop for BT&FT 3 <sup>rd</sup> & 8 <sup>th</sup> Sem on Communication Skills	26 <sup>th</sup> Dec 2016
20	Sprint workshop for MBA I on Selling Skills	31 <sup>st</sup> Jan 2017
21	Sprint workshop for MBA II on Pre Placement	6 to 10 <sup>th</sup> Feb 2017
22	Sprint workshop for Engineering 3 <sup>rd</sup> Sem on Internship	1 <sup>st</sup> March, 2017
23	Sprint workshop for SILB on Self-Development	28 <sup>th</sup> March, 2017
24	Sprint workshop for MSc on Improving Communication	6 <sup>th</sup> April 2017
25	Sprint workshop for Engineering 4 <sup>th</sup> Sem on Self-Development	10 <sup>th</sup> April 2017
26	Sprint workshop for Biotechnology on Improving Communication	25 <sup>th</sup> April 2017
27	Sprint workshop for B Com II & III years on Communication & Confidence Building	26 <sup>th</sup> April 2017
28	Sprint workshop for MBA Quad 4 on Internship	8 <sup>th</sup> may, 2017
29	Sprint workshop for Biotechnology 6 <sup>th</sup> Sem on Improving Communication	16 <sup>th</sup> may, 2017
30	Sprint workshop for Biotechnology 6 <sup>th</sup> Sem on Improving Communication	17 <sup>th</sup> may, 2017
31	Sprint workshop for All UG on Communication & Confidence Building	18 <sup>th</sup> may, 2017

## **DST INSPIRE SCIENCE CAMP**

The University takes great pride in spurring scientific creativity and innovation in school children. On behalf of the Department of Science and Technology, Government of India, the University conducts INSPIRE program for promoting interest in basic science and approximately 6500 school students have been benefitted till now.

Twenty-seven INSPIRE Science Internship Programs conducted until November 2016 out of which three were conducted in 2016 -17

### **2.14 Significant Activities and contributions made by IQAC**

The following significant activities and contributions were made by University as well as Institutional IQAC in the year 2016-17:

IQAC was involved in detailed Strategic Annual Planning before the commencement of the academic year 2016-17. Following areas/aspects were included in the planning:

#### **(a) Academic Planning and Strategy**

- i. Academic & Teaching-Learning Strategies
- ii. Faculty Development Programmes
- iii. Annual Calendars-University & School level.

#### **(b) Resource Planning**

- i. Infrastructure,
- ii. Human Resource – Teaching & Non-Teaching Staff Planning including Visiting Faculty
- iii. Lab /Equipment/ Software requirements.
- iv. Learning Resources Planning
- v. Teaching aids requirements.
- vi. Budgeting

#### **(c) Research & Innovation Planning**

- i. Faculty Annual Target
- ii. Research Projects. Collaborations and Patent targets
- iii. Research Guidance
- iv. Seminar, Workshops & Conferences
- v. Club Committee Activities

#### **(d) Industry Interaction and Placement Planning**



- i. Planning of Events, Corporate Meetings, etc.
- ii. Internship Planning
- iii. Pre Placement Talks
- iv. Placement Grooming Activities
- v. Placement Calendar

**(e) Internationalisation Planning**

- i. Tie-ups
- ii. Collaborations
- iii. Faculty/Student Exchange Programmes
- iv. Study Abroad Programme/Scholarship for students

**(f) Other Activities**

- i. To review the suitability, adequacy, and effectiveness of the University Quality Management Systems.
- ii. To assess opportunities for improvement.
- iii. Examine the need for changes in policies and objectives.
- iv. Results of the audits, analysis, corrective actions taken and gaps identified in the feedback from various stakeholders.
- v. Recommendations for improvement in systems and processes.

**(g) Student Development Activities Planning**

- i. Involvement of students through in-house projects pertaining to the refinement of the academic process, Environment safety, energy saving and Food safety and social projects.
- ii. Monitoring and Review of Teaching – learning process through University intranet (myshoolini) and by taking periodic reports on various processes like:
  - Tracking of classes held
  - Monitoring of Academic Planning Worksheets.
  - Implementation of Time Table
  - Conduct of event as per the calendar approved by the Academic Council.
  - Overview of the conduct of classes as per the plan
  - The implementation of Outcome-Based Education.
  - Ranking of Institutions and Accreditation.
- vii. The IQAC at University level ensured that all the Institutions have defined their Graduate Attributes in alignment with the Attributes defined at the University Level.
- viii. The University IQAC monitored and carried out SWOC analysis on the self-assessment through in-house developed tool based on NAAC criteria carried out by the Institutions. The analysis was shared with all the institutions and was asked to set targets for improvement in the areas identifies as opportunities for improvement.

**2.15 Plan of Action by IQAC/Outcome**

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year \*

**Table 1.5 Plan of Action by IQAC**

<u>Plan of Action</u>	<u>Achievements</u>
1. Online examinations evaluation of answer sheets	Fully functional in School of Business Management and Liberal Arts, to be initiated in another school
2. Publication of a quarterly newsletter	Started
3. All courses on eUniv	Started
4. In-house Myshoolini app to be developed and deployed	Launched in August 2017
5. Strengthening Alumni Association and interactions	Alumni talks introduced in Sprint and during placement season
6. Open electives and complete implementation of CBCS curriculum	Started
7. Switch over to 10 point grading scale of evaluation	Done
8. Technology supported teaching with blended courses	All courses taught are available on eUniv

\* Attach the Academic Calendar of the year as Annexure. (ANNEXURE I)

**2.16 Whether the AQAR was placed in statutory body**      Yes  No   
    Management  Syndicate  Any other body

Provide the details of the action taken

\*\*As per the plan of action decided at the beginning of year action as mentioned above under point no. 2.15 was taken.

**Part – B**  
**Criterion – I**

**1. Curricular Aspects**

**1.1 Details about Academic Programmes**

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented Programmes
PhD	10	0	10	10
PG	22(19PG+3 M Phil)	0	22	22
UG	28	2(BA Eng, BAJMC)	28	28
PG Diploma	0	0		
Advanced Diploma	0	0		
Diploma	0			
Certificate				
Others				
<b>Total</b>	60	2	60	60

Interdisciplinary	The syllabus is reviewed at regular intervals as shown under point no 2.9 of this report thus most of the programmes taught are interdisciplinary and innovative in nature
Innovative	

- 1.2 (i) Flexibility of the Curriculum: Choice Based Credit System with Open electives**  
(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	59
Trimester	Nil
Annual	Nil
Quadmester	01 ( MBA)

**1.3 Feedback from stakeholders\*** Alumni  Parents  Employers  Students   
(On all aspects)

Mode of feedback: Online  Annual  -operating schools (for PEI)

*\*Please provide an analysis of the feedback in the Annexure  
(ANNEXURE II feedback analysis \* Student Feedback)*

**1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.**

The curriculum of programs was modified keeping in mind the industry requirements and inputs that came from Academic and Research experts. Course syllabi were revised accordingly.

CBCS (Choice Based Credit System) curriculum got implemented both at syllabi and evaluation level.

**1.5 Any new Department/Centre introduced during the year. If yes, give details. NO**

## Criterion – II

### 2. Teaching, Learning, and Evaluation

#### 2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
183	120	19	29	15

\*\* Associate Professors /Professors holding Dean /Directorship in the university

#### 2.2 No. of permanent faculty with Ph.D.

76
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#### 2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
27	0	1	25	9	0	2	0	39	25

#### 2.4 No. of Guest and Visiting faculty and Temporary faculty

46
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29
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0
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#### 2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended Seminars/	18	66	13
Presented papers	5	22	0
Resource Persons	0	7	1

**Table 2.1 Faculty Participation in Conferences and Symposia**

S.no	Faculty member	Details of the conference and paper
1	Dr. Neeraj Mahindroo	Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)” Held on March 16, 2017, at Shoolini University, Solan (HP)-173229.
		Annual Convention of APTI Punjab State branch and national conference on interdisciplinary trends in pharmaceutical research, April 2017
		Medicinal Chemistry and Drug Discovery & Development (MCADDI), American Chemical Society, Biocon Academy, Bangalore, 14-18 <sup>th</sup> Feb 2017
		Resource person, ASSOCHAM Conference on “APIs: Reducing dependence on imports” held in Baddi, HP on 28 July 2016.

2	Dr. Rohit Goyal	8 <sup>th</sup> National IPA Students Congress, ISF College of Pharmacy, Moga, 3-4 <sup>th</sup> Sept. 2016
		Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)” Held on March 16, 2017, at Shoolini University, Solan (HP)-173229.
		APSA 2016 Sydney Australia
		2 <sup>nd</sup> National Conference on New Horizon in Human Health & Nutrition, 2-3, March 2017.
		International Conference on Bioinformatics and Proteomics, April, 2017
3	Dr. Raman Preet Singh	National conference on interdisciplinary trends in pharmaceutical research, Mohali
		Workshop on Aiming for Excellence: Pathways to Institutional Advancement through Research, New Delhi
		Resource person, Continuing pharmacy education programme, Shimla
		ASSOCHAM Conference on “APIs: Reducing dependence on imports” held in Baddi, HP on 28 July 2016.
4	Dr. Deepak N. Kapoor	Presented poster at 8 <sup>th</sup> National IPA Students Congress, ISF College of Pharmacy, Moga, 3-4 <sup>th</sup> Sept. 2016
		Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)” Held on March 16, 2017, at Shoolini University, Solan (HP)-173229.
		MHRD-GIAN course on Novel and Nanostructured Drug Delivery for Diverse Biomedical Applications, Panjab University, Chandigarh, 24-28 <sup>th</sup> Oct 2016.
		Medicinal Chemistry and Drug Discovery & Development (MCADDI), American Chemical Society, Biocon Academy, Bangalore, 14-18 <sup>th</sup> Feb 2017
5	Dr. Poonam Negi	Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)” Held on March 16, 2017, at Shoolini University, Solan (HP)-173229.
		MHRD-GIAN course on Novel and Nanostructured Drug Delivery for Diverse Biomedical Applications, Panjab University, Chandigarh, 24-28 <sup>th</sup> Oct 2016.
6	Navneet Kumar Upadhyay	2 <sup>nd</sup> National Conference on “New Horizons in Human Health and Nutrition” Organized by School of Bioengineering and food technology faculty of applied sciences and biotechnology, on 2 <sup>nd</sup> and 3 <sup>rd</sup> March 2017 at Shoolini University, Solan (HP)-173229.
		Workshop on “Intellectual Property Rights (IPR) and Geographical Indications (GI)” Held on March 16, 2017, at Shoolini University, Solan (HP)-173229.

		5 <sup>th</sup> Annual International Conference on “ Bioinformatics and Proteomics Driven Biomarker Developments” Sponsored by Indian Council of Medical Research (ICMR), New Delhi held at Chitkara College of Pharmacy, Chitkara University, Rajgharh, Chandigarh on 7 <sup>th</sup> and 8 <sup>th</sup> April 2017.
		8 <sup>th</sup> National IPA Students Congress, ISF College of Pharmacy, Moga, 3-4 <sup>th</sup> Sept. 2016
		ASSOCHAM Conference on “APIs: Reducing dependence on imports” held in Baddi, HP on 28 July 2016.
7	Swati Pundir	“Continuing pharmacy education programme” organized by HP state pharmacy council held on 28 <sup>th</sup> March 2017. Participated in one day workshop on “Intellectual property rights (IPR) and geographical indications (GI)” at Shoolini University held on 16 <sup>th</sup> March 2017.
8	Gaurav Sharma	Intellectual Property Rights (IPR) and Geographical Indications (GI) held in March 2017.
9	Hemlata Kaurav	Intellectual Property Rights (IPR) and Geographical Indications (GI) held in March 2017. ASSOCHAM conference on “APIs: Reducing Dependence on Imports” held on 28 July 2016
10	Devika Rana	Workshop on Intellectual property right(IPR) and Geographical Indications (GI), March 2017 ASSOCHAM conference on “APIs: Reducing Dependence on Imports” held on 28 July 2016 “Continuing pharmacy education programme” organized by HP state pharmacy council held on 28 <sup>th</sup> March 2017.
11	Aditi Sharma	Presented paper at National Conference on Green Nanotechnology Estrogenic activity and Bone remodeling alleviating Osteoporosis: Pinus plant species from Indian Himalayan Region.
12	Charul Rathore	Presented paper at National Conference on Green Nanotechnology Title: Delivery of colon targeted ketoprofen microsponges through erosion based matrix tablet: Formulation and Evaluation
13	Tanurajvir Kaur	8 <sup>th</sup> National IPA Students Congress, ISF College of Pharmacy, Moga, 3-4 <sup>th</sup> Sept. 2016 National Institute of Animal Welfare, Ministry of Environment, Forests and Climate Change, Government of India. Ballabgarh, Faridabad, 5 <sup>th</sup> -16 <sup>th</sup> September 2016.

14	Chandresh Kumari	National XIII Agricultural Science Congress at <b>University of Agricultural Sciences, Bengaluru.</b> (21-24Feb, 2017)
15	Ashwani Kumar	New Horizons in Human Health and Nutrition-2017, 2-3 March 2017, Shoolini University
16	Reena V. Saini	Bioactive compounds from <i>Datura stramonium</i> enhance human immune cells mediated cytotoxicity towards cancer cells. Annual Conference of Indian Immunology Society Conference: IMMUNOCON-2016” held at GITAM University, Visakhapatnam, 16th-18th Feb 2017.  National Conference on Environment and Natural Resource Management, by SERB, DST; Dept. of Tourism and aviation, Shimla; Center of research on Himalayan sustainability and development, Shoolini University; HIM Science Congress Association, HP; held at Shoolini University from 23-24 <sup>th</sup> Feb 2017
17	Amanpreet Kaur Virk, Chandresh Kumari, Tanvi Gupta/Saurabh Kulshrestha	XIII Agricultural Science Congress <b>organized by University of Agricultural Sciences, Bengaluru and National Academy of Agricultural Sciences New Delhi.</b> 21-24 February 2017
18	Amanpreet Kaur Virk, Chandresh Kumari	Workshop on <b>Intellectual Property Rights (IPR) and Geographical Indications (GI)</b> organized by <b>Shoolini University, Solan.</b> 16 March 2017
19	Amanpreet Kaur Virk, Chandresh Kumari, Abhishek Bhardwaj	National seminar cum workshop on <b>Advanced Scientific Techniques</b> organized by <b>Shoolini University, Solan.</b> 23-25 May 2017
20	Abhishek Bhardwaj/Saurabh Kulshrestha	“ <b>VIROCON 2017</b> ”- <b>26<sup>th</sup> National conference of Indian Virological Society</b> organized by <b>NITTE University, Mangaluru</b> 7-9 December 2017
21	Astha Tripathi	Workshop on IPR and Geographical indications on 9.03.2017 organized by JP University, Wagnaghat
22	Saurabh Kulshrestha	Resource Person for a training program to school lecturers, organized by SCERT, Solan  2 <sup>nd</sup> Himachal Science Congress, Nov 20-21, 2017
23	Anuradha Sourirajan/Rajni Vaid	International level: HarGobind Khorana Memorial Symposium, Chandigarh, Dec 3-5, 2017/ Poster presentation Title: Identification of substrates of budding yeast PLK, Cdc5 during pachytene exit in meiosis



24	Kamal Dev/ Sonum Sharma	Har Gobind Khorana Memorial Symposium, Chandigarh, Dec 3-5, 2017 /Poster presentation Title: <i>S. cerevisiae</i> Emc4 and Tan1 plays a crucial role in eIF2B mediated translation regulation and survival under stress conditions
25	Kamal Dev	Delegate in Biocon Academy conference on Medicinal chemistry and drug discovery & development, Feb 14-18, 2017 HIMCOST Science Congress, Nov 20-21, 2017
26	Neha Chauhan, Umar Farooq, Azhar Khan	Therapeutic efficacy of western Himalayan medicinal plants against human pathogens, abstract presented at the Second National Conference on 'New Horizons in Human Health and Nutrition' organized by School of Bioengineering and Food Technology Shoolini University, Solan, 2-3 <sup>rd</sup> March-2017
27	Neha Chauhan, Meentou Prakash, Umar Farooq, Azhar Khan	The Antibacterial effect of a few medicinal plants found in the western Himalayas of Himachal Pradesh, Abstract presented at National Seminar on " Innovations & Challenges in Basic & Applied Sciences" organized by Maharaja Agrasen University, Baddi Solan, 4 <sup>th</sup> March-2017 and Won best poster presentation
28	Neha Chauhan, Azhar Khan, and Umar Farooq	"Combined Efficacy of Antibiotics in Synergism to Medicinal Plants against MDR <i>Salmonella typhi</i> Strains". 2 <sup>nd</sup> Himachal Pradesh Science Congress organized by HP council for Science, Technology, and Environment (HIMCOSTE) at Shimla under the theme "Science and Technology for Sustainable Livelihood in Indian Himalayan Region", 20-21 November 2017
29	Neha Chauhan, Pradeep Kumar, Umar Farooq and Azhar Khan	"Efficacy of Medicinal Plants against Biofilm Forming Bacteria; Playing Important Role in Multidrug Resistance" (Accepted). Will be held in February 2018. National Conference organized by Shoolini University Solan, HP in collaboration with Society for Conservation and Resource Development of Medicinal Plants (SMP), New Delhi under the theme "Current Status of Preventing Extinction and Sustainable Utilization of Endangered Himalayan Medicinal Plants".
30	Dr. Nitika	Workshop on IPR and GI, SU, Solan DST-SEED Workshop, Shimla, 2017
31	Dr. Abhishek	Workshop on IPR and GI, SU, Solan. Workshop in Baddi
32	Shruti Sharma	Workshop on IPR and GI, SU, Solan
33	Dr. Chandrika	Workshop on IPR and GI, SU, Solan
34	Dr. Kesari	1. Singh K. Gender Perspective in Forest Management. Proceedings of National Conference on Forestry in India: Current Challenges and Future Prospects, 15-18 <sup>th</sup> Nov. 2016, HFRI, Shimla 2. National Conference on Environment and Natural Resource Management. Shoolini University, 23-24 <sup>th</sup> February 2017. 3. National Conference on Forestry: Current Challenges and Future

		<p>Prospects, 15-18<sup>th</sup> November 2016, HFRI, Shimla.</p> <p>4. Faculty Development Program (FDP) on Mentoring Skills. Shoolini University, Solan, 20<sup>th</sup> January 2017.</p> <p>5. Faculty Development Program (FDP) on “Building a World Class University”, Shoolini University, Solan, 24<sup>th</sup> October 2016.</p> <p>6. Workshop on Presentation Skills, Shoolini University, 13<sup>th</sup> September 2017</p> <p>7. FDP on ‘Leadership Development and Organizational Transformation’ by Mr. Santosh Babu, 24<sup>th</sup> May 2017</p> <p>8. Workshop on ‘Digital Marketing’, Shoolini University, 25<sup>th</sup> April, 2017 (by Ranjoy Dey)</p>
35	Ms. Prachi Kapil	<p>1. Attended one week workshop on Tools and Techniques for Data Analysis in Management Research, June 20-25, 2016 at JUIT, Wagnaghat, H.P.</p> <p>2. Attended FDP on Jan 20, 2017, on ‘Mentoring Skills’ by Mr. Sanjay Sharma at Shoolini University Solan</p> <p>3. Attended Workshop in IPR and GI on March 16, 2017, at Shoolini University, Solan</p> <p>4. Attended PDP on HR Analytics at BITS Pilani on March 19-20, 2017</p> <p>5. Attended a workshop on Leadership Development and Organizational Transformation by Mr. Santhosh Babu on May 24, 2017, at Shoolini University</p> <p>6. Attended a workshop on Positive Psychology by Mr. Barinder Ahluwalia on June 15, 2017, at Shoolini University, Solan</p>
36	Amita Kumari	<p>Poster presentation titled “Intra-specific genetic variations between <i>Calotropis gigantean</i> (L) W.T. Aiton from the Shivalik Hills using RAPD markers” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan</p> <p>Poster presentation titled “Comparative GC-MS analysis of bioactive compounds present in leaf and latex extract of <i>Calotropis gigantea</i> (L) W.T. Aiton” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan</p>
		Organizing secretary at National Conference on Environment and

37	Mamta Sharma	Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Abstract published titled “Temperature stress-mediated oxidative and antioxidant defense in <i>Withania somnifera</i> ” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Abstract published titled “Bio-herbicidal efficiency of <i>Withania</i> against prominent weeds of mid-Himalaya” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Abstract published titled “Temperature stress-mediated oxidative and antioxidant defense in <i>Withania somnifera</i> L. Dunal” at 2nd International Conference on Plant Science & Physiology. June 26-27, 2017 Bangkok, Thailand
38	Rachna Verma	Coordinator at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Poster presentation titled “Antimicrobial and antioxidant properties of <i>Rhododendron arboretum</i> Sm. from North-Western Himalaya” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Resource person in National conference on New Horizons in Human Health and Nutrition, organized in the School of Bioengineering and Food Technology, Shoolini Univ, 2-3 March 2017
		Attended National Conference on Forestry in India: current challenges and future prospects organized by HFRI Shimla, Nov 15-18, 2016
39	Jatinder M. Julka	Poster presentation titled “Effects of land use system on earthworm species composition and abundance in Chail, in the Western Himalaya a biodiversity hot spot” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
40	Aniruddha Mitra	Coordinator at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Poster presentation titled “Biodiversity of Hymenoptera from Shoolini university campus and surroundings” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
		Poster presentation titled “Culture of the rice moth <i>Corcyra cephalonica</i> and its potential for production of biodiesel” at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan

41	Sharan Kahlon	Poster presentation titled: “Density and diversity of benthic macroinvertebrates of a hill stream in western Himalaya” presented at “International conference on “Science: Emerging Scenario and Future Challenges” (SESFC), 01-02 July 2017, Atal Bihari Vajpayee Institute of Mountaineering and Allied Sports, Manali, Himachal Pradesh
		Abstract published at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
42	Shreya Jamwal	An oral presentation titled “Freshwater cyclopoid copepods: an incredible biological agent of mosquitoes” at International Conference organized at Kathmandu.
		Member of Organizing Committee at National Conference on Environment and Natural Resource Management, 23-24 February 2017, Shoolini University, Solan
43	Raj Kumar	National Conference on Recent Advances in Engineering and Technology held at Maharaja Agrasen University, Baddi on 8 <sup>th</sup> April 2017
		<ol style="list-style-type: none"> <li>1. A review of solar air heaters using dimples and protrusions in an air flow passage.</li> <li>2. Analysis of the solar collector using the second law of thermodynamics.</li> </ol> <p>3<sup>rd</sup> International Conference on Science, Technology &amp; Management (ICSTM-2017)</p> <ol style="list-style-type: none"> <li>1. Electrical Discharge machining of Tungsten Carbide composite alloy: Experimental and numerical simulation by Taguchi method</li> </ol> <p>international Conference on Emerging trends in Engineering and Technology</p> <ol style="list-style-type: none"> <li>1. Parametric study and optimization along with a selection of optimal solution in die sinking electrical discharge machining of Tungsten Carbide with Taguchi hybrid approach – A review</li> </ol>
44	Adit Rana	National Conference on Recent Advances in Engineering and Technology held at Maharaja Agrasen University, Baddi on 8 <sup>th</sup> April 2017
		1. A review of solar air heaters using dimples and protrusions in an air flow passage.
45	Ranchan Chauhan	National Conference on Recent Advances in Engineering and Technology held at Maharaja Agrasen University, Baddi on 8 <sup>th</sup> April 2017
		<ol style="list-style-type: none"> <li>1. A review of solar air heaters using dimples and protrusions in an air flow passage.</li> <li>2. Analysis of the solar collector using the second law of thermodynamics.</li> </ol>

46	Dr. Varun Jaiswal	Varun Jaiswal, “Malaria Parasite Biology: Strategies for Drug and Vaccine Development”, held at ICGEB, New Delhi from 29 <sup>th</sup> November to 1 <sup>st</sup> December 2017
47	Er. Gaurav Gupta	Kumari Preeti, Gaurav Gupta, ”Prediction of Power Generation using Machine Learning with Big Data analytics: A Review”, Proceedings of the 11th INDIACom; INDIACom-2017; IEEE Conference ID: 40353 2017 4th International Conference on “Computing for Sustainable Global Development”, 01st - 03rd March, 2017 Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi (INDIA)
48	Er. Namita Gandotra	Namita Saini, Rakesh Bajaj, Neeraj Gandotra, Ram Prakash Dwivedi, “Multicriteria Decision Making with Triangular Intuitionistic Fuzzy Number based on Decision Measure & Parametric Entropy Approach” International Conference On Smart Computing and Communications, ICSCC <a href="#">2017, 7-8 December 2017</a> , Kurukhsetra, India <i>Procedia Computer Science</i> <a href="#">00(2018) 000-000</a> ELSEVIER
49	Dr. Varun Jaiswal	Intellectual Property Rights held at JP University Solan December 2016
50	Er. Gaurav Gupta	Intellectual Property Rights held at JP University Solan December 2016
51	Er. Randhir Bhandari	Intellectual Property Rights held at JP University Solan December 2016
52	Dr. Rajesh Sharma	<ol style="list-style-type: none"> <li>1. Convener in National Conference on Environment and Natural Resource Management held at Shoolini University (23-24 Feb 2017)</li> <li>2. Chaired a Session in National Conference on Advances in Science &amp; Technology at IMA, Dehradun (24-25 March 2017)</li> <li>3. Organizer in Awareness Program-cum-Workshop on renewable energy held at Shoolini University (28th April 2017)Resource Management held at Shoolini University (23-24 Feb 2017)</li> <li>4. Chaired a Session in National Conference on Advances in Science &amp; Technology at IMA, Dehradun (24-25 March 2017)</li> </ol> <p>Organizer in Awareness Program-cum-Workshop on renewable energy held at Shoolini University (28th April 2017)</p>
53	Dr. Suneel Dutt	International workshop on MPI at LHC
54	Dr. Dinesh Kumar	Second National Conference on New Horizons in Human Health

		and Nutrition (2-3 March 2017)
55	Dr. Somesh Sharma	<ol style="list-style-type: none"> <li>1. Pathak S, <b>Sharma, S</b>, and Sharma S (2016). Studies on development and evaluation of beet root (<i>Beta vulgaris</i>) wine. In: 25<sup>th</sup> National convention on Food Scientists and Technologist held on 10-12<sup>th</sup> November 2016, Guru Nanak Dev University, Amritsar, Punjab</li> <li>2. Sharma, S Vaidya, D and <b>Sharma, S</b> (2016).Development and evaluation of Honey based ginger tea concentrate. In: 25<sup>th</sup> National convention on Food Scientists and Technologist held on 10-12<sup>th</sup> November 2016, Guru Nanak Dev University, Amritsar, Punjab</li> </ol>
56	Dr. Pankaj Kumar Chauhan	<p>Second National Conference on New Horizons in Human Health and Nutrition (2-3 March 2017)</p> <ol style="list-style-type: none"> <li>1. Evaluation of the antioxidant &amp; antimicrobial activity of <i>Taxus wallichiana</i> against food borne pathogens.</li> <li>2. Green synthesis of copper nanoparticles using plant extract</li> </ol>
57	Dr. Ravinder Kaushik	Second National Conference on New Horizons in Human Health and Nutrition (2-3 March 2017)
58	Divya Jyoti Thakur	<ol style="list-style-type: none"> <li>1.National Conference on Environment and Natural Resource Management (23-24 February 2017) oral presentation on Terrarium: A beautiful way to preserve plants.</li> <li>2.Second National Conference on New Horizons in Human Health and Nutrition (2-3 March 2017)</li> </ol>
59	Dr. Kalpana Chauhan	<ol style="list-style-type: none"> <li>1. Benzothiazole based conjugates as new anti-microbial and anti-cancerous agents, World Congress on Drug Discovery &amp; Development, November 23-25, 2016 at Indian Institute of Science, Bengaluru, India.</li> <li>2. Synthesis of benzothiazole based glucosamine conjugates as potential anti-microbial and anti-cancerous agents, Kalpana Chauhan and Bhawana Kumari, CARBO-XXXI an International Conference on New Frontiers in Carbohydrate Chemistry and Biology, November 14–16, 2016 at University of Delhi, India.</li> </ol>
60	Dr. Pardeep Singh	<ol style="list-style-type: none"> <li>1. GAIN 7 days workshop on catalysis at NIT Jalandhar (PB) form 10 July 2107-16 July 2017.</li> <li>2. Anvenshan two day conference at Chitkara University, Rajpura (PB) on 19 -21n of 2017.</li> <li>3. India International Science Festival Indian NPL New Delhi on 7-11 December 2017.</li> </ol>
61	Dr. Pankaj Raizada	1. India International Science Festival Indian NPL New Delhi on 7-11 December 2017.
62	Dr. Deepika Jamwal	<ol style="list-style-type: none"> <li>1. Synthesis of lead telluride nanoparticles with enhanced structural, optical and electrical features, June 11-12, 2016, organized by Him Science Congress Association (HSCA), at Dharamshala.</li> <li>2. Bovine Serum Albumin stabilized Copper Selenide</li> </ol>

		nanoparticles with enhanced structural and optical properties, July 01-01, 2017 at Atal Bihari Vajpayee institute, Manali.
63	Prof. Atul Khosla	<ol style="list-style-type: none"> <li>1. Attended Fifty-Fourth Annual General Meeting (AGM) of the members of GABRIEL INDIA LIMITED held on 29/7/2016 At Auditorium, Gabriel India Limited, 29th Milestone, Pune-Nashik Highway, Village Kuruli, Taluka Khed, Pune 410 501, Maharashtra</li> <li>2. Attended ad guest Ankur Capital, Annual Founder Meet on 08/08/2016 at Jetha Compound 1, Byculla €, Mumbai</li> <li>3. Delivered lecture at 19<sup>th</sup> JRD Tata Memorial on 26/08/2016 At New Delhi</li> <li>4. Attended SEBI CMC Meeting held on 29/08/2016 at BKC, Mumbai</li> <li>5. Attended ASSOCHAM's 2nd Conference on "Quality Education for ALL - Role of Affordable &amp; Accessible Technology" held on 30/08/2016 at Hotel Royal Plaza, New Delhi</li> <li>6. Visited China for academic collaborations from 16/09/2016 to 25/09/2016</li> <li>7. Attended Vibrant Gujarat Global Summit – 2017: Curtain Raiser &amp; Interaction Session With Shri Vijaybhai Rupani, Hon'ble Chief Minister of Gujarat held on 04/11/2016 at Taj Palace Hotel, New Delhi</li> <li>8. Participated in The Future of Higher Education Assessments: Developing an Ecosystem of Quality Examination held on 09/11/2016 at The habitat Center, New Delhi</li> <li>9. Attended Association of Indian Universities North Zone Vice Chancellor's Meet 2016-17 held on 22/12/2016 to 23/12/2016 At Noida</li> <li>10. Interacted with DPS School students on 08/02/2017 in Pune</li> <li>11. Attended Aegis Graham Bell Awards Ceremony 7th edition On 09/02/2017 at NDMS Convention Center, New Delhi</li> </ol>

## 2.6 Innovative processes adopted by the institution in Teaching and Learning:

The University believes in continuous quality improvement. The following innovative measures are taken to cater to the changing requirements of the students and improving teaching methodology:

All lectures are delivered through power point from 2013, and since then, almost all the lectures and supplementary study material is being made available online to the students through the eUniv. The University is gradually moving towards 100 percent digitized teaching and for providing online supplements to every course that is being offered in the campus.

Emphasis has also been laid in the past few years to provide Lecture Schedules at the beginning of the semester, to incorporate more case studies, projects, workshops, seminars, video conferencing and group discussions in the curricula to enhance the skills of the students.

University is committed to excellence in all aspects of learning, transmission of knowledge and developing skills and most importantly, to encourage free thinking of students to address complex challenges. In order to do this, the University focuses on the following:

1. Online support for teaching and evaluation is being used. eUniv; Shoolini's online academic portal based on Moodle is fully operational.
2. PPT, Videos, Research papers, EBSCO database are made available online.
3. Fully operational online examination system that incorporates - MCQ, short and descriptive questions, quiz, assignment etc.
4. Online discussion forums started to have anytime anywhere dialogue between faculty members and students.
5. Complete and incognito student course feedback system introduced.
6. Yogananda Knowledge Center (YKC), the Central Library is made operational round the clock.
7. Students can use the practical labs round the clock.
8. Expert lecture sessions by the name of "Guru Series" are operational.
9. Faculty Development Program by "Managing partner- Proliferator Advisory & Consulting" firm was organized.
10. Preparation of daily lecture taken report and monitoring by Pro VC/Dean-Academics/Associate Dean Academics.
11. Biometric attendance system for students in hostels introduced.
12. In situ monitoring of students during their internships and research projects in industry.
13. 5 professional clubs for co-curricular and extra-curricular activities for students are in place.



14. MOOCS courses started under SWAYAM portal.
15. Several academic, research and industry MOU's signed with foreign Universities and corporate firms of high repute.
16. Each course has knowledge outcomes and skill outcomes which are in line with the objectives of the concerned program.
17. Each course is broken down into separate lecture schedules with clear-cut learning outcomes. These learning outcomes collectively make up to the outcome of a particular course. ANNEXURE III
18. All the courses in a particular program in a particular semester are compiled in the form of a booklet with syllabus, lecture schedules, practical details, problem sets and necessary discussion caselets.
19. Enhancing employability through skill enhancement, outcome driven curriculum and modern pedagogy.
20. Shoolini's online learning initiative (eUniv) has innovated continuous learning delivery
21. For functional and soft skills, the SPRINT program has been started as a credit course for MBA students and is being rolled out to other Schools. SPRINT has the potential to be a role model for functional and soft skills training.
22. University admits annually 20-30 employees of Anand Automotive Pvt. Ltd. in B. Tech. (Automobile Engineering) under lateral entry as per the curriculum designed by the company. Such joint industry programs are role models for Academia-Industry alliances
23. Physical Training and Meditation forms one credit hour course in B.Tech. From 2015-16 it is introduced as an elective course under CBCS for enhancement of ethical values and physical and mental fitness of the students.
24. Personal development of students through different modules, such as tutorials, mentorship, computer literacy, meditation, communication and language proficiency etc.
25. Progressively shift to online examination and evaluation.
26. Faculty development programs
27. Industry linkages and collaborations.
28. Strengthening of the mentorship program.
29. Outer world exposure to faculty and students.

The quality of teaching and learning is continuously assessed on the basis of feedback from students. School level Academic Committees and Board of Studies are other means to ensure the accountability of the Schools / Faculty.

**2.7 Total No. of actual teaching days during this academic year**

186 days

**2.8 Examination/ Evaluation Reforms initiated by the Institution (for example Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)**

All in Practice other than open book

A strong room having standalone computers were provided to the Controller of Examinations (COE), in which no memory devices are permitted. Three papers are set, out of which, one was selected by the COE. Print outs of the selected question paper are then printed in the same room.

COE has a centralized ‘Control Room’ to keep sealed question papers, answer books and exam related the material to maintain confidentiality. Examination halls are prepared in advance and seating plans are prominently displayed.

Answer books are dispatched by the school superintendent (Examination) to the COE on a day to day basis. These are processed for evaluation. The compilation of the result is examined by the concerned faculty Dean.

Following are the major initiatives taken during the academic year 2016-17

1. Online Moodle enabled tests comprising MCQ, short answer and descriptive answer type questions have been introduced in the select course.
2. Tests are taken in ‘safe browser’ mode so that no unfair means can take place.
3. Online assignments, quizzes and viva voce introduced in few courses.
4. Open book exams have experimented.
5. All evaluated answer sheets are shown to students for any redressal if at all.
6. Hybrid pedagogy of online teaching through LMS blended with contact classes is in place for all courses across the university.
7. More and more application based question papers are encouraged.
8. More and more focus given to student participation in class room, presentation, viva voce etc.
9. Encryption and decryption of roll no done to avoid student identity.
10. Double valuation check introduced to ensure that no question is left out and the total is correct.
11. The centralized evaluation system is already in place.

12. The result is declared within 1-2 weeks.

13. Plans to introduce barcoding system is in place. Very shortly it will be introduced.

**2.9 No. of faculty members involved in curriculum Restructuring/revision/syllabus development as a member of Board of Study/Faculty/Curriculum Development workshop**

Almost 90% of the faculty members
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**Every faculty member of the University is involved directly or indirectly in the curriculum design and development process which is detailed below:**

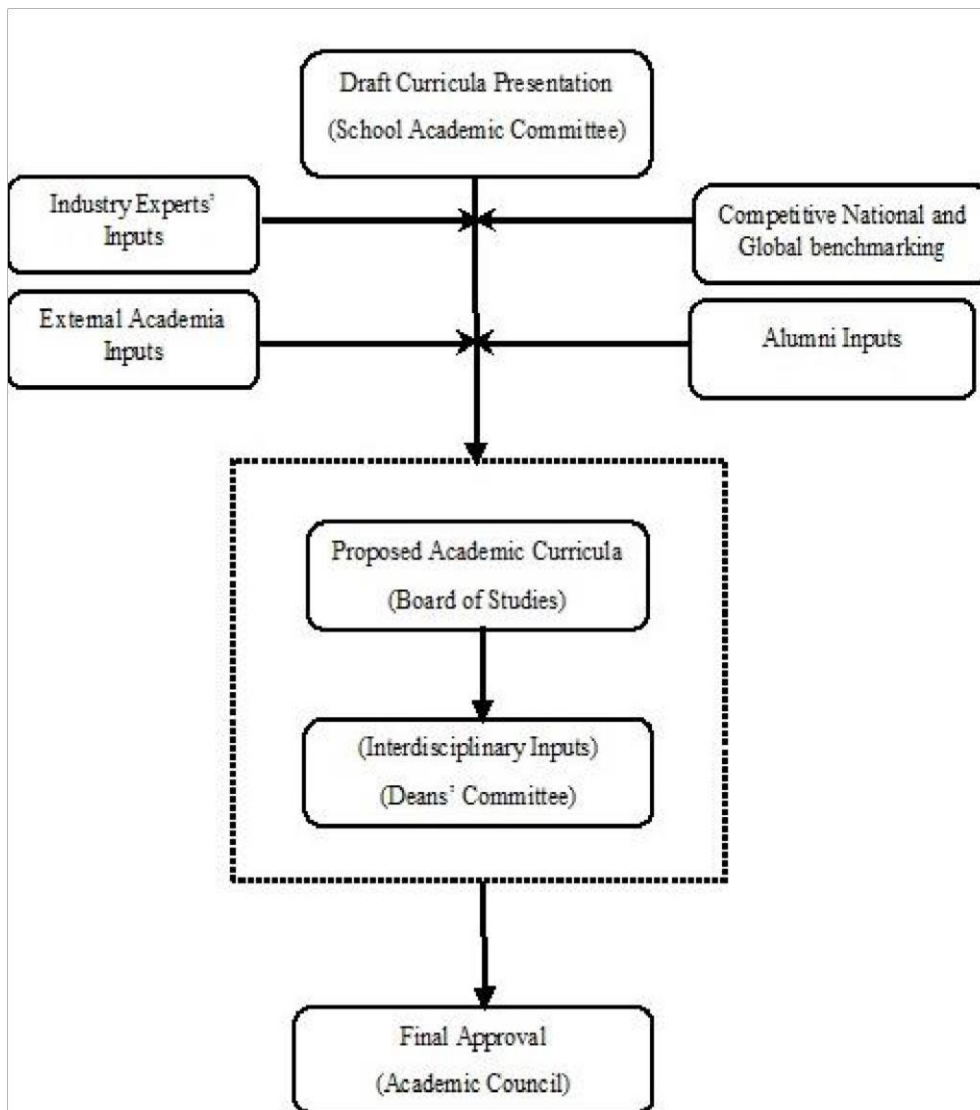
**Curriculum Design and Development Process**

The current curriculum design involves a two-step process:

**Step-1:** The draft curricula of the different Schools prepared by respective committees incorporate the views and suggestions of industry, alumni, prominent external academicians, and potential employers. This is then competitively benchmarked nationally and globally.

**Step-2:** The modified curriculum is then presented before the Board of Studies (BoS), constituted for each of the Schools. The BoS is headed by the respective Dean and comprises of faculty, industry experts, and noted academics as members. The concerned BoS then recommends for approval, to the Academic Council, the detailed curriculum - syllabi with skill and learning outcomes, pedagogy, the scheme of examination, lecture schedules and evaluation mechanism.

The process flow chart is given in figure 1.1 on the following page.



## 2.10 Average percentage of attendance of students

76%

## 2.11 Course/Programme wise distribution of pass percentage:

Table showing final degrees awarded by the University for the Academic year 2016-17, semester wise result is uploaded on the University's website

**Table 2.2 Final Degrees Awarded in the Academic Year 2016 -17**

Title of the Program		Total no. of students appeared	Division	%age
B Pharma	B.Pharm	47	Shoolini University follows relative grading system in which based on the performance, each student is awarded letter grades O, A+, A, B+, B, C, P and F by the concerned teacher ( which corresponds to 10,9,8,7,6,5,4,0 grade points respectively). The relative grading is based on the distribution of marks obtained by all students. Grade points in a course multiplied by credit constitute the credits points of the course. Cumulative credit points in all the courses divided by total credit hours of the courses becomes the grade point average in a semester i.e GPA. The cumulative credits point average in all the courses from the first semester till the last semester divided by cumulative credits hours into all the courses is the overall grade points average i.e OGPA. The students obtaining F grades are considered, failed and is required to Re-appear.	85.1
B Tech	BI	6		83.33
	BI Leet	1		100
	BT	51		100
	CE	45		75.55
	CE Leet	23		95.65
	CSE	19		84.21
	CSE Leet	11		90.9
	ECE	22		90.9
	ECE Leet	8		100
	EEE	15		100
	EEE Leet	3		100
	FT	42		95.23
	ME	75		81.33
	ME Leet	19		100
	ME (Auto)	23		100
BSc	Chemistry	3		100
	Physics	1		100
	Botany	0		0
	Zoology	2		100
	Biotechnology	43		81.39
	Microbiology	35		77.14
BBA		12		58.33
B Com		62	90.32	
MSC	Chemistry	73	97.26	
	Physics	35	94.28	
	Botany	38	97.36	

	Zoology	20	95
	Biotechnology	32	87.5
	Microbiology	19	94.73
	Food Tech	5	100
M Tech	Biotechnology	4	100
	Civil Engg	11	81.81
	CSE	1	100
	ECE	6	83.33
	FT	1	0
	ME	1	0
M Pharma	P'ceutics	9	100
	P'cology	7	100
	P'chemistry	3	100
MBA		68	88.23
M Phil	BT	0	0
	Microbiology	1	100
	Chemistry	3	100
	Botany	3	66.66
	Zoology	0	0
PhD	Management		
	Chemistry		
	Botany		
	Biotechnology		
	Microbiology		
	Physics		
	Pharma		

## 2.12 How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

The Institutional IQAC members along with Deans and HOS monitor the following activities of Teaching-Learning processes:

- i. Students class attendance on Monthly & Semester basis.
- ii. Time-Tabling activities to be planned and uploaded to the intranet for the information of students & all stakeholders.
- iii. Results of the students, programme wise, course wise.
- iv. Results shared with parents
- v. Students Feedback twice a semester.

The following contributions are evident through the monitoring of the above processes by IQAC:

- i. The gaps are identified in the conduct of the process.
- ii. The corrective and preventive actions are taken immediately.
- iii. The Progress on implementation of the action plans according to the target dates is monitored through IQAC.
- iv. Monitoring of class attendance has enabled the Institutions in sending a timely warning of low attendance to students and their parent/guardians.
- v. Every month and mid-semester, the IQAC analyses the classes conducted vs. planned through a prescribed format given by the University for each Programme and course. This has helped the HOS/faculty in knowing the gaps in the classes conducted and rectification measures are taken immediately.
- vi. Through the result analysis, weak students are identified who are then mentored/ counseled and are given extra classes, if required.
- vii. Analysis of feedback on faculty from students enables to identify the faculty with low score who are then suitably counseled and guided.

All the above activities are discussed during the IQAC meetings. After the review University monitors and evaluates the conduct of above processes through Academics Office who gives the report to the Management and follows up with the Institution till the points are closed based on the corrective/preventive action taken by the Institutions.

### **2.13 Initiatives undertaken towards faculty development**

The University is proactive in developing its faculty members in order to meet the requirements of a modern curriculum through various Faculty Development Programs, training sessions, workshops, conferences, and visits to other institutes and frequent interactions with the experts from various fields of specialization.

In view of the vision and aspirations of the University, the following benchmarks in terms of faculty development are planned:

- i. Enhance institutional support for the promotion of qualification and international exposure.
- ii. Increase the quantum and extend the geographical outreach of the faculty exchange program.
- iii. Increase the number of MoU's with international universities focusing on the United States, European Union, and East Asia.
- iv. Increase cooperation and provide faculty to neighboring East Asian countries.
- v. Broad base and enhance faculty-industry interaction with the aim to translate this in the form of consultancies and sponsored research.

Professional development approaches of the University are illustrated below:



### **Professional Development Approaches**



The formal Faculty development training program was also initiated in the Academic year 2016-17.

The program works under the aegis of IMPACT (Integrated Management Program for Professional Advancement and Career Transformation) and is dedicated to analyze the training needs, design and develop the content, deliver and evaluate the program. This Program enables new faculty to acclimatize with the university's processes, people, while for existing faculty to continually evolve them to address the developments which are taking place globally in terms of teaching pedagogy and research. Below are the details of the programmes organized during 2016-17:

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculties benefitted</i>
Refresher courses	--
UGC – Faculty Improvement Programme	---
HRD programmes	---
Orientation programmes	37
Faculty exchange programme	4
Staff training conducted by the university	104
Staff training conducted by other institutions	18
Summer / Winter schools, Workshops, etc.	27
Others	02

**Table 2.3 Faculty Development Programmes for the Academic Year 2016 -17**

S.no	School	Date	Title /Theme of the Programme	Eminent Speakers	No. of faculty Participated
1	School of Bioengineering	16 <sup>th</sup> September to 06 <sup>th</sup> October 2016	Attended the National Training Programme on R & D Strategies and Interventions for effective Agribusiness and Entrepreneurship Development in Dairy and Food Sector Organised by ICAR-NDRI, Karnal from 16 <sup>th</sup> September to 06 <sup>th</sup>	Dr. A.K Srivastava	18

			October 2016.		
2	School of Mechanical and Civil Engineering	28 <sup>th</sup> April 2017	Awareness programme cum workshop on Renewable Energy	Mr. Kanwar Bhanu Pratap Singh, (CEO) Himurja  Mr. Vineet Sood (Executive Engineer) Himurja  Mr. Harish Sharma (Project Officer) Himurja  Sh. Parminder Singh Sidhu (CST Manufacturer, Ludhiana)  Mr. Jashpal Singh Sodhi (Solar Consultant, Mandi HP)	21
3	School of Biological and Environment Sciences	23-25 May 2017	National Seminar cum Workshop on Advanced Scientific Techniques (NSWAST-2017), 23-25 May 2017, Shoolini University, Solan		3
		28 <sup>th</sup> March 2017	Faculty training on video lectures using MS- Office	Mr. Randhir Bhandari	09
		13 <sup>th</sup> April	Workshop cum training on	Mr. Surojit of Advent	13

4	School of Electronic and Computer Science Engg	2017	Chemaxon	Informatics, Pune	
		26 <sup>th</sup> April 2017	Workshop cum training on IT and Carrier Awareness	Mr. Gagan of Solitare Infosys Pvt. Ltd.	20
		16 <sup>th</sup> May 2017	Workshop cum training on Digital Marketing and Awareness	Mr. Sumit Gupta of Securenet Technologies, Chandigarh	19
		June 2017	Workshop on Positive thinking	Mr. Barinder Singh	20
5	School of Pharmacy	24-28 <sup>th</sup> Oct 2016	MHRD-GIAN course on Novel and Nanostructured Drug Delivery for Diverse Biomedical Applications, Panjab University, Chandigarh	Prof. Mandip Sachdeva, Florida A & M University, USA	2
		14-18 <sup>th</sup> Feb 2017	Medicinal Chemistry and Drug Discovery & Development (MCADDI), American Chemical Society, Biocon Academy, Bangalore	Dr. Mukul Jain, Sr. Vice President, Zydus Research Centre Prof. Thomas Prisinzano, University of Kansas, USA Nicholas A. Meanwell, Bristol Myers Squibb, CT, USA	2
		5th-16th September 2016	National Institute of Animal Welfare, Ministry of Environment, Forests and Climate Change, Government of India. Ballabhgarh, Faridabad	---	1
		28 <sup>th</sup> March	Continuing pharmacy	---	

		2017	education programme” organized by HP state pharmacy council held on		2
6	Shoolini University	9 – 10 May & 22 -23 August	Orientation Program for new joinee	----	37
7	Faculty Exchange Program		Three faculty members went for International Faculty Exchange program – Dr. Neeraj Gupta ( Assistant Professor ) went to Chinese Academy of Sciences, Mr. Akshay Gupta – Assistant Professor _ Collaborative Ph.D. program from Delhi and Queensland's University of Australia, Dr. Anshul Sharma –Assistant Professor _ Gachon University South Korea,  Dr. Satyender Singh Assistant Professor – IIT Bombay	-----	4

## Day 2 - Faculty Induction



### 2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	111	29	11	0
Technical Staff	55	27	8	0

## Criterion – III

### 3. Research, Consultancy, and Extension

#### 3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

IQAC has taken the proactive initiative to sensitize and promote research climate in the Institution. SUMMIT Research Program with generous funding from University in Faculty of Applied Sciences & Biotechnology is one such initiative where research program was initiated at the undergraduate level. Students with an inclination for research and out-of-box thinking have been selected from across the country and have been provided a platform for doing research on contemporary areas of their choice. The rotation through different labs in university followed by a selection of the mentor gave students the freedom to work in their area of interest. To ensure holistic development of the students, the opportunities were created for roundtable discussions with best scientific minds in the country and visits to labs and industry besides focus training on soft skills. This pilot program will be expanded to other Faculties also and students are being exposed to interdisciplinary areas.

University setup Shoolini University Research Fund to provide startup grants and for the purchase of high-end equipment for central facilities. To ensure the maximum utilization of the available resources and equipment, the university is promoting the culture of sharing and central facilities to provide access to equipment have been created. These facilities will work 24/7 and open lab culture is a major initiative of IQAC, where any student/faculty member can utilize the facilities in any lab after getting the requisite training. The proper maintenance of the equipment and decreasing down time are another major initiative of the IQAC.

IQAC has taken a major initiative to ensure that Intellectual Property generated by the researchers of the University is protected and commercialized. University has filed over 75 patents in 2016-2017 and three of them were transferred to industry for commercialization. A culture of innovation is being promoted right from under graduate level to faculty members.

University has conducted seminars and workshops on scientific writing and project writing. Dr. Uday Maitra, Senior Professor from IISC Bangalore and Prof. Stevenson from the University of Arkansas conducted two such programs to guide faculty and students on research lab setup and funding opportunities. Writing Seminar, a course to enhance the scientific writing skill, is now part of the curriculum for all programs in the University.

IQAC has also taken initiatives to ensure the scientific integrity of the researchers. Faculty and students are made aware from time to time of various issues regarding scientific misconduct and are guided by senior faculty to ensure the quality and integrity of the research data generated from the university. University allows its researchers to publish their work only in peer-reviewed journals listed in Web of Science or Scopus to ensure the quality and improve the scientific output. University has setup a reward for researchers publishing in high impact journals. The research output carries major weightage in the annual appraisal of the faculty members.

The quality of research output of University is at par with any top academic institute of the country. The field normalized citation indices show that university research publications are of much higher quality than the world average. Similarly, about 40% of the publications from the university has at least one foreign collaboration. IQAC has taken further initiatives to further improve the quality of the research by promoting a culture of intra and inter-institutional collaborations. Several researchers and academics also visited various institutes and universities in India and abroad under this initiative of IQAC.

Lab safety, an area usually ignored in academic institutes, is another major initiative of IQAC. The lab safety seminars are conducted across the programs to make students aware of the safety aspects in the lab and a strict adherence to the norms is ensured by the lab safety committee of the university.

### 3.2 Details regarding major projects

	<b>Completed</b>	<b>Ongoing</b>	<b>Sanctioned</b>	<b>Submitted</b>
Number	13	14	2	16
Outlay in Rs. Lakhs	54,74,535.00	1,35,14,154.00	1,98,20,000.00	6,39,44,047.00

**Table 3.1 Major Projects (Completed) during the year 2016 -17**

S.No.	Name of Faculty (Principal Investigator)	Name of the Funding agency	Title of the Project	Sanctioned order no.	Sanctioned date	Amount Received (In Rupees)
1	Prof. Neeraj Mahindroo	ICMR	Quality Standards of Indian Medicinal Plants and preparation of monographs thereon	MPD/TF/HD - Monog/42/2016	28/06/2016	639,082.00
2	Dr. Kalpana Chauhan	BRNS	Chitosan-thiomer, sulphide, and sulphonium salt particulates in arsenic Detoxification	No.2013/37c /55/BRNS	1/3/2014	558,075.00
3	Dr. Dinesh Kumar (PI) & Dr. Somesh Sharma (Co-PI)	DBT	Process optimization for recovery and purification of Zein and xanthophyll's (resp. valuable maize proteins and pigments) and its stability application in food products.	BT/PR5884/FNS/20/680/2014	10/23/2013	422,210.00
4	Dr. Saurabh Kulshrestha	DBT RGYI	Identification and characterization of hypovirulence factors from <i>Rosellinia necatrix</i> causing white root rot in apple.	BT/PR6464/GBD/27/430 /2013	9/22/2016	467,838.00
5	Dr. Pardeep Singh	SERB DST	Graphane based photo catalyst for water purification	SB/FT/CS-052/2013	26/05/2014	250,000.00
6	Dr. Anuradha Sourirajan Co-PI: Dr. Kamal Dev	SERB/ DST	Identification and Characterization of Medicinal Plants of North-West Himalayas with Synergistic Effects on Traditional Antibiotics to Control Clinical Bacterial Infections.	SR/FT/LS-98/2011	10/17/2014	170,000.00
7	Dr. Adesh Saini, Prof. Christine Winterbourn, University of Otago, Christchurch, Newzealand; Dr. Vikas Kumar, Center for Cellular and Molecular Platforms (CCMP), Bangalore	Indo New Zealand project by DSTMBIE	Testing for the Efficacy of Functional Foods: Collaborative Development of an Assay to Determine impacts of Foods on Antioxidant Activity	INT/NZ/P-001/2013	11/20/2013	1,410,359.00
8	Dr. Preeti Thakur	SERB (DST)	Synthesis and characterization of nano-ferrites for the development of radar absorbing materials	SERB/F/7451/2013-14	2/21/2014	0
9	Dr. Rohit Goyal	DST	Isolation & characterization of bioactive leads from Pinus for prevention of osteoporotic syndrome	SB/FT/LS-376/2012	28/01/2013	0



10	Mr. Jitender Kumar	UGC-RGNF	In vitro culture standardization of Podophyllumhex and rum for production of Phodophyllotoxin	16-1847(SC)/2010(SA-III)	3/16/2016	3,26,800
11	Ms. Megha Sharma	DST – INSPIRE	Development of validated stability indicating assay method for TAZQ a novel bronchodialator and comparative accelerated degradation of digoxin and its acetate	DST/INSPIRE FELLOWS HIP/2013/94	7/2/2013	3,89,600
12	Ms. Kamna Sharma	DST – INSPIRE	Synthesis of pharmacological evaluation of nitrogen heterocycles with special emphasis on quinolone analogues	DST/INSPIRE FELLOWS HIP/2013/724	9/1/2013	3,89,600
13	Mr. Sunil Kumar	DST – INSPIRE	Isolation , characterization and biological evaluation of novel phytoconstituents for anti – cancer activity	DST/INSPIRE FELLOWS HIP/2013/672	10/14/2013	4,50,971

**Table 3.2 Major Projects (Ongoing) for the year 2016 -17**

S.no	Name of Faculty (Principal Investigator)	Name of the Funding agency	Title of the Project	Sanctioned order no.	Sanctioned date	Amount Received (In Rupees)
1	Dr. Kamal Dev	DST-FIST	Establishment of Advanced Biological Research Facility for Proteomics	No.SR/FST/LSI-633/2015©	16/08/2016	3,000,000.00
2	Dr. Suneel Dutt	DST	Compact Muon Solenoid (CMS) Upgrade, Operation and Utilization	No.SR/MF/PS-02/2014-SU	16/09/2016	2,200,000.00
3	PI-Ankur Kaushal, Co-PI-Dr. Dinesh Kumar, Co-PI-Dr. Sunill Sethi	ICMR	DNA biosensor for the diagnosis of Leptospirosis	2012-2479	21/03/2017	1,088,559.00
4	Prof. Adesh K Saini	NMHS-MoEF &CC	Post-Fire Management in the Pine Forests of Indian Himalayan Region by studying, conserving and distributing culturable microbial biota to increase ecological succession and to revive forest productivity	NMHS/SG-2016/019/382	31/03/2016	2,161,200.00
5	Dr. Somesh Sharma (PI) & Dr. Pankaj Kumar Chauhan (Co-PI)	DST	Utilization of Wild Himalayan Fig for the sustainable livelihood of weaker sections of the society in mid hill region of Himachal Pradesh.	SEED/SARTHI / HP/015/2012.	5/19/2014	500,000.00
6	Dr. Dinesh Kumar	MoFPI	Creation of Infrastructure facilities for B.Tech (Food Technology) course	F. No.5-21/2011-HRD	1/22/2015	3,428,235.00
7	Dr. Radheshyam	DRDO	Development of Lead-free piezoelectric nanofibers via Electrospinning for piezoelectric energy harvesting	ERIP/ER/1303129/M/01/1564	3/4/2015	436,160.00
8	Dr. Astha Tripathi (PI), Dr. Saurabh Kulshrestha (Co-PI)	DBT	Isolation and identification of bioactive compounds from wild mushrooms for new drug discovery	BT/Bio-CARE/03/50/2011-12	4/24/2015	0

9	Dr. Pankaj Raizada	SERB	Graphitic Carbon Nitride Based Metal-Free Semiconductor Heterojunctions For Effective Photocatalytic Water Purification	SERB/F/8260/2015-16	3/7/2016	0
10	Dr. Dinesh Kumar	MoFPI	Setting up of New Food Testing Laboratory	AEng.17(45)/2011-AE-Part-VII	27/00/2015	0
11	Dr. Suneel Dutt	SERB	Search for physics beyond standard model at hadron colliders using DZERO and compact muon solenoid (CMS) detectors	SB/FTP/PS-002/2014	17/03/2015	0
12	Dr. Reena V. Saini, Dr. Neeraj Mahindroo (Co-PI)	DBT	Evaluation of Withanolide lactones as immunomodulators to induce granulysin expression in Immune cells conferring cytotoxicity towards cancerous cells	No.BT/PR9613/MED/30/1260/2013	7/29/2015	0
13	Ms. Neha	DST INSPIRE	Role of Th-17 and Tregulatory cells in pathogenesis and immunity in Salmonella typhii infection	DST/INSPIRE Fellowship / 2014	3/15/2014	3,50,000
14	Ms. Tanvi Gupta	DST INSPIRE	Identification and characterization of mycoviruses capable of inducing hypovirulence in isolates of Sclerotinia sclerotiorum	DST/INSPIRE Fellowship / 2014	10/15/2014	3,50,000

**Table 3.3 Major Projects (Sanctioned) for the year 2016 -17**

<b>S.no.</b>	<b>Name of Faculty (Principal Investigator)</b>	<b>Name of the Funding agency</b>	<b>Title of the Project</b>	<b>Sanctioned order no.</b>	<b>Sanctioned date</b>	<b>Grant Sanctioned</b>
1	Dr. Dinesh Kumar	MoFPI through ICAR	Setting up of new Food Testing Laboratory	A Eng. 17(45)/2011-AE-Part-VII	27/11/2015	Total cost of Project= 285.39 Lakh & Grant Sanctioned by MFPI= 162.20 Lakh
2	PI-Ankur Kaushal, Co-PI-Dr. Dinesh Kumar	DST	Electrochemical DNA sensor for the diagnosis of scrub typhus	SP/YO/079/2017	19/07/2017	3,600,000.00

**Table 3.4 Major Projects (Submitted) in the year 2016 -17**

S.no.	Name of Faculty (Principal Investigator)	Name of the Funding agency	Title of the Project	Sanctioned order no.	Sanctioned Date	Grant
1	Dr. Somesh Sharma	NMHS	Utilization of wild apricot ( <i>Prunus armeniaca</i> ) for vinegar and other value-added product development for sustainable livelihood of weaker sections of the society in the Himalayas (Himachal Pradesh)	SUBMS/FT/15/152	1/11/2016	37,95,280.00
2	Raman Preet Singh, Neeraj Mahindroo, Deepak N Kapoor	DST	In vitro immunomodulatory effects of nanoparticles	EMR/2016/003494	31-Jul-16	49,09,011.00
3	Rohit Goyal	DBT	Abrogated neuronal development and functioning due to nutritional elements: An investigation of neonatal birth defects		Jul-16	26,00,000/-
4	Saurabh Kulshrestha (SU), Astha Tripathi (SU), Chander Mohan Gupta (SU), Aparna Sharma (SCST&E), Shwet Kamal (DMR)	DBT, Govt. of India	Economic upliftment of rural population of villages near Solan by way of medicinal mushroom cultivation		31/3/2017	1,65,00,000/-
5	Saurabh Kulshrestha (SU), Azhar Khan (SU)	HPSCST&E	Development of efficient and safe water purification strategy using <i>Moringa oleifera</i> seeds for the rural population of Himachal Pradesh		Oct-16	10,00,000/-
6	Deepak N Kapoor	DST Nano Mission	Nose-to-Brain Delivery of cRGD Conjugated Chitosan Nanoparticles Loaded with Carboplatin for Treatment of Glioblastoma	3739	Jan-17	40,00,000/-
7	PI – Prof Umar Farooq, Co-PI -Dr. Md. Azhar Khan	ICMR	Isolation of Bioactive molecules from medicinal plants grown in Himachal Pradesh for anti-leishmanial activity	Concept note accepted, full-length project	Sept. 2016	5,327,758.00
8	Dr. Md. Azhar Khan	DST	The bioactive compound from <i>Camellia sinensis</i> as biofilm inhibitor in MRSA	EMR/2017/004958/HS	31/07/2017	44,60,998.00

9	Dr. Dipanker Sharma	DST, Govt of India	Cross-Border Mobility and migration of Scientists from India to Abroad and Vice-versa - An assessment of Brain Drain and Brain Gain	DST/NSTM IS/05/56/2017-18	15th March 2017	67,00,000/-
10	Dr. Neeraj Gupta	CSIR-New Delhi	Developing metal-free catalyst for glycerol conversion		May-17	25,00,000/-
11	Dr. Neeraj Gupta	State Council HP	4743NS		Jul-17	7,00,000/-
12	Dr. Deepak N Kapoor	DST	Design, Development and Evaluation of In-situ Forming Implantable Drug Delivery System of Glibenclamide for Treatment of Stroke	182016004482,	31-Jul-16	32,00,000/-
13	Raman Preet Singh	SERB	Immunotoxicity of carbon-based nanoparticles: in vitro-in vivo correlations	ECR/2017/001031/LS(Ver-1)	31-Jan-17	34,01,000.00
14	Raman Preet Singh	DST Nano Mission	Immunotoxicity of metallic nanoparticles: in vitro-in vivo correlations		Feb-17	350,000.00
15	Raman Preet Singh	DST Nano Mission	Role of macrophage-hepatocyte crosstalk in nanoparticle-induced hepatotoxicity: an in vitro co-culture study		Feb-17	3,000,000.00
16	Prince Manta, Deepak N Kapoor	DST Nano Mission	Development and evaluation of Nano-Carrier based Immune chromatographic test strip for rapid detection of Zika virus antibody/antigen in human urine	SR/NM/NT-1080/2016	Sep-16	15,00,000/-

### 3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	-----	4	-----	-----
Outlay in Rs. Lakhs	-----	11,00,000.00	-----	-----

**Table 3.5 Minor Projects (Ongoing) for the year 2016 -17**

S.No.	Name of Faculty (Principal Investigator)	Name of the Funding agency	Title of the Project	Sanctioned order no.	Sanctioned date	Amount Received (In Rupees)
1	Dr. Kalpana Chauhan	SCSTE	Design and application of new green adsorbents-cum-sensor for water application from the industrial area of Himachal Pradesh	SCSTE/F(8)-1/2016-Vol.-1-5586	19/10/2016	300,000.00
2	Dr. Ranchan Chauhan (PI), Dr. Bhaskar Goyal (Co-PI), Dr. Raj Kumar (Co-PI)	MNRE	Development of Green campus under MNRE Scheme on Development of Solar Cities	5/4/2013-14/SC	3/30/2016	250,000.00
3	Prof. Neeraj Mahindroo, Dr. Pawan Malhotra, Dr. Varun Jaiswal, & Ms Devika Rana	Shoolini University	Design, Synthesis and Evaluation of Natural Products Based Antimalarials	SUBMS/DRD/2016/11/25-01	25/11/2016	3,00,000.00
4	Dr. Reena V. Saini, Dr. Amit Kumar (Co-PI)	CRHSD, Shoolini University	Pilot scale demonstration of the anticancer immune responses generated by the phytocomponents present in the needles of Pinus roxburghii.	SUBMS/DRD/2016/11/25/-01	8/12/2016	2,50,000.00

**3.4 Details on research publications**

	International	National	Others
Peer Review Journals	327	64	
Non-Peer Review Journals			
e-Journals			
Conference proceedings	4	1	

**3.5 Details on the Impact factor of publication**

Range  Average  h-index  Nos. in SCOPUS

As per Google Scholar University has 1020 publications out of which publication in SCOPUS is 564 as on Jan 2018. These numbers are very dynamic and keep changing every day. Shoolini has emerged as one of the leading research universities within a short span refer SciVal data ANNEXURE IV

### 3.6 Research funds sanctioned and received from various funding agencies, industry and other organizations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major Projects	2016-2017	ICMR	63.35	1,727,641.00
		DST	342.11	7,530,359.00
		BRNS	23.21	558,075.00
		DBT	87.358	890,048.00
		NMHS	40.26	2,161,200.00
		MoFPI	359.1	3,428,235.00
		DRDO	26.9	436,160.00
Minor Projects	2016-2017	SCSTE	6.0	300,000.00
		MNRE	5.0	250,000.00
Interdisciplinary Projects	Most of the projects are interdisciplinary in nature details are mentioned in Tables 3.1,3.2,3.3,3.4 & 3.5			
Industry-sponsored		Details under table 3.7		32,53,025.00
Projects sponsored by the University/ College	2016-2017	Shoolini University		5,50,000.00
Students research projects <i>(other than compulsory by the University)</i>	2016-2017	DST INSPIRE	85.0	19,30,171.00
		UGC-RGNF	17.0	326,800.00
Any other(Specify)				
Total				2,33,41,714.00

3.7 No. of books published i) With ISBN No.

3

Chapters in Edited Books

50

ii) Without ISBN No.

0



**Table 3.6 Publications by faculty during the Academic Year 2016 -17**

S.no	Name of the faculty	Details of the Publication
<b>Books with ISBN No.</b>		
1	Dr. Ravinder Kaushik	1) Kumar N, <b>Kaushik, R</b> and Chawla, P. (2017). New outcomes from Agri-food Research. New India Publishing Agency, New Delhi, India. ISBN: 978-93-85516.
2	Dr. Dinesh Chatanta	2) Kumar N, <b>Kaushik, R</b> , Chatanta, DK and Chawla, P. (2017). Human Health and Nutrition with special emphasis on dairy and cereal products. GYANKOSH Publishers & Distributors, ISBN: 978-81-932755-7-3
3	Dr. Adesh Saini	1) Vipin Chand Kalia and Adesh K. Saini (2017) Metabolic Engineering of Bioactive Compounds: Strategies and processes. Springer Nature Singapore Pte Ltd., Singapore. DOI 10.1007/978-981-10-5511-9_19. ISBN 978-981-10-5511-9
<b>Chapters in Edited Book</b>		
1	Dr. Adesh Saini	1. Adesh K. Saini, Himika Gupta, Ashu M. Poswal, Reena Kumari, Rakesh Kumar and Reena V. Saini, (2017) Biological traits of nanocomposites: nano-fertilizers, nano pesticides, anticancer and antimicrobials, <i>In Modified Biopolymers: Challenges and Opportunities</i> ( ed., Deepak Pathania, Gaurav Sharma and Amit Kumar), p-189-208, Nova Science Publishers, Inc., New York. ISBN: 978-1-53612-116-2.  2. Ashu M. Poswal, Adesh K. Saini (2017) Yeast as a model system to study human diseases. <i>In Metabolic Engineering of</i>

		<p>Bioactive Compounds: Strategies and processes (<i>ed.</i>, Vipin Chand Kalia and Adesh K. Saini) Springer Nature Singapore Pte Ltd., Singapore. DOI 10.1007/978-981-10-5511-9_10. ISBN 978-981-10-5511-9</p> <p>3. Adesh K. Saini, Vipin Chandra Kalia (2017) Potential challenges and alternative approaches in metabolic engineering of bioactive compounds in industrial setup. <i>In</i> Metabolic Engineering of Bioactive Compounds: Strategies and processes (<i>ed.</i>, Vipin Chand Kalia and Adesh K. Saini) Springer Nature Singapore Pte Ltd., Singapore. DOI 10.1007/978-981-10-5511-9_19. ISBN 978-981-10-5511-9.</p>
2	Dr. Somesh Sharma	<p>1. A Rosma, A.H. Siti Nadiah, Anup Raj, Somboon tanasupawat, Somesh Sharma, V. K. Joshi and et, al., (2016). Acetic Acid Fermented Food Products. In: Indigenous Fermented Foods of South East Asia. (Ed) V.K. Joshi, CRC Press, Taylor and Francis, Boca Raton, FL. pp 583-620.(ISBN NO. 9781439887837)</p> <p>2. Ramesh C. Ray, S. G. Prapulla, S.Y.Pinto, Sankar C. Deka, Somesh Sharma, Suresh Kumar , Tsering Stobdan, V. K. Joshi and et.al., (2016). Indigenous Fermented Foods Involving Acid Fermentation. In: Indigenous Fermented Foods of South East Asia. (Ed) V.K. Joshi, CRC Press, Taylor and Francis, Boca Raton, FL pp. 753-765. (ISBN NO. 9781439887837)</p> <p>3. Senapati A K, Pandey Anita, Anton Ann, Sharma Somesh, Kumar Suresh, Tsering Stobdan, Joshi V. K. (2016). Traditional Fermented Foods: Composition and Nutritive Value. In: Indigenous</p>

		<p>Fermented Foods of South East Asia. (Ed) V.K. Joshi, CRC Press, Taylor and Francis, Boca Raton, FL. pp 425-480. (ISBN NO. 9781439887837)</p> <p>4. Sharma, S, Thakur A. and Maiti, R. K (2016). Post-Harvest Technology for Reducing Stress on Bio-resource: Recent Advances and Future Needs. In: Bioresource and Stress Management. (Ed)R. K Maiti, Aruna Kumari, A. Thakur and NC Sarkar. Springer, Singapore 276- 298 (ISBN No. 9789811009952)</p> <p>5. Joshi VK, Sharma S and Thakur A (2016). Berry and other fruit wines. In: Science and Technology of Fruit wines (Ed). Maria Kossovea, V.K.Joshi, and P.S. Panesar. Elsevier, UK pp. 382-409. (ISBN NO. 9780128008508 )</p> <p>6. Joshi VK, Sharma S and Thakur A (2016). Wines – White, red, sparkling, fortified, and Cider. In: Current Developments in Biotechnology and Bioengineering (Elsevier book series of nine volumes) (Ed). Ashok Pandey, Guocheng Du, Maria Angeles Sanroman, Carlos Ricardo Soccol and Claude-Gilles Dussap.Elsevier</p>
3	Dr. Ravinder Kaushik	<p>1) Prince Chawla, Latika Bhandari, Sanju B. Dhull and Ravinder Kaushik (2017). Health benefits of Yoghurt-Cheese. Plant Biotechnology: Recent Advancements and Developments, Springer, Chapter 11.</p> <p>2) Prince Chawla, Latika Bhandari, Sanju B. Dhull, Pradeep Kumar Sadh, Surinder Paul Sandhu, Ravinder Kaushik and Navnidhi (2017). Biotechnological Aspects for Enhancement of Mineral Bioavailability</p>

		<p>from Cereals and Legumes. Plant Biotechnology: Recent Advancements and Developments, Springer, Chapter 5, pp: 87-100, ISBN 978-981-10-4732-9.</p> <p>3) Ravinder Kaushik, Sumit Arora, Naveen Kumar, Prince Chawla (2017). Calcium Fortification of Milk Chapter 17. Human Health and Nutrition with special emphasis on dairy and cereal products. GYANKOSH Publishers &amp; Distributors, ISBN: 978-81-932755-7-3, pp: 183-209.</p> <p>4) Aman Deep Thakur, Ravinder Kaushik, Somesh Sharma, Pooja Rani (2017). Development of whey wine and its evaluation. Chapter 9. Human Health and Nutrition with special emphasis on dairy and cereal products. GYANKOSH Publishers &amp; Distributors, ISBN: 978-81-932755-7-3, pp: 78-87.</p>
4	Reena V Saini	<p>Book Chapters</p> <p>1. Adesh K. Saini, Himika Gupta, Ashu M. Poswal, Reena Kumari, Rakesh Kumar and Reena V. Saini, (2017) Biological traits of nanocomposites: nano-fertilizers, nano pesticides, anticancer and antimicrobials, In Modified Biopolymers: Challenges and Opportunities ( ed., Deepak Pathania, Gaurav Sharma and Amit Kumar), p-189-208, Nova Science Publishers, Inc., New York. ISBN: 978-1-53612-116-2.</p> <p>2. Reena V. Saini and Reena Kumari. Nanomaterials enabled immunotherapeutic applications. Springer Nature Singapore Pte Ltd. 2017. p- 319-329. ISBN 978-981-10-5511-9</p>

		<p>3. Savita Khatri, Reena V. Saini, and Anil Kumar Chhillar. The molecular farming approach towards the bioactive compound. In press. Springer Nature Singapore Pte Ltd. 2017. p 49-72. ISBN 978-981-10-5511-9</p> <p>4. Neetu Phougat, Manish Kumar, Reena V. Saini and Anil Kumar Chhillar. Green Chemistry approach towards nanoparticle synthesis. Springer Nature Singapore Pte Ltd. 2017. p 249-268. ISBN 978-981-10-5511-9</p>
5	Saurabh Kulshrestha	<p>Book Chapter Guleria, S., Kumar, A., Sharma, S., Kulshrestha, S. and Chauhan, A., (2017). Metagenomics of Fermented Foods: Implications for Probiotic Development. In: Kalia V., Shouche Y., Purohit H., Rahi P. (eds) Mining of Microbial Wealth and MetaGenomics. Springer, Singapore (DOI: doi.org/10.1007/978-981-10-5708-3_19). (Book Chapter)</p>
6	Mamta Sharma	<p>Book Chapter “Ethnic Diversity in Western and Central Himalaya” in “Ethnobotany of India”. Publisher: Apple Academic Press, New Jersey, USA April 2017.</p>
7	Er. Gaurav Gupta	<p>Distributing Computing , Eagle Prakashan Jalandhar</p>
8	Er. Ankit Gupta	<p>Hyperspectral Imaging: A Brief Introduction for Beginners, in smart materials for a smart living, Nova Science Publishers, New York.</p>
9	Dr. Deepak Pathania	<p>1. Arush Sharma, Gaurav Sharma, Amit Kumar, Zia Mahmood Siddiqi, <b>Deepak Pathania</b>, Exclusion of Organic Dye Using Neoteric</p>

		<p>Activated Carbon Prepared from <i>Cornulaca monacantha</i> Stem: Equilibrium and Thermodynamics Studies, <b>Materials Science Forum</b>, 875, 1-15 (2016).</p> <ol style="list-style-type: none"> <li>2. Vinod Kumar Gupta, Divya Gupta, Shilpi Agarwal, NC Kothiyal, M Asif, Swadeep Sood, <b>Deepak Pathania</b>, Fabrication of chitosan-g-poly (acrylamide)/Cu nanocomposite for the removal of Pb (II) from aqueous solutions, <b>Journal of Molecular Liquids</b>, 224, 1319-1325 (2016).</li> <li>3. <b>Deepak Pathania</b>, Divya Gupta, Shilpi Agarwal, M Asif, Vinod Kumar Gupta, Fabrication of chitosan-g-poly (acrylamide)/CuS nanocomposite for controlled drug delivery and antibacterial activity, <b>Materials Science and Engineering C</b>, 64, 428-435 (2016).</li> <li>4. <b>Deepak Pathania</b>, Divya Gupta, Ala'a H Al-Muhtaseb, Gaurav Sharma, Amit Kumar, Mu Naushad, Tansir Ahmad, Saad M Alshehr, Photocatalytic degradation of highly toxic dyes using chitosan-g-poly (acrylamide)/ZnS in presence of solar irradiation, <b>Journal of Photochemistry and Photobiology A: Chemistry</b> 329, 61-68 (2016).</li> <li>5. <b>Deepak Pathania</b>, Arush Sharma, Zia Mahmood Siddiqi, Removal of congo red dye from the aqueous system using <i>Phoenix dactylifera</i> seeds, <b>Journal of Molecular Liquids</b>, 219, 359-367 (2016).</li> <li>6. <b>Deepak Pathania</b>, Manita Thakur, Anu Sharma, Shilpi Agarwal, Vinod Kumar Gupta, Synthesis of lactic acid–Zr (IV) phosphate nanocomposite ion exchanger for green remediation, <b>Ionics</b>, 23 (3), 699-706 (2017).</li> </ol>
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	Dr. Kalpana Chauhan	<p>10. <b>Kalpana Chauhan</b>, Rahul Sharma, Rohini Dharela, Ghanshyam Singh Chauhan and Rakesh Kumar Singhal Chitosan-thiomer stabilized silver nanocomposites for antimicrobial and antioxidant applications, <b>RSC Advances</b>, 6, 75453–75464 (2016).</p> <p>11. <b>Kalpana Chauhan</b>, Prem Singh, Bhawana Kumari, Rakesh Kumar Singhal, Synthesis of New Benzothiazole Schiff Base as Selective and Sensitive Colorimetric Sensor for Arsenic on-site Detection at ppb Level,</p>

		<p>Analytical Methods, 9, 1779-1785 (2017).</p> <p>12. Tanisha Modgil, Prem Singh and <b>Kalpana Chauhan</b>, Algae Star Polymers with Poly(<math>\gamma</math>-amino acid) as Arms for Phosphate Scale Inhibition, Trends in Carbohydrate Research, 9, 52-63 (2017)</p> <p>13. Jyoti, K. Bhatia, <b>K. Chauhan</b>, C. Attri and A. Seth, Improving stability and reusability of Rhodococcus pyridinivorans NIT-36 nitrilase by whole cell immobilization using chitosan, <b>International Journal of Biological Macromolecules</b>, 103, 8–15 (2017).</p>
10	Dr. Pardeep Singh	<p>1. Bhanu Priya, Pooja Shandilya, Pankaj Raizada, Pankaj Thakur, Nahar Singh, <b>Pardeep Singh</b>: Photocatalytic mineralization and degradation kinetics of ampicillin and oxytetracycline antibiotics using graphene sand composite and chitosan supported BiOCl. <b>Journal of Molecular Catalysis A Chemical</b>, 423, 400–413 (2016).</p> <p>2. Sourav Gautam, Pooja Shandilya, Pratap Singh, Pankaj Raizada, <b>Pardeep Singh</b>: Model Solar photocatalytic mineralization of antibiotics using magnetically separable NiFe<sub>2</sub>O<sub>4</sub> supported onto graphene sand composite and bentonite. <b>Journal of Water Process Engineering</b>, (2016), DOI:10.1016/j.jwpe.2016.10.008.</p> <p>3. Sourav Gautam, Pooja Shandilyaa, Bhanu Priya, Virender Pratap Singh, Pankaj Raizada, Radheshyam Rai, M.A. Valente, <b>Pardeep Singh</b>: Superparamagnetic MnFe<sub>2</sub>O<sub>4</sub> dispersed over graphitic carbon sand composite and bentonite as a magnetically recoverable photocatalyst for antibiotic mineralization. <b>Separation and Purification Technology</b>, 172, 498-511 (2017).</p>



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11	Dr. Pankaj Raizada	<p>1. <b>Pankaj Raizada</b>, Sourav Gautam, Bhanu Priya, Pardeep Singh. Preparation and photocatalytic activity of hydroxyapatite supported BiOCl nanocomposite for oxytetracycline removal. <b>Advance Material Letter</b>, 7, 312-318 (2016).</p> <p>2. <b>Pankaj Raizada</b>, Bhanu Priya, Pankaj Thakur, Pardeep Singh, Notes Solar light induced photodegradation of oxytetracycline using Zr doped TiO<sub>2</sub>/CaO based nanocomposite. <b>Indian Journal of Chemistry Section A</b>, 55, 803-809 (2016).</p> <p>3. <b>Pankaj Raizada</b>, Jyoti Kumari, Rashi Dhiman, Virender Pratap Singh, Pardeep Singh, Magnetically retrievable Bi<sub>2</sub>WO<sub>6</sub>/Fe<sub>3</sub>O<sub>4</sub> immobilized on graphene sand composite for investigation of photocatalytic mineralization of oxytetracycline and ampicillin. <b>Process Safety and Environmental Protection</b>, 106, 104-116 (2016).</p>
12	Dr. Deepika Jamwal	<p>1. <b>Deepika Jamwal</b>, Dolly Rana, Dinesh Pathak, Pankaj Thakur, Array of Bis-quaternary ammonium surfactants tailored Cu<sub>(2-x)</sub>Te quantum dots with amended functional assets, <b>RSC Advances</b>, 6, 13981-13990 (2016).</p> <p>2. <b>Deepika Jamwal</b>, Dolly Rana, Pardeep</p>

		<p>Singh, Dinesh Pathak, Pankaj Thakur, Quantum captivity of Gemini surfactants sheltered PbTe core-shell nanoparticles and allied well-designed possession, <b>RSC Advances</b>, 6, 102010-102014 (2016).</p> <p>3. Dolly Rana, <b>Deepika Jamwal</b>, Akash Katoch, Pankaj Thakur, Eicosyl ammoniums elicited thermal reduction alleyway towards gold nanoparticles and their chemo-sensor aptitude, <b>RSC Analyst</b>, 141, 2208-2217 (2016).</p> <p>4. Akash Katoch, Jae Young Park, Ho-hyoung Kim, Dolly Rana, <b>Deepika Jamwal</b>. "Surface area controlled the synthesis of porous TiO<sub>2</sub> thin films for gas sensing applications" <b>IOP Nanotechnology</b>, 28, (2017).</p>
13	Dr. Amit Kumar	<p>1. Gaurav Sharma, VK Gupta, S. Agarwal, <b>Amit Kumar</b>, S Thakur, D Pathania, Fabrication and characterization of Fe@MoPO nanoparticles: Ion exchange behavior and photocatalytic activity against malachite green, <b>Journal of Molecular Liquids</b>, 219, 1137-1143 (2016).</p> <p>2. <b>Amit Kumar</b>, Sharma G, Naushad M, Kumar A, Kalia S, Guo C, Mola GT. Facile hetero-assembly of superparamagnetic Fe<sub>3</sub>O<sub>4</sub>/BiVO<sub>4</sub> stacked on biochar for solar photo-degradation of methyl paraben and pesticide removal from soil. <b>Journal of Photochemistry and Photobiology A: Chemistry</b>.15; 337:118-31. (2017).</p> <p>3. G. Sharma, D Kumar, <b>A Kumar</b>, H Ala'a, D Pathania, M Naushad, GT Mola, Revolution from monometallic to trimetallic nanoparticle composites, various synthesis methods and their applications: A review, <b>Materials Science, and Engineering: C</b>, 71, 1216-1230, (2017).</p>

14	Dr. Gaurav Sharma	<ol style="list-style-type: none"> <li>1. <b>Gaurav Sharma</b>, Naushad M, Kumar A, Rana S, Sharma S, Bhatnagar A, Stadler FJ, Ghfar AA, Khan MR. Efficient removal of Coomassie brilliant blue R-250 dye using starch/poly (alginic acid-cl-acrylamide) nanohydrogel. <b>Process Safety and Environmental Protection</b>. 109, 301-310 (2017).</li> <li>2. Naushad M, Ahmad T, <b>Gaurav Sharma</b>, Ala'a H, Albadarin AB, Alam MM, ALOthman ZA, Alshehri SM, Ghfar AA. Synthesis and characterization of a new starch/SnO<sub>2</sub> nanocomposite for efficient adsorption of toxic Hg<sup>2+</sup> metal ion. <b>Chemical Engineering Journal</b>. 15, 306-16 (2016).</li> <li>3. <b>Gaurav Sharma</b>, Naushad M, Ala'a H, Kumar A, Khan MR, Kalia S, Bala M, Sharma A. Fabrication and characterization of chitosan-crosslinked-poly (alginic acid) nanohydrogel for adsorptive removal of Cr (VI) metal ion from the aqueous medium. <b>International journal of biological macromolecules</b>. 28, 484-93 (2017).</li> <li>4. <b>Gaurav Sharma</b>, Kumar D, Kumar A, Ala'a H, Pathania D, Naushad M, Mola GT. Revolution from monometallic to trimetallic nanoparticle composites, various synthesis methods, and their applications: A review. <b>Materials Science and Engineering: C</b>. 1, 1216-3 (2017).</li> </ol>
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### 3.8 No. of University Departments receiving funds from

UGC-SAP	NIL	CAS	NIL	DST-FIST	1
DPE	NIL	DBT Scheme/funds	NIL		

### 3.9 For colleges

Autonomy  CPE  DBT Star Scheme   
INSPIRE  CE  Any Other (specify)

By adopting a Research-Driven Model from the time the university was set up, the focus has been on quality research, especially in the fields of Science. It is a result of this that within a short span, the university has not only been declared 2nd in the country in the sphere of bio-sciences but there the university has been able to attain an 'h-index of 31 and 100 patents, which is likely to increase in future. Many researchers have their own Government aided projects. In addition, the university has been awarded government grants for making two Centres of Excellence in the fields of Food Technology and Himalayan Sustainability. Details of the research project are given under point no 3.2 and 3.3

### 3.10 Revenue generated through consultancy

32, 53,025

Shoolini University promotes and supports consultancy projects as an official policy. It encourages its faculty to undertake consultancy assignments with industry, institutions, and organizations. These consulting projects typically entail providing innovative solutions to the industry for improving their products and processes, requiring professional expertise of the faculty and utilization of the infrastructural facilities available with the University. Having faculty with a blend of industry experience and academic excellence coupled with well-equipped research labs helps the University to attract consultancy projects. The Consultancy offered by the University typically entails providing innovative solutions to the industry for improving their products and processes, availing professional expertise of the faculty and utilization of the infrastructural facilities available within the University.

**Table 3.7 Consultancy offered during 2016 -17 (financial year)**

S.No.	Name of faculty (Chief Consultant)	Client Organization	Title of Consultancy of project	The amount received (in Rupees)
1	Prof. Atul Khosla	Oliver Wyman	SEBI Transformation	308,025.00
2	Prof. Atul Khosla	Oliver Wyman	Westpac Bank Budget Strategies Australia	140,000.00
3	Mrs. Poonam Nanda	Shoolini Institute of Life Sciences and Business	Personality Development and Soft Skills for BBA Students	-----

		Management		
4	Dr. Kesari	Anand Toyota	The awareness level of Bharat Benz Trucks and buying potential in HP	1,00,000.00
5	Dr. Sunil Puri	GOI DST	Skill Development for Science internship programme-INSPIRE	2,600,000.00
6	Ms. Prachi Kapil	Anand Autocare	Personality Enhancement-MOKSHA	105,000.00
7	Dr. Neeraj Mahindroo, Dr. Deepak N. Kapoor	DRDO	Characterization of licensed biomedical products including hypochlorous acid, ointments for frost bite to enhance shelf life	-

### 3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	-----	4	1	1	-----

**Table 3.8 Conferences Organized during the Academic Year 2016 -17**

S.no	School	Date	Total Participation	Sponsoring Agency	Title/Theme and other important details of the Conference
1	School of Bioengineering	2-3 <sup>rd</sup> March 2017	150	Shoolini University	2 <sup>nd</sup> National conference on New Horizons in Human Health and Nutrition- with special emphasis on Himalayan and Indigenous Foods. (2-3 <sup>rd</sup> March, 2017)
2	School of Biotechnology	16 <sup>th</sup> March, 2017	225	HPPIC, SCSTE, Himachal Pradesh	Workshop on IPR and GI to promote awareness on IPR amongst students and faculty members
3	School of Biological and Environment Sciences	23-24 Feb, 2017	151	Him Science Congress Association	National Conference on Environment and Natural Resource Management
4		23-25 May, 2017	50	Local Agencies	National Seminar cum Workshop on Advanced Scientific Techniques – educational tour of MSc and BSc students to CIL, PU for training on SEM and TEM
5	School of Electronic and Computer Science	Jan 2017	10	IIT Kharagpur under MHRD scheme	CMOS VLSI design
6	Engineering	31 <sup>st</sup> Oct, 2017	60	Shoolini University	Android Basics for Beginners

**3.12 No. of faculty served as experts, chairpersons or resource persons**

16

**Table 3.9 Faculty serving as experts, chairperson or resource person**

<b>S.no</b>	<b>Faculty Name</b>	<b>Details of the board etc.</b>
1	Prof. P.K. Khosla	<ol style="list-style-type: none"> <li>1. Member of Association of Indian Universities New Delhi Executive Board since Sep 2017.</li> <li>2. Member of Himalayan Universities Consortium of ICIMOD, Nepal Kathmandu.</li> <li>3. President Indian Society of Tree Scientist.</li> <li>4. Advisor to Yogananda Mahavidyalaya Ranchi.</li> <li>5. Chairman SILB.</li> <li>6. Vice President of Assocham Education Group.</li> <li>7. Member of CIEC Zonal Committee.</li> <li>8. Fellow: Society of Genetics and Plant Breeding, India;</li> <li>9. Member of International Society of Tropical Foresters, USA.</li> <li>10. Technical Expert/member: Indo-US Forestry Faculty Improvement (1987)</li> <li>11. As an expert in UNDP/ICAR Agro-forestry Faculty Improvement Program (1988)</li> <li>12. Member of Project Advisory Committee DST (1992-95)</li> <li>13. Member of ICAR Panels on Agriculture and Home Science Education (1993-96) and Agro-forestry (1990-96)</li> <li>14. Member of Research Advisory Committee, GBPIHED (1994-1996)</li> <li>15. Member of Rubber Institute, Agartala (1996-98)</li> <li>16. Member of National Centre on Agro-forestry, Jhansi (1996-98)</li> <li>17. Member of National Mushroom Research Centre, Solan (1997-98)</li> <li>18. Member of Academic Councils of a half dozen Universities (till date)</li> <li>19. Fellow of National Academy of</li> <li>20. Agricultural Sciences, New Delhi (1992)</li> </ol>
2	Dr. Dinesh Kumar	<ol style="list-style-type: none"> <li>1. External examiner of Department of Biotechnology, Himachal Pradesh University Shimla Himachal Pradesh</li> </ol>

3	Dr. Somesh Sharma	<ol style="list-style-type: none"> <li>1. <b>Invited as Resource Person</b> in two days Hands-on training for the rural women of Majrigrant, Dehradun, Uttarakhand on Development of Value-added products from apple held on 23<sup>rd</sup> and 24<sup>th</sup> Sep 2016 organized by Institute of Food Science and Technology, Majrigrant, Dehradun VCSG University of Horticulture and Forestry, Uttarakhand</li> <li>2. <b>Invited as an expert</b> for Selection of Assistant Professor and Guest speaker on the Sensory evaluation of Foods at Guru Govind Singh Govt Degree College, Paonta sahib on 12/04/2017</li> <li>3. External examiner for MSc thesis of Food Science and Technology, Dr. Y.S Parmar University of Horticulture and Forestry, Nauni, Solan Himachal Pradesh.</li> <li>4. External examiner for MSc thesis of Food Science, Eternal University, Baru Sahib, Rajgarh, Distt Sirmour, Himachal Pradesh.</li> <li>5. External paper setter of courses College of Home Sciences, Department of Food Science, Nutrition and Technology, CSK Himachal Pradesh Krishi Vishavavidyalaya</li> <li>6. External paper setter for food Science, postharvest management of fruits and vegetables and value addition, Chandigarh University, Punjab</li> </ol>
4	Dr. Ravinder Kaushik	<ol style="list-style-type: none"> <li>1) External Examiner CSK Palampur</li> <li>2) External Examiner MMU, Ambala</li> <li>3) Invited Lecture, Vasanttrao Naik Marathwada Krishi Vidyapeeth, Parbhani. College of Agriculture, Latur (M.S.) 413 512</li> <li>4) External examiner for MSc thesis of Food Science, Eternal University, Baru Sahib, Rajgarh, Distt Sirmour, Himachal Pradesh.</li> </ol>
5	Dr. Rajesh Kumar	The judge at SCERT, Solan-Model Competition-2nd Feb 2017
6	Dr. Neeraj Mahindroo	Member ICMR Expert group for medicinal plant monograph, Chairman School of Pharmaceutical Sciences, Institutional Animal Ethics Committee (IAEC), Shoolini University, Chairman Board of Studies, School of Pharmaceutical Sciences, Expert panelist Annual Convention of APTI Punjab State branch and national conference on interdisciplinary trends in pharmaceutical research, April 2017, Chairperson, National conference on “Recent advances in green Nanotechnology” organized by School of Pharmaceutical Sciences, Bahara University, Shimla, on 29 <sup>th</sup> and 30 <sup>th</sup> September, 2016. Resource person, API s: Reducing Dependence on Imports” organized by ASSOCHAM (Associated Chambers of Commerce and Industry of India) at Hotel Best Western Royal Park, Baddi on 28 <sup>th</sup> July 2016.
7	Dr. Rohit Goyal	Board of Studies, School of Pharmaceutical Sciences



		Institutional Animal Ethics Committee (IAEC), Shoolini University Research & Development Committee, School of Pharmaceutical Sciences, CPCSEA, Govt of India Nominee, DST INSPIRE Training Coordinator, Session Chair, Bahra University, Session Evaluator, 8 <sup>th</sup> IPA Student Congress, ISFCP, Moga, Sept. 2016, Chairperson, 2 <sup>nd</sup> National Conference on New Horizon in Human Health & Nutrition, 2-3, March, 2017, Session Expert, International Conference on Bioinformatics and Proteomics, April, 2017.
8	Dr. Deepak N. Kapoor	Member Secretary, Board of Studies, School of Pharmaceutical Sciences, Resource person DST INSPIRE Training Guest Lecture, Govt. College of Pharmacy, Rohru, H.P.
9	Dr. Raman Preet Singh	Resource Person, Continuing Pharmacy Education Program, H.P. State Pharmacy Council, Shimla
10	Dr. Amit Kumar	Editorial board member, International Association of Scientific Innovation and Research, Georgia, United States.
11	Dr. Somesh Sharma	International Journal of food Fermentation Technology, New Delhi Publishers
12	Dr. Pankaj Kumar Chauhan	Associate Editor, Scientific India Magazine Editor, Indian Journal of Pharmaceutical and Biological Research Editor, International Journal of Pharmaceutical and Medicinal Research
13	Dr. Gaurav Sharma	Editorial board member, Universal Journal of Chemistry, Horizon Research Publishing, USA
14	Dr. Dinesh Kumar	editorial member of the following Journals: American Journal of Food Science and Nutrition; Journal on New Biological Reports; Biological Forum – An International Journal; Indian Journal of Fundamental and Applied Sciences; International Journal of Food Agriculture and Veterinary Sciences
15	Dr. Kamal Dev	Member of Editorial Board, Universal Journal of Microbiology research.
16	Prof Atul Khosla	Independent Director, Gabriel India Ltd

**3.13 No. of collaborations** International  National  Any other

MoUs with Foreign Universities has enhanced awareness and knowledge levels of our students and given them an exposure to global standards. Students have benefited immensely from the exchange programs and national/international alliances.

Mentioned under is the list of the National/International alliances:

**Table 3.10 MoU's with International Universities/Institutes**

<b>Sr. no.</b>	<b>Name of the University</b>	<b>Country</b>	<b>QS Ranking</b>
1	Seoul National University	South Korea	35
2	National Taiwan University of Science and Technology	Taiwan	243
3	Gwangju Institute of Science and Technology	South Korea	337
4	Lanzhou University	China	576
5	Sichuan University	China	583
6	University of Arkansas	USA	873
7	Chung Yuang Christian University	Taiwan	—
8	University of Ulster	Northern Ireland, UK	—
9	Best Team Nigeria Ltd	Nigeria	—
10	Bukovinian State Medical University Chernivtsi	Ukraine	—
11	Gachon University	South Korea	—
12	The University of Suwon	South Korea	—
13	Sprott Shaw College	Canada	—
14	Fermi Research Lab	US	—
15	British Columbia Institute of Technology	Canada	—
16	Kabul University	Afghanistan	—
17	Eshraq University	Afghanistan	—
18	University of La Verne	USA	—

19	The Pharmacy and Poisons Board of Govt. of Kenya	Kenya	
20	University Alliance of Belt and Road	China	—
21	Inha University	South Korea	—
22	IIB- INTECH, Buenos Aires	Argentina	—
23	Ethiopian Environment and Forest Research	Ethiopia	—
24	Hainan University	China	—
25	Yunan Agricultural University	China	—
26	Leshan Normal University	China	—
27	Samara National Research University	Russia	—
28	Xihua University	China	—
29	Yunan University	China	—
30	Cranfield University	Uk	—
31	Kwazulu-Natal University	South Africa	—
32	Magna Carta College	Oxford, UK	
33	University of Chittagong	Bangladesh	
34	Agriculture and Forestry University	Nepal	
35	Rana University	Afghanistan	

**Table 3.11 Collaborations with National Universities/Institutes:**

<b>S.no</b>	<b>University/Institution</b>
1	National Institute of Pharmaceutical Education and Research, Mohali
2	Jaypee University of Information Technology, Wahnaghat, Solan, H.P.
3	Department of Parasitology, PGIMER, Chandigarh.
4	National Institute of Pharmaceutical Education and Research, Mohali (Pharmacology and Toxicology).
5	North Eastern Regional Institute of Sci. & Technology, (Department of Forestry), Nirjuli, Arunachal Pradesh.

6	Sant Longowal Institute of Engineering and Technology
7	Eternal University, Baru Sahib, HP India

**Table 3.12 Collaborations with recognized bodies:**

<b>S.no</b>	<b>Institution/Agency</b>	<b>Country</b>
1	GENPACT	India
2	Tirupati Medicare Ltd.	India
3	Meridian Medicare Pvt. Ltd.	India
4	Anand Automotive Ltd.	India
5	Ferrites India Ltd.	India
6	Dron Defence Sez Pvt. Ltd	India
7	Nutra Helix Biotech Pvt Ltd	India
8	Reliance Jio	India
9	DAMCO solutions Ltd.	UK
10	Cyberoam	India
11	Venus Remedies Limited	India
12	Xcleris Labs, Ahmedabad	India



**Pro Vice-Chancellor Prof Atul Khosla on China Visit for International Collaborations**

**3.14 No. of linkages created during this year 14**

**3.15 Total budget for research for a current year in lakhs:**

From Funding agency	206	From Management of University/College	34
Total	240		

**3.16 No. of patents received this year (2016 -17)**

Type of Patent		Number
National	Applied	23
	Granted	---
International	Applied	---
	Granted	---
Commercialised	Applied	3
	Granted	3

**Table 3.13 INDIAN PATENTS FILED BY SHOOLINI UNIVERSITY as on 30 June 2017**

S.no	Title of the patent	Inventors	Patent filing no	Date of filing
1	Compound for enhancing the activity of antibiotic compositions and overcoming drug resistance.	Umar Farooq, Tanuja Rana, Navroop Kaur	1229/DEL/2015 (Published for pre-grant approval)	04/05/2015
2	Novel peptide sequence for developing diagnostic agents for malaria detection.	Umar Farooq, Nazam Khan, Shakti Pal Singh Chauhan	1228/DEL/2015 (Published for pre-grant approval)	02/05/2015
3	Terpenoids from <i>Colebrookea oppositifolia</i> as activity enhancers of antibiotic compositions and extraction method thereof.	Kamal Dev, Anuradha Sourirajan, Vipasha Sharma	1326/DEL/2015 (Published for pre-grant approval)	12/05/2015
4	Compounds for enhancing the activity of antibiotic compositions against drug sensitive and drug-resistant bacteria.	Kamal Dev and Kazal Pathania	1429/DEL/2015	20/05/2015
5	Compounds from <i>vitexnigundo</i> for enhancing antibiotic activity and overcoming drug resistance	Kamal Dev, Anuradha Sourirajan, Sonika Gupta	1464/2015/DEL	23/05/2015
6	Novel peptide sequences for developing anti-malaria vaccines and therapeutic compositions.	Umar Farooq, Nazam Khan, Shakti Pal Singh Chauhan	1465/DEL/2015	23/05/2015
7	Nanocomposite for removal of dye-based water pollutants	Deepak Pathania and Rishu Katwal	1537/DEL/2015	28/05/2015
8	Novel nanographene based composite for water treatment application and method of synthesis thereof	Pradeep Singh, Pankaj Raizada, Pooja Shandilya	1819/DEL/2015	18/06/2015
9	A novel microbe producing extracellular $\beta$ -galactosidase and method of enzyme production thereof	Kamal Dev and Tarun Kumar	1895/DEL/2015	25/06/2015

10	Novel microbe producing xylanase and method of enzyme production thereof	Amit Seth, Shweta Chauhan, Chandrika Attri Seth, Varun Jaiswal	1846/DEL/2015	22/06/2015
11	Nanocomposite for antimicrobial treatment of drinking water.	Deepak Pathania, Rishu Katwal and Gaurav Sharma	1897/DEL/2015	25/06/2015
12	Chitosan-g-poly(acrylamide)/copper nanocomposite for controlled drug delivery.	Deepak Pathania and Divya Gupta	1875/DEL/2015	24/06/2015
13	Novel herbal anticancer compound and method of production thereof	Afroze Alam and KL Dhar	1913/DEL/2015	27/06/2015
14	Novel benzothiazole derivatives with enhanced biological activity	Kalpna Chauhan and Bhawana Kumari	2484/DEL/2015	12/08/2015
15	Improved persimmon wine with enhanced antioxidant activity and standardized method of production thereof	Somesh Sharma, Kiran Mahant	3884/DEL/2015	28/11/2015
16	Microbially produced antifreeze protein(s) and method of production thereof	Kamal Dev, Anuradha Sourirajan, Ranjana Suman	3886/DEL/2015	28/11/2015
17	Novel peptide from plasmodium falciparum for anti-malarial vaccine	Umar Farooq, Shakti Pal Chauhan, Nazam Khan	3887/DEL/2015	28/11/2015
18	Novel peptide sequences from the parasite <i>Echinococcus granulosus</i> for producing anti-cystic echinococcosis vaccine	Umar Farooq, Varun Chauhan, Azhar Khan	4116/DEL/2015	18/12/2015
19	Novel peptides for diagnosis of cystic echinococcosis	Umar Farooq, Varun Chauhan	4198/DEL/2015	21/12/2015
20	Novel chitosan-based nanocomposite with antibacterial activity for water treatment and production method thereof	Deepak Pathania, Divya Gupta, Swadeep Sood	4255/DEL/2015	23/12/2015
21	Novel compounds possessing anti-echinococcal activity	Umar Farooq, Varun Chauhan	Application no. 201611004817	10/02/2016

22	Flying Chair (Design patent)	Shoolini university and Sorabh Aggarwal.	Design application number 280329 (Granted)	11/02/2016
23	Novel nanocomposite for treatment of effluents containing dyes and method thereof	Deepak Pathania, Divya Gupta, Amit Kumar	Application no. 201611011100	30/03/2016
24	Nano ferrite substrate and its process of production for use in large bandwidth miniaturized antenna	Atul Thakur and Preeti Thakur	Application no. 201611013315	16/04/2016
25	Magneto-dielectric substrate for miniaturized microstrip patch antenna for use in high bandwidth in UHF band	Atul Thakur and Preeti Thakur	Application No. 201611018053	25/05/2016
26	Nano composites material with enhanced magnetic properties	Atul Thakur, Preeti Thakur, Kush Rana	Application No. 201611022599	30/06/2016
27	Novel anti-Leishmaniasis compound and method of production thereof	Afroze Alam and K.L Dhar	Application No. 201611022602	30/06/2016
28	System for safe overtaking and method of use thereof	Adit Rana	Application no 201611023982	13/07/2016
29	Novel alcohol-free process for extraction of zein and xanthophylls	Dinesh Kumar and Sampy Duggal	Application no 201611031746	17/09/2016
30	Nanocomposite gel for oil spill remediation and method thereof	Amit Kumar, Ajay Kumar, <b>Gaurav Sharma</b>	Application no 201611036282	24/10/2016
31	Nano cobalt iron biochar for recycling of used/waste oil and method thereof	Amit Kumar, Ajay Kumar Gaurav Sharma, Deepak Pathania, Sunil Kumar	Application no 201611037781	04/11/2016
32	A novel anticancer compound isolated from <i>Brugmansia suaveolens</i> and method thereof	NeerajMahindroo, Sunil Kumar, Aditi Gupta, Reena Saini, K.L. Dhar	Application no 201611040684	29/11/2016
33	An isolate from the seed oil of <i>Pongamiapinnata</i> with anti-osteoporotic activity and method thereof	Afroze Alam and Aditya Shiven	Application no 201611043705	21/12/2016



34	Improved vesicular formulation of thymoquinone for the treatment of dermal inflammatory disorders and method thereof	Poonam Negi, Charul Rathore, Ishita Sharma	Application no 201711002485	23/01/2017
35	Synergistic graphene sand nano composites for antibiotic degradation in waste water and method thereof	Pankaj Raizada, Pooja Shandilya, Rashi Dhiman, Pradeep Singh	Application number: 201711004067	03/02/2017
36	Novel nanocomposite for therapeutic use as immunostimulator and method thereof	Reena Vohra Saini, Adesh Kumar Saini, Indu Hira, Amit Kumar.	Application number: 201611007222	01/03/2017
37	Novel microbe for assessing in vivo antioxidant status of foods and method thereof	Adesh Kumar Saini, Christine Coe Winterbourne, Vikas Kumar, Reena Vohra Saini, Rakesh Kumar, Ashu Poswal.	Application number: 201711007132	28/02/2017
38	Improved Anti biotic composition for the treatment of Typhoid and Gastro infections caused by Salmonella” filed on 04/05/2017.	<b>Kamal Dev, Jyoti Mehta and Urmila</b>	Application no. 2017110115714	04/05/2017
39	Novel Anti-Cancer compound” filed on 04/05/2017.	Kamna Sharma, Sameer Sapra, and K.L. Dhar	Application no. 201711015752	04/05/2017
40	Nano-composite based Electronic sensor for detection of lead” filed on 04/05/2017.	Deepak Pathania and Manita Thakur	Application no. 201711015779	04/05/2017
41	Improved antibiotic composition for the treatment of infections caused by Staphylococcus aureus (filing date: 23/05/2017)	Kamal Dev, Urmila, Jyoti Mehta	Application no.: 201711017988	23/05/2017
42	Gene expressing the novel microbial protein for engineering salt tolerance in plants and method thereof (filing date: 23/05/2017)	Anuradha Souriraja, Shivani Vaidya, Kamal Dev	Application no.: 201711018003	23/05/2017
43	Novel nanocomposite	Shagun Gupta,	patent filing	02/06/2017

	based immunosensor for detection of celiac disease and method thereof (filing date: 02/06/2017).	Dinesh Kumar, Ankur Kaushal	number: 201711019443	
44	Semi-tubular solar air dryer (filing date: 02/06/2017)	Adit Rana and Ranchan Chauhan	patent filing number: 201711019471	02/06/2017
45	A machine for calculating cutting force and methods thereof (dated 12-06-2017)	Sashank Thapa, Akshay Pathania, Sorabh Aggarwal, Arjun Patial	patent number 201711020456	12/06/2017
46	Mobile cover (date of filing: 2/06/2017)	Sorabh Aggarwal Akshay Pathania Sashank Thapa Bhaskar Goel	Application number 294633	02/06/2017
47	<b>novel anticancer nanocomposite</b> (patent application filing date: <b>17/06/20</b> )	<b>Reena Vohra Saini, Adesh Kumar Saini, Indu Hira and Amit Kumar</b>	Patent filing number: 201711021290	17/06/2017
48	A system for blockage detection of air flow line(date of filing: 21/06/2017)	Abhilash Pathania, Bhaskar Goel, Haseem	201711021817	21/06/2017
49	Productivity Improvement by modification in a fixture(date of filing: 21/06/2017)	Bhaskar Goel Abhilash Pathania Sorabh Aggarwal	201711021818	21/06/2017
50	Cooling pad for mobile(date of filing: 21/06/2017)	Sorabh Aggarwal Akshay Pathania Sashank Thapa Bhaskar Goel Raj Kumar	294956	21/06/2017

**Table 3.13A PCT FILED BY SHOOLINI UNIVERSITY**

1	Compound for enhancing the activity of antibiotic compositions and overcoming drug resistance	Umar Farooq, Tanuja Rana, Navroop Kaur	International Application no. PCT/IN2016/000115 (Published for pre-grant approval at WIPO)
2	Compounds from <i>Vitez nigundo</i> for enhancing antibiotic activity and overcoming drug resistance	Kamal Dev, Anuradha Sourirajan, Sonika Gupta	International Application no. PCT/IN2016/000129
3	Novel benzothiazole derivatives with enhanced biological activity	Kalpna Chauhan and Bhawana Kumari	International Application no. PCT/IN2016/000207

**3.17 No. of research awards/ recognitions received by faculty and research fellows of the institute in the year**

Total	International	National	State	University	Dist	College
12	3	9	-	-	-	-

**Table 3.14 Research awards/ recognitions received by faculty and research fellows of the institute in the year 2016 -17**

S.no	Student Name	Event	State/National/International	Date
1	Amanpreet Kaur Virk, Chandresh Kumari, Tanvi Gupta, Swati, Abhishek Bhardwaj (Guide: Dr. Saurabh Kulshrestha)	Selected in top 20 teams in ABLE-BEST INDIA 2016 Entrepreneurship Workshop organized by Department of Biotechnology, Govt. of India at Manesar, National Capital Region.	National	19-23 February 2017
2	Amanpreet Kaur Virk, Chandresh Kumari, Tanvi Gupta (Guide: Dr. Saurabh Kulshrestha)	First Prize in ‘Startup Manthan 2017’ (Business Plan Competition for Students of Technical/Management Institutes of Northern Region) organized by NITTTR, Chandigarh.	National	20 April 2017
3	Amanpreet Kaur Virk (Guide: Dr. Saurabh Kulshrestha)	Best poster prize in a session on “Theme: Innovations” in 2 <sup>nd</sup> Himachal Pradesh Science Congress organized by Himachal Pradesh Council for Science, Technology, and Environment (HIMCOSTE)	National	20-21 November 2017
4	Dr. Rajni Vaid, Ph.D. scholar (guide Anuradha Sourirajan)	Best Poster award at Hargobind Khurana Memorial Symposium, Chandigarh, Title: Identification of	National	Dec 3-5, 2017

		substrates of budding yeast PLK, Cdc5 during pachytene exit in meiosis		
5	Dr. Kamal Dev	Patent filing award by Shoolini University,	National	11 Dec 2017
6	Neha Chauhan, Meentu Prakash, Umar Farooq, Azhar Khan	Best Poster Award at National Seminar on “ Innovations & Challenges in Basic & Applied Sciences” organized by Maharaja Agrasen University, Baddi Solan,	National	4 <sup>th</sup> March-2017
7	Shreya Jamwal	Young Investigator Award at International Conference organized at Kathmandu	International	
8	Dr. Rohit Goyal	International travel award DST-SERB for APSA 2016 Sydney Australia	International	
9	Ms. Aditi Sharma	First prize oral presentation national conference on recent advances in green nanotechnology Bahra University Sept. 2016	National	
10	Ms. Charul Rathore	Second prize oral presentation national conference on recent advances in green nanotechnology Bahra University Sept. 2016	National	
11	Mr. Vijay Kumar	First prize in oral presentation, 5 <sup>th</sup> Annual International Conference on “ Bioinformatics and Proteomics Driven Biomarker Developments” Sponsored by Indian Council of Medical Research (ICMR), New Delhi held at Chitkara College of Pharmacy, Chitkara University, Rajgharh, Chandigarh on 7 <sup>th</sup> and 8 <sup>th</sup> April 2017.	International	
12	Dr. Deepika Jamwal	Post-Doctoral Fellowship		

3.18 No. of faculty from the Institution who are Ph. D. Guides

54

3.19 No. of Ph.D. awarded by faculty from the Institution

110

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF

10

SRF

7

Project Fellows

3

Any other

7

**Table 3.15 Research scholars / Fellows as of July 2017**

Sr. No.	Name of the Research Scholar	Details of the Fellowship
1	Mr. Sampy Duggal	Senior Research Fellow in a project entitled “Process optimization for recovery and purification of Zein and xanthophylls (resp. valuable maize proteins and pigments) and its stability application in food products.” Funded by DBT, New Delhi.
2	Ms. Kajal Kumari	Junior Research fellow in a project entitled “Utilization of wild Himalayan Fig for sustainable livelihood of weaker sections of the society in the mid-hill region of Himachal Pradesh” funded by DST, New Delhi
3	Ms. Divya Mittal	Junior Project Fellow “Post-fire management in the pine forests of Indian Himalayan Region by studying, conserving and distributing culturable microbial biota to increase ecological succession and to revive forest productivity funded by National Mission on Himalayan Studies (NMHS), Ministry of Environment, Forest and Climate Change (MoEF&CC)
4	Monika Bharti	Search for physics beyond standard Model at hadrons colliders using DZERO and Compact Muon Solenoid (CMS) detectors.
5	Madan	JRF
6	Rishika	JRF
7	Divya Mittal	JRF in NMHS project of Dr. Adesh Saini, June 2016- present
8	Tanvi Gupta	Inspire Fellow working with Dr. Saurabh Kulshrestha 2014 – present

9	Neha Chauhan	Inspire Fellow working with Dr. Umar Farooq 2014 – present
10	Sonika Gupta	Senior Research Fellowship
11	Usha Devi	Senior Research Fellowship
12	Mohit Sharma	Senior Research Fellowship
13	Sukhvir Kaur	Senior Research Fellowship
14	Rajni Vaid	Junior Research Fellowship
15	Mr. Amar Raj Singh	Financial Assistance
16	Mr. Nitin Kumar	Financial Assistance
17	Ms. Aditi Sharma	JRF (DST Project)
18	Ms. Megha Sharma	DST INSPIRE Fellowship
19	Mr. Sunil Kumar	DST INSPIRE Fellowship
20	Ms. Kamna Sharma	DST INSPIRE Fellowship
21	Ms. Manjul Sharma	ICMR Project SRF
22	Ms. Preetika Gupta	ICMR Project SRF
23	Mr. Gajendra Singh	ICMR Project Assistant
24	Kshipra Sen	▪ Project Fellow, Fellowship Rs 15000 per month
25	Pooja Shandilya	• JRF
26	Anita Sudhaik	• JRF
27	Prem Singh	• JRF

### 3.21 No. of students Participated in NSS events:

University level  State level

National level  International level

### 3.22 No. of students participated in NCC events:

University level  State level

National level  International level

**3.23 No. of Awards won in NSS:**

University level	<input type="text"/>	State level	<input type="text"/>
National level	<input type="text"/>	International level	<input type="text"/>

**3.24 No. of Awards won in NCC:**

University level	<input type="text"/>	State level	<input type="text"/>
National level	<input type="text"/>	International level	<input type="text"/>

**3.25 No. of Extension activities organized**

University forum	<input type="text" value="25"/>	College forum	<input type="text"/>		
NCC	<input type="text"/>	NSS	<input type="text" value="4"/>	Any other	<input type="text"/>

**3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility**

The University strongly believes that teaching, research, and extension are an integral part of higher education for enhancing the employability of its graduates.

The task of Institutional Social Responsibility is sensitized among students by holding workshops, interactions, field activities through Natural Social Service Scheme under the patronage of Dean of Extension Education and Dean Students Welfare. It played its role in societal responsibility (ISR) by organizing a host of activities in uplifting and awakening the surrounding population to bring them into the natural stream.







Candle march

The following is the list of activities done on regular basis:

- i. Blood donation camps
- ii. Tree plantation
- iii. AIDS Awareness Program
- iv. Sexual Harassment Prevention Programs
- v. Cleaning of local springs in the neighborhood
- vi. Campus on use of Solar Energy for cooking
- vii. Painting competitions on an environmental issue
- viii. Distribution of fruit and forest saplings to farmers for helping them to raise their earning and conservation of the environment
- ix. Practical Training to local village women in food processing
- x. Organization of Spring Flower Festival
- xi. Village adoption for social upliftment
- xii. Upgradation of a primary school in the neighborhood
- xiii. A celebration of International Days-World Environment Day, World Forestry Day, World Population Day, World Women Day, World AIDS Day
- xiv. Organize INSPIRE activities of Schools in the University campus

Youwecan-Association started in 2016 for Cancer Awareness. Formal MOU was signed in 2017. Close to two dozen camps organized by HP, Chandigarh, and Punjab more than 2000 people are already screened for breast and oral cancer. Doctor teams are sent from YWC and the volunteer students from Shoolini Campaigns against drug abuse and tobacco cessation have also been organized. Free health check-ups of housekeeping staff and women of barog have been done.

Care and share group visits various places like IAMD hospital which had a regular inflow of patients with muscular dystrophy. Students help to boost the morale of the patients and families and also support documentation and other requirements at the hospital. They also make regular visits to the local orphanage and leprosy home to spend quality time. They also have a very close association with the senior citizens of Solan where the students spend time with the aged people trying to help them to become tech-savvy. Recently the students collected 300 kgs of old clothes during the **Week of Giving** and sent them to Delhi Prayas group which lays focus on children especially the underprivileged ones. This includes adopting the primary school in the vicinity. Students devote regular hours helping the children with their curriculum, extracurricular activities, health and hygiene, technical skills etc. The children celebrate several occasions together eg Children's Day Christmas Independence Day etc. Students have helped the needy children with books shoes warm clothing provision of fans etc.

Women Empowerment works to help the local community. The housekeeping staff is supported by this group. They also have regular programs on drug awareness domestic violence health and hygiene. A few fundraising campaigns were organized for women in need. Free medical and legal services are provided to them. Several programs for entertainment and motivating them are held

## Criterion – IV

### 4. Infrastructure and Learning Resources

#### 4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	20.1 acres	----	-----	20.1 acres
Class rooms	57	57	-----	57
Laboratories	33	26	Fee & Research Grants	59
Seminar Halls	10	5	Fee	15
No. of important equipment's purchased ( $\geq$ 1-0 lakh) during the current year.				
Value of the equipment purchased during the year (Rs. in Lakhs)	1,23,17,400		Fee & Research Grants	
Others	1	1	-----	1
Open Air Theatre				
Adventure Camp	1	1	-----	1
Cineplex	1	1	-----	1
Indoor Sports Complex	1	1	-----	1
Playgrounds	Basketball, Volley Ball, Badminton, and Cricket pitch.			
Gymnasium	Central gymnasium in the indoor Stadium; additional facility for boys and girls hostel			

#### 4.2 Computerization of administration and library

The Yogananda Library of Shoolini University and all administrative functions are fully automated.

The library has evolved as a Multidimensional learning facility and transformed itself as a Knowledge Center, in keeping with the vision of the University.

The five story building that houses the Knowledge Center is a state-of-the-art, architectural marvel using ‘green’ technology. With a naturally-lit central atrium, wooden interiors, spacious layout, topped by a designer lawn, the Yogananda Knowledge Center is an icon of the Shoolini University which can concurrently accommodate 300 students.

- i. The library services use ‘Pearl plus MySQL’ based on KOHA software.
- ii. The webpage including holdings, booking, and queries can be accessed through the University intranet
- iii. Access to centrally subscribed research sites and other libraries can be accessed through a password generated access system.

Recent digital initiatives taken in the library are enumerated:

- i. Full automation of library services with digital access referencing system
- ii. Digital linking of the Central Library and School libraries.
- iii. Electronic Access Control System and CC TV Coverage.
- iv. Creation of Analytics and Language Lab.
- v. Introduction of E-newspapers and magazines.

Each school also maintains a library, which is an adjunct the main Library. In view of the central location of the Central Library, school libraries have been created as Wi-Fi Hot Spots, transforming them as ‘Virtual Libraries’ with access to various resources including LMS and KMS resources through the central repository. Notwithstanding, these libraries have essential reference material, copies of dissertations, theses, papers, and domain-specific projects.

**Library Automation.** Though the entire Library is Wi-Fi enabled, the following are provided:

Total number of computers for public access	: 24
Total number of printers for public access	: 2
Intranet bandwidth for library	: 65Mbps
Institutional repository	: Through Intranet

Participation in resource sharing networks/consortia: eUniv, EBSCO, DELNET and Open Sources.

The list of Licensed Software is as follows:

### **Office Automation/ Application Software**

- i. Tally 9.0
- ii. MS-Exchange Server 2007
- iii. MS-Exchange Server 2000
- iv. Exchange Server CAL OLP NIAE 2000
- v. Microsoft Front Page 2002 AE
- vi. MS-Office 2013, 2010, 2007, 2003 & XP
- vii. MS Access 2010
- viii. MS Project 2010
- ix. MS Outlook 2010

### **Operating System/ System Software**

- i. Windows Server 2008 R2 and 2003 R2
- ii. Windows 7, 8.1 & XP
- iii. MS- Windows 2012 server
- iv. MS-Windows NT 4.0 Server
- v. MS- Windows NT 4.0 workstation

**Anti-Virus Scanners.** Trend Micro Antivirus

**A number of nodes/ computers with internet facility:** 100 % with internet facility.

**Any other.** The University has connected all blocks and hostels by OFC to concurrently broadcast lectures, motivational movies etc.

### **Apart from the above, the institution has deployed the following IT facilities**

- i. Mail, Messaging (Microsoft/Gmail cloud for students and faculty)
- ii. Web content filtering & caching proxy
- iii. Gateway security & anti-spam
- iv. Application servers on Linux and windows
- v. DHCP and RADIUS protocols
- vi. Library management services and online web catalog

- vii. Many to Many Video-conferencing
- viii. Helpdesk services
- ix. Network security
- x. Key management services and DNS
- xi. Wi-Fi campus on 802.11n with fault tolerance and load balancing
- xii. Open source Learning Management System - eUniv
- xiii. Anti-plagiarism system
- xiv. Virtual classroom and eUniv

**Planned for future**

- i. Directory-based Authentication
- ii. Timetable optimizer & smartcard-based real-time attendance management system
- iii. Services & parent-services
- iv. ERP system – Enterprise portal for student/ employees
- v. Implementation of Open source tool for network management system
- vi. Backup and Data Recovery
- vii. IP Camera Surveillance
- viii. Database services
- ix. Endpoint enterprise antivirus
- x. Asset and Inventory Control

**4.3 Library services:**

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	30842	49.78 Lac	3652	9.84 Lac		59.62 Lac
Reference Books	3169					
e-Books	150000					
Journals*	9000	*9.68 lac is the recurring expenditure spend on newspapers /library journals / e-journals and magazines annually				
e-Journals						
Digital Database	4		----	----	4	
CD & Video	1800				1800	

Others - Magazines	25				25	
Newspapers	21				21	

#### 4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	359	6 Labs	75 mbps	21	60	40	60 ( all)	
Added	4	---	30 mbps	-	-	4		
Total	363**	6	105 mpbs	21	60	44	60	

\*\* As a policy every faculty member uses laptops for teaching and research – no's above are exclusive.

#### 4.5 Computer, Internet access, training for teachers and students and any other programme for technology Upgradation (Networking, e-Governance etc.)

- i. Online Library on “moodle”
- ii. LMS system for Students and teachers
- iii. MyShoolini app for Android and IOS for faculty & Students
- iv. Online attendance system for students and faculty

#### 4.6 Amount spent on maintenance in lakhs: 62880463

i) ICT	2357748
ii) Campus Infrastructure and facilities	54403634
iii) Equipment	967813
iv) Others	5151268
<b>Total:</b>	<b>62880463</b>

## Criterion – V

### 5. Student Support and Progression

#### 5.1 Contribution of IQAC in enhancing awareness about Student Support Services

The information about Student Support Services, available in the University, is given to students and all stakeholders through the University website.

The IQAC enhances the awareness about the Student Support Services through a multi-level system that focuses on overall development of students in a holistic way.

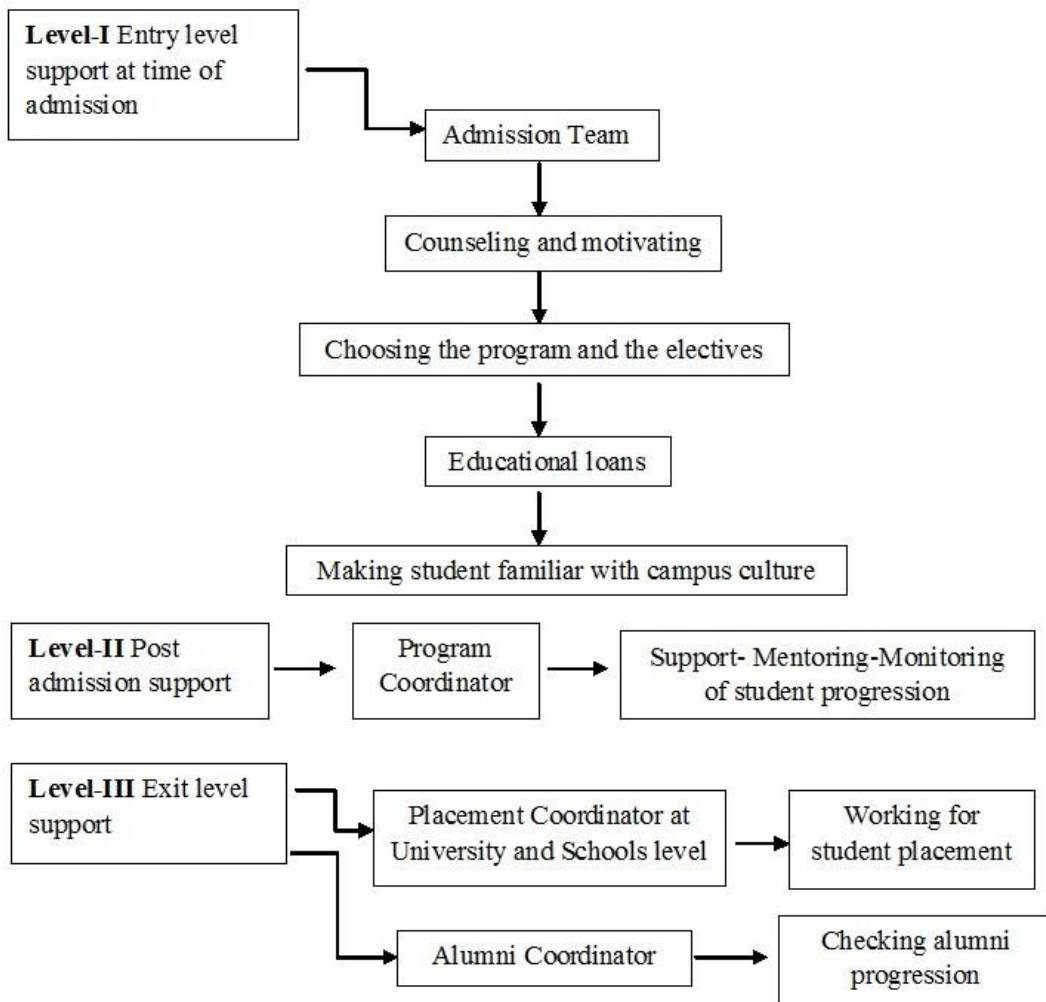
#### Orientation program

This is conducted for all the new students before the formal commencement of classes. The University has three levels of well-defined orientation system as depicted in Fig. 5.1

#### University Level

- i. Introduction to the academic rules and regulations of the University.
- ii. The issue of Identity cum ERP Smart Cards and explanation on its, multi-purpose usage.
- iii. Personnel of the Anti-ragging and grievances redressal committees are introduced. Dean Student Welfare complimented by Dean Resident students supports the students in extra-curricular development through NSS, sports, cultural, social and extension activities etc.
- iv. Introduction to hobby clubs.
- v. Foreign students are provided all the basic facilities and support to adjust to the new environment. They are assigned a faculty as well as a student mentor.
- vi. Meditation and PT classes for physical and mental fitness of the students.





**Fig. 5.1** Student Support System

## **Student Support at School Level**

- i. Introduction to all faculty members.
- ii. The administrative staff helps students with registration formalities.
- iii. The team also provides the day to day information on timetable, examinations, guest lectures, special events and holidays etc.
- iv. A Faculty mentor is assigned to each student. Mentors supervise academic performance and provide psychological support.
- v. Mentors also guide the students to take up the research projects and other initiatives like organizing events and participation in extracurricular activities etc.

## **Hostel Level**

- i. Introduction to the hostel rules and regulations of the University.
- ii. Hostel students are also provided all support by the wardens to adjust to the new environment.

## **Placement and Career Development Cell**

- i. This has been established in the University where students get guidance on job opportunities. The following are ensured.

**Placement drives:** Facilitates ‘on campus’ placements.

**Placement opportunities:** The students are offered placement opportunities for two years after their completion of the degree.

**Alumni Association:** Regular interactions with students.

## **Health Care**

There is a well-equipped health center with two full-time doctors, to provide the basic health care services. Apart from healthcare services, doctors have been counseling students on physical and mental fitness. The Lady Doctor is part of the counseling cell to address the social and psychological aspects.

## **5.2 Efforts made by the institution for tracking the progression**

Guidance and monitoring of the students’ progress are performed regularly through a well-defined mentor-mentee program.

The academic support structure at Shoolini University begins as soon as students are admitted and continue throughout their stay at the University and even beyond. The entry-level support system involves a team of trained counselors and members of the faculty who help the students get acquainted with the academic structure and expectations. The support system at the post-admission phase is monitored by respective program coordinators and deans; other faculty

members contributing to the process. There is a placement team headed by Director Placements that provide exit level support. Post exit, the Alumni Coordinator keeps a track of the professional progression of Shoolini's students.

The offices of the Dean Student Welfare and the Dean Resident Students provide students with all forms of infrastructural support they require for their non- academic pursuits. Adequate opportunities are provided to the students to hone soft skills and develop different facets of their personality. Regular sessions are conducted by experts to help students practice Yoga and meditation. Physical Training and Meditation being mandatory for first year UG students of the Engineering streams.

<b>5.3 (a) Total Number of students</b>	UG	PG	Ph. D.	Others
	597	497	31	21 (Integrated) + 7 M.Phil =28

(b) No. of students outside the state 

176
-----

(c) No. of international students 

8
---

No	%
597	51.77

Men

No	%
556	48.22

Women

Last Year(15-16)						This Year(16-17)					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
663	95	36	50	0	844	905	100	64	84	0	1153

Demand ratio 1.1.5

Dropout % Less than 1%

#### 5.4 Details of student support mechanism for coaching for competitive examinations (If any)

University has incorporated many courses in the regular curriculum like courses on Personality Enhancement, Aptitude and analytical skills, NET/ GPAT/ GATE, AMFI (Association of Mutual

Funds in India) Certification, IRDA (Insurance Regulatory and Development Authority) Certification etc. which has helped many students to clear competitive exams.

The Shoolini Study Circle is a common platform for every student to know about competitive examination and discussion etc.

Coaching classes are also offered for NET/SET, GATE and GPAT and guidance is provided for competitive examinations. Following steps have been taken in this regard:

1. Curriculum: It is designed to meet requirements of NET/SET/GATE/GPAT and other competitive examinations.
2. Coaching classes: Coaching classes for NET examination and other competitive tests like banking and insurance etc. are conducted as a result many students have cleared various competitive exams.
3. Value-added Courses: Current Affairs, General Awareness, and Aptitude Development have been incorporated into the curriculum of some programs like MBA, B. Com (Hons), BBA and B. Tech.
4. Online study material: Course material is thereafter put on the University net for wider circulation.
5. No. of student's beneficiaries

### 5.5 No. of students qualified in these examinations

NET	<input type="text" value="2"/>	SET/SLET	<input type="text" value="2"/>	GATE	<input type="text" value="3"/>	CAT	<input type="text"/>
IAS/IPS etc	<input type="text"/>	State PSC	<input type="text"/>	UPSC	<input type="text"/>	Others	<input type="text" value="12"/>

### 5.6 Details of student counseling and career guidance

Students are provided counseling and guidance at multiple levels – from the time they are admitted until they graduate from the University.

- Centralized Admission Cell guides all new students to help them familiarize with the campus facilities and University rules.
- Students get assigned to a faculty mentor in groups. The mentor provides guidance to his/her mentees in both academic and personal matters till the time individual students got placement.
- In addition, project guides are also nominated who guide the students for their project work.

- The Dean Student Welfare, Dean of Resident Students' and Dean Academic Affairs oversee all initiatives and actions related to students' safety and welfare in the campus and hostels.
- The 'Placement and Career Development cell' provides counseling and facilitation for placement and career development of the students.
- Alumni associations and various Clubs have been formed with the active participation of ex-students and faculty for students to guide and familiarize them with the requirements and expectations of the industry and the corporate world.
- Office of International Affairs counsels and facilitates students to participate in exchange programs with global universities, and also to enroll in their internship and PG/ Doctoral programs.

Faculty mentors are appointed for every 20-30 students. Placement Coordinator for every department and a Central Placement Cell that take care of placement and career counseling of the students University has also established “Disha” counseling cell to address social and psychological aspects of the students, designated counselor visits the university every fortnight for individual and group counseling which has benefitted students. University has also started an Open Elective Introduction to Psychology which is very popular among students.



**Vice Chancellor Dr.P.K.Khosla addressing the new students**

No. of students benefitted

All

### **5.7 Details of campus placement**

Placement and Career Development Cell of the University provide career guidance and job opportunities to the students. The following are ensured through the same:

- Placement drives: Facilitates ‘on campus’ placements.
- Placement opportunities: The students are offered placement opportunities for two years after their completion of the degree.
- Alumni Association: Continue to interact with students.

Placement team headed by Director Placements provides exit level support. Post exit, the Alumni Coordinator keeps a track of the professional progression of Shoolini's students.

<i>On campus</i>			<i>Off-Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
84	518	481	18

### 5.8 Details of gender sensitization programmes

The University promotes a gender-sensitive environment. In that, the following are in place:

1. Conducting gender-related lectures by counselors and legal cell of the university for students and faculty on sexual harassment and its prevention.
2. Creation of a cell to deal with issues related to sexual harassment.
3. A Sexual Harassment Prevention Committee is in place as per the direction of the Hon'ble Supreme Court.

### 5.9 Students Activities

#### 5.9.1 No. of students participated in Sports, Games and other events

State/ University level  National level  International level

No. of students participated in cultural events

State/ University level  National level  International level

Participation and Achievement in Sports, extracurricular and cultural activities by students are tabulated here:

**Table 5.1 Outstanding Performance of Student in Individual sports at a National level**

S No.	Name	Department	Game/Sport	Venue	Event	Achivement
1	Ravi Kant	B.Tech Civil	Badminton	Shimla	Senior Distt. Championship	Runner-up
2	Ravi kant	B.Tech Civil	Badminton	Mandi	Senior State Championship Participation	Participation
3	Dipali Thakur	B Com.	Badminton	Solan	Senior Distt. Championship	Winner
4	Dipali Thakur	B Com.	Badminton	Mandi	Senior State Championship	Winner
5	Dipali Thakur	B Com.	Badminton		Senior National Championship	Participation
6	Preeti Rana	B Tech	Yoga	Amritsar	Senior State Championship	Winner
7	Preeti Rana	B Tech	Yoga	Nalagarh	Senior State Championship	Winner
8	Preeti Rana	B Tech	Yoga	Bengaluru	Senior National Championship	Participation
9	Preeti Rana	B Tech	Yoga	Ranchi	Senior National Championship	Participation
10	Palvinder Thakur	Msc Math	Korfbal	Kurukshetra	Senior National	2 <sup>nd</sup> Position
11	Vishal Sharma	Msc Math	Korfbal	Kurukshetra	Senior National	2 <sup>nd</sup> Position
12	Devesh	Btech Biotech	Body Building	jammu		1 <sup>st</sup> position
13	Devesh	Btech Biotech	Body Building	Delhi		7 <sup>th</sup> position (All india)



**Table 5.2 Outstanding Performance of Student in Individual sports at State level**

<b>Sr. No</b>	<b>Event</b>	<b>Place</b>	<b>Achievement</b>
1	Badminton (Girls)	J.P. University	Runner-Up
2	Badminton (Boys)	J.P. University	2 <sup>ND</sup> Runner Up
3	Volleyball (Boys)	J.P. University	2 <sup>ND</sup> Runner Up
4	Volleyball (Boys)	Chitkara University	2 <sup>ND</sup> Runner Up
5	Badminton (Boys)	Chitkara University	2 <sup>ND</sup> Runner Up
6	Badminton (Girls)	Chitkara University	2 <sup>ND</sup> Runner Up
7	Quiz	Polytechnic College for Women , Patiala	1st Position
8	Declamation	Polytechnic College for Women , Patiala	2nd Position
9	Western Dance	Polytechnic College for Women, Patiala	2 <sup>nd</sup> Position
10	Elocution Competition	Laureate Group of Institutions , Kangra	1 <sup>st</sup> Position
12	Badminton Senior Distt. Championship	Shimla	Runner-up
13	Badminton Senior State Championship Participation	Mandi	Participation
14	Badminton Senior Distt. Championship	Solan	Winner
15	Badminton Senior State Championship	Mandi	Winner
16	Badminton Senior National Championship	-----	Participation
17	Yoga Senior State Championship	Amritsar	Winner
18	Yoga Senior State	Nalagarh	Winner

	Championship		
19	Yoga Senior National Championship	Bengaluru	Participation
20	Yoga Senior National Championship	Ranchi	Participation

**Table 5.3 Cultural Events organized in Campus**

<b>Sr No.</b>	<b>Event/Culture Activity</b>	<b>Date</b>
1	Red Cross Day	7 <sup>th</sup> and 8 <sup>th</sup> May, 2016
2	Marathone	5 <sup>th</sup> Sep, 2016
3	Cancer Awareness	3 <sup>rd</sup> and 4 <sup>th</sup> Oct 2016
4	Culture Fest/Biz Quiz	21 <sup>st</sup> Oct, 2016
5	World Aids Day	1 <sup>st</sup> Dec, 2016
6	Digital awareness Faculty	19 <sup>th</sup> Jan 2017
7	Faculty Development Program	20 <sup>th</sup> Jan 2017
8	Digital awareness students	1 <sup>st</sup> Feb, 2017
9	ROAD SAFETY+ WORLD CANCER DAY	5 <sup>th</sup> Feb 2017
10	Culture Show for Stevenson	31 <sup>st</sup> March 2017
11	Flower Show	2 <sup>nd</sup> April, 2017
12	Cancer camp zirakpur	8 <sup>th</sup> April, 2017
13	Moksh	14,15,16 <sup>th</sup> ,2017
14	Red Cross Day	8 <sup>th</sup> May, 2017
15	Yoga day	21 <sup>st</sup> June, 2017

**Table 5.3 Sports Events organized in Campus**

S. NO.	EVENT /TOURNAMENT	DATE
1	Inter Department Badminton Tournament	23 Aug to 4 Sep 2016
2	Inter Department Basketball Tournament	MARCH 2017
3	Inter Department Boys Volleyball Tournament	APRIL 2017
4	Inter Department Cricket Tournament ( Boys)	16 Oct. to 20Nov 2016
5	Inter University Athletic meet	APRIL 2017
6	Marathon 16	Sep 5 2016
7	Inter Department Table Tennis Tournament	23 to 29 Nov 2016
8	Inter Department 5 side Football Tournament ( Boys)	MAY 2017
9	Inter University Badminton/Table Tennis tournament	MAY 2017
10	Inter hostel cricket Tournament ( Boys)	
11	Inter hostel Badminton Tournament	
12	Mr. Shoolini university ( <b>BODY BUILDING</b> )	March 2017





Moksh



Culture Night



### Interschool Sports Competition

#### 5.9.2 No. of medals /awards won by students in Sports, Games and other events

Sports : State/ University level  National level  International level

Cultural: State/ University level  National level  International level

**Table 5.4 Awards won by students in other events**

S.no	Student Name	Event	State/National/International
1	Mr. Sanjay	Awarded Korean Govt Scholarship to pursue MS in Gachon University, South Korea	International
2	Ms. Apurva Kakade	Awarded Chinese Govt Scholarship to pursue Ph.D. in Lanzhou University, China	International

3	Anchit, Rakesh, Harish, Shivani, Rahul	Folk Dance	8 <sup>th</sup> National IPA Students Congress, ISF College of Pharmacy, Moga,
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### 5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	636	1,20,82,824
Financial support from government	67	80,000 to 1,20,000 per student
Financial support from other sources	-----	-----
Number of students who received International/ National recognitions	21	15 lakh per Annum per student

### 5.11 Student organised / initiatives

Fairs : State/ University level  National level  International level

Exhibition: State/ University level  National level  International level

### 5.12 No. of social initiatives undertaken by the students

The University's neighborhood student network, directed at the socio-economic welfare of stakeholders is organized by Dean Extension in collaboration with Dean Students Welfare. The focus of activity is on villagers who had sold the land to the University for the development of the campus and who subsequently constituted the labor force. In addition, the University has selected Panti village in Shimla District where fruits of the horticultural revolution in Himachal Pradesh has not reached due to the backwardness of the region. Free saplings of fruit and forest species are being provided to them along with the technology in collaboration with the University of Horticulture and Forestry. This activity that has taken place over the last four years has yielded fruit and reached the markets.

Institutional social responsibility is also carried out in these adopted villages by the students and the faculty by organizing the following activities:

#### i. Adoption of neighborhood Schools Primary and Senior Secondary

- i. Special classes by students and teachers
- ii. Cleaning the environment of the schools
- iii. Involvement of School students in the cleaning of freshwater springs
- iv. A celebration of special days
- v. Personal hygiene
- vi. Organizing visits of students to the University campus
- vii. Guidance on career counseling

**ii. To Diagnose and Design of the farmlands**

- i. Organization of Kisan Ghostis Meetings
- ii. Guidance for new farm technologies and quality seeds
- iii. Visits of the farmers to the University
- iv. Provide technical guidance on food processing

**iii. To Enhance Employment and Socio-economic Upliftment (only for those who sold their lands to the University)**

- i. Promotion spiritualization of available money for business pursuits relevant to the University- construction of a hostel for students to University; construction of a paying guest accommodation and restaurant for the students. These are now operational.
- ii. Free ship to all students who are eligible to seek admission to the University.
- iii. Seek their participation in all socially oriented activities of the University.

**5.13 Major grievances of students (if any) redressed:**

Redressal of grievances is done at multiple levels – both at the central and school level: Grievances could also be addressed directly at the University level to the Dean Student Welfare and Dean Resident Students.

At the school level, grievances from students are redressed through the medium of Mentor-Mentee system as also by direct representation to the program coordinator and Head of the School.

Students can also mail their grievance at Care@shooliniUniversity.com for the attention of the Central Student Grievance Cell. The identity of the student is kept confidential in all such cases. Grievances cell is in place for Prevention of Sexual Harassment of Women Staff and Students. All grievance issues of the students for the academic year 2016-17 were addressed at the School level only; no issues were reported to the grievance cell.

## Criterion – VI

### 6. Governance, Leadership, and Management

#### 6.1 State the Vision and Mission of the institution

##### Vision

‘To be a top 200 global university by the year 2022’

The vision behind Shoolini University of Biotechnology and Management Sciences is to provide students with an opportunity to learn from and interact with top-most experts in their field of expertise. Efforts are made develop Shoolini University into an internationally recognized center of research and education. The University’s model is to blend expertise in biosciences with the principles and practices of engineering and business management to create exceptionally skilled human resource for future leadership positions in academia and industry.some of India’s and the world’s most renowned academicians, scientists and business managers are already collaborating with the institute to make this vision a reality.

In a step toward fulfilling the vision of being amongst the top 200 universities by the year 2022;

##### Mission

1. To provide the ideal environment for higher learning with a serene & beautiful campus, state-of-the-art facilities & a creative atmosphere conducive to excellence in pursuit of knowledge.
2. Be a knowledge leader in our selected specialties in the academia, and provide outsourcing and consultancy services to industrial/ organizational setups in this domain
3. Encourage our students to be “balanced specialists”, who excel in their own field, while being well-rounded through personality- development & extra-curricular activities.
4. Develop students who will be recruited by the best employers, and who will contribute to the economic vitality of the state & country.
5. Create an environment to attract top faculty, and build a pool of academic leaders by providing the right ambiance and resources.

#### 6.2 Does the Institution has a Management Information System

Yes, Shoolini University has a well-designed Management Information System and has developed in-house enterprise-wise information on intra-net known as myshoolini.



It is the most comprehensive source of information on academic and non-academic matters, programmes and policies of relevance to students, faculty, and staff members. Myshoolini describes the code of conduct and fundamental standards stating the expectation from all key stakeholders and interested parties. All university Regulations and Policy Guidelines are published and informed to everyone through the mail.

Few reports generated on myshoolini are Report of Enrolled Students, Registration analysis, Domain/Open Elective Courses: Students & faculty attendance, session plans and Internal/External marks. Time Table: Faculty Allotment, Consolidated timetable report, class allocations

Apart from this Shoolini University has developed eUniv portal to supplement classroom teaching wherein syllabus and lecture plans, video lectures are developed and provided to students for all courses taught in the university. Students can access this with login and password provided at the time of registration. eUniv also acts a platform for online examinations, class discussions, case studies etc.

Feedback from various stakeholders is also taken and analyzed. The reports /analysis are disseminated horizontally and vertically and are incorporated in the institutional review, planning and decision making. Periodic reviews are conducted at the institutional domain and university level where the analyzed and interpreted data is considered for the effectiveness of the research function and the suitability and usefulness of the data generated.

The results of the analysis and audits are informed to the concerned authorities and Management through Management Review Meetings and One to one interactions periodically.

### **6.3 Quality improvement strategies adopted by the institution for each of the following:**

#### **6.3.1 Curriculum Development**

The University takes feedback and suggestions for the curriculum development and revision process by incorporating inputs from the potential employers, scientists, alumni, and other eminent personalities who visit the campus during placement week, workshops, conferences, SPRINT program and Guru Series talks. Boards of Studies constituted at School level include external experts from industry and academics to structure and revise the curriculum for improving the employability of students.

Lecture Schedules/Plans are prepared at the beginning of the semester and uploaded on eUniv.

Placements of the University's students have significantly improved through regular fine-tuning of the curriculum.

### **6.3.2 Teaching and Learning**

Shoolini University is committed to excellence in all aspects of learning, transmission of the knowledge and developing skills and most importantly, to encourage free thinking to address complex challenges.

There is a centralized body headed by the Dean Academic Affairs to review the teaching-learning process and conducts an academic audit on annual basis. As per the recommendations of an academic audit carried out at different levels, following initiatives have been taken by the University to improve teaching, learning, and evaluation:

1. Case study method adopted wherever applicable.
2. Enhancing employability through skill enhancement, outcome driven curriculum and modern pedagogy.
3. Personal development of students through different modules, such as tutorials, mentorship, computer literacy, meditation, communication and language proficiency etc.
4. Faculty development programmes
5. Preparation of detailed lecture schedules/plans
6. Online examinations started.
7. eUniv initiative for round the clock learning as a supplement to classroom teaching.
8. Feedback system developed for various stakeholders
9. Course completion undertaking by each faculty.
10. Online library services.
11. Publications in SCOPUS indexed journals and progress report.
12. Presentations in each semester to improve quality of research.
13. Lab manuals prepared.

### **6.3.3 Examination and Evaluation**

Online conduction and submission of question papers, assignments, quizzes etc.

2. Minimum attendance criteria for appearing in the end term exam is strictly adhered to.
3. Open book exam introduced
4. CBCS 10-point grading scale for examination introduced.
5. Centralized Question paper setting strong room made operational.
6. Fully automated, paperless examination form filling system introduced.
7. The format of question papers, distribution of marks and evaluation process is informed in advance to all Deans/HOS's/Program directors and students.

8. Results are declared 1-2 weeks after the exam.

9. Results are immediately uploaded to the website and “my shoolini “dashboard on the same day.

#### **6.3.4 Research and Development**

Shoolini University is located in the Himalayas which has a fragile eco system and has unique requirements. This aspect is given highest importance while designing research and development polices. The University has, therefore, adopted a research-driven model which seeks to blend expertise in life sciences and engineering with the principles and practices of business management and blends it with industrial and societal needs for the sustainable development of the Himalayas. The University’s research philosophy, therefore, rests upon the following verticals:

1. Develop excellence in scholarly standards with a focus to move into the club of internationally reckoned centers of research and education.
2. Harnessing Himalayan biodiversity, its conservation, and sustainable management.
3. Develop cutting-edge technologies.
4. Foster inter institutional collaborations.
5. Focus on niche areas like health care, food, energy conservation and generation, Nanotechnology etc.
6. Conduct quality research, encourage publications in journals of global repute and file patents

The University regularly conducts workshops, training and sensitization programs, to promote research culture in the University.

Steps that have been initiated for promoting research are enumerated below:

**Advancing Funds for Sanctioned Projects:** Many a time, there is a substantial delay in receipt of funds. Therefore, once the sanction letter from the funding agency has been received, advance funds are provided.

**Providing Seed Money:** At the time of its inception, research labs, instrumentation labs, workshops with basic infrastructure was set up in all Schools by the University to facilitate research. In addition, the University also provides seed money to faculty members to support research projects.

**Simplification of procedures for sanctions/ purchases by investigators:** The procedure for sanction/purchase by investigators is simplified in the University.

**Autonomy to the principal investigator/coordinator for utilizing overhead charges:** The Principal Investigator/Coordinator is given full autonomy for utilization of overhead charges.

**Timely release of grants:** Funds are transferred to the project head as soon as they are received from the funding agency.

**Timely auditing:** Audits are done regularly on time at the end of the financial year

**Submission of utilization certificate to the funding authorities:** The utilization certificate is submitted timely.

### **6.3.5 Library, ICT, and physical infrastructure/instrumentation**

In spite of being young in age, Shoolini University has a state-of-the-art infrastructure that compares favorably with some of the best institutions in India. The University's commitment towards quality education can be partly visualized if one visits any of the 105 laboratories that exist with the purpose of promoting learning through teaching, research, workshops, computing, or studio work. The University prides itself in its achievements thus far, and endeavors to march in its pursuit of providing world-class learning environment and producing the leaders of the future.

Conventional teaching has been supplemented and augmented by the use of latest technology. ICT enabled class rooms to facilitate teachers to demonstrate problem-solving techniques. The library is well stocked with approx. 1.85 lac book titles in the physical and electronic form. The University subscribes to around 9,000 e-journals through USA based EBSCO and DELNET databases. These resources allow the students and researchers to quality research resources, in their respective areas of research. The multi-functional Enterprise Resource Planning (ERP) system coupled with the enhanced Learning Management System (LMS) and planned Knowledge Management System (KMS) (developed in-house adapting freeware) has/ would provide an interface to teachers and the students to take the teaching-learning processes to a new level.

The entire University is connected through a high bandwidth enabled wireless network and auditoriums are linked through intranet as well as the internet with video- conferencing facilities. Such a technology savvy learning environment allows students to extend and explore their research interests on a 24x7 basis. The iconic Yogananda library building has been transformed into a multi-dimensional facility and it stands out, not only as an architectural splendor but also as the pulsating heart of the University, extending knowledge on a click. At Shoolini University, learning is not limited to classrooms and laboratories. The latest addition is the Dr. APJ Abdul Kalaam Seminar Complex, which has two state-of-art auditoriums and three seminar rooms, with a total capacity over 400. In addition, there is a Cineplex with a seating capacity of 150 that offers a high-quality audio and visual experience to its audience. The University offers its students excellent indoor and outdoor facilities to pursue a sport of their inclination and choice. The Open Air Theatre, auditoriums,

cafeterias, open spaces nestled within the forests and the hills offer students a sylvan experience of University life that is a hallmark of the University.

### **6.3.6 Human Resource Management**

The University is proactive in developing its faculty members in order to meet the requirements of a modern curriculum through various Faculty Development Programs, training sessions, workshops, conferences, and visits to other institutes and frequent interactions with the experts from various fields of specialization.

Shoolini University follows a systematic process to ensure the availability of highly specialized human resources. Depending on the revision of the curriculum, requirement of knowledge domain specialist is identified at the School level which is then proposed to the registrar for approval from Vice- Chancellor and University Management. Once the requirement is approved, the recruitment process begins with advertisements of the posts in newspapers and University website giving the detailed job description and specifications. Applications received are scrutinized based on the compatibility of the candidates. Shortlisted candidates appear for personal interview before the expert panel, including external subject experts, constituted by the University.

Initiatives taken to strengthen human resource include:

1. To have an open system of grievance handling for faculty and staff.
2. To analyze the issues raised during the exit interviews for revision in the procedures and guidelines of the university.
3. To ensure the happiness quotient among the faculties and staff.
4. To continuously have faculty development programmes to create awareness and increase the knowledge level of faculty in university regulations and guidelines.
5. To create welfare schemes for faculty and staff.
6. To periodically conduct Surveys, Faculty Attrition analysis, Exit Interviews Analysis.
7. To continuously improve the HR Practices and processes based on the feedbacks and adopting the International best practices

### **6.3.7 Faculty and Staff recruitment**

Human Resource is an important aspect of the growth of any higher education institute. University makes special efforts for recruitment and retention of quality faculty. The desired profile of the faculty at all levels has clearly been defined. The positions are advertised

through print and electronic media. The impact of the change has been clearly visible through larger interest among prospective faculty to join Shoolni University. A meticulous process of evaluation that includes seminar presentation and personal interviews with a carefully chosen panel of experts is adopted. To provide impetus to the effort and facilitate selection and induction of highly qualified faculty members at the entry and higher levels, w applications are entertained throughout the year. Internal promotions are also done during the annual appraisals.

### **6.3.8 Industry Interaction / Collaboration**

Shoolini University recognizes the importance of providing international, industrial and corporate exposure to its students and faculty. Frequent industry exposure through industrial visits and lectures by industry experts are a regular practice. The development plans in this direction include:

- i. Expansion of the University's network and consolidate linkages.
- ii. Focus on partnership and participative cooperation.
- iii. Expand the scope of consultancy to provide the industry scientific solutions for their growth.
- iv. Strengthen the mentorship program through industry mentors both for students and faculty

As part of international tie-ups with various organizations, Shoolini University has an exchange program for students and the faculty to pursue studies and undertake research with universities, outside the country. However, the University plans to strengthen and collaborations and tie-ups with universities across the globe.

### **6.3.9 Admission of Students**

The University has an Admissions Committee having representatives of each faculty under the chairmanship of the Vice-Chancellor which formulates the guidelines for admissions and reviews the admission process and profiles of admitted students on an annual basis. The Committee has the mandate to monitor and ensure adherence to rules and regulations for admissions, as specified by regulatory bodies, both for eligibility criteria and conduct of the entrance tests. The University has put in place 'single window counseling' for prospective students and parents relating to matters concerning admissions and the facilities being made available.

On the other hand, analysis of admissions is conducted periodically so as to make changes to draw students from all sections of the society. As a result of these strategies, admissions in

the University has been on the rise progressively. Amongst the sixteen private universities in the state, Shoolini University attracts the highest number of students.

In order to ensure the required publicity proper advertisements are issued in local and national newspapers, TV Channels, FM Radio, University's website, and also through handbills and inserts in newspapers and outdoor hoardings. University publishes annual prospectus (information brochure) providing details of all courses with their eligibility criteria and elaborating the admission procedure, as also the facilities available in the University. All admissions are made as per the guidelines of the Himachal Pradesh Private Educational Institutions Regulatory Commission/ PCI/ UGC/AICTE. List of all admitted students for each program is posted on the University's website and the Schools' notice boards. The University does not have any Management quota.

Teaching	Yes
Non-teaching	Yes
Students	Yes

#### 6.4 Welfare schemes for

All employees have benefitted out of the welfare schemes as enumerated below:

- i. Health insurance.
- ii. Provision of medical leave and on-campus medical facilities.
- iii. Exclusive facility for women in women center, including a crèche.
- iv. Subsidized transportation.
- v. Employees Provident Fund.
- vi. Fee concession to the wards.
- vii. Incentives for higher qualifications/ generating research grants.
- viii. Special facilities for differently-abled being progressively built up.

The Dean Student Welfare, Dean of Resident Students' and Dean Academic Affairs oversee all initiatives and actions related to students' safety and welfare in the campus and hostels.

Dean Student Welfare complimented by Dean Resident students supports the students in extra-curricular development through NSS, sports, cultural, social and extension activities etc.

**Table 6.1 Student Scholarship Schemes**

S. No.	Category	Student Scholarship Schemes
1	SC/ST	Relaxation in admission eligibility as per State and GOI norms Reservations are ensured as per the policy of the Government of Himachal Pradesh
2	OBC	Relaxation in percentage Reservations are ensured as per State and GOI Norms
3	Women	Scholarships are provided to the single girl child 5 percent relaxation for women candidates
4	Economically weaker sections	Scholarships are provided as per State and GOI norms
5	Persons with varied disabilities	Reservations are ensured as per State and GOI Norms
6	Outstanding achievers in sports and other extracurricular activities	Relaxation in percentage as per University norms

#### 6.5 Total corpus fund generated

26.30 Crores as on 31 March 2017
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6.6 Whether annual financial audit has been done  Yes  No

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	ISO 9001:2008	CSIO	√	IQAC
Administrative	ISO 9001:2008	CSIO		

6.8 Does the University/ Autonomous College declare results within 30 days?

For UG Programmes Yes  No

For PG Programmes Yes  No

6.9 What efforts are made by the University/ Autonomous College for Examination Reforms?

- i. A minimum attendance criterion for appearing in the end term exam is strictly adhered to.
- ii. Online conduction and submission of question papers, assignments, quizzes etc.
- iii. Open book exam introduced
- iv. CBCS 10-point grading scale for examination introduced.
- v. Centralized Question paper setting strong room made operational.
- vi. Fully automated, paperless examination form filling system introduced.
- vii. The format of question papers, distribution of marks and evaluation process is informed in advance to all Deans/HOS's/Program directors and students.
- viii. Results are declared 1-2 weeks after the exam.
- ix. Results are immediately uploaded to the website and “my shoolini “ dashboard on the same day.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges? **Not Applicable**

### **6.11 Activities and support from the Alumni Association**

Shoolini Alumni Association was constituted to create a platform for students who have passed out to join hands with the University to support its vision and contribute by working together. Though the platform has still to meet its objectives since the University is still new and its alumni still at junior levels. Objectives kept in mind before the constitution of Alumni Association is given; these are likely to show results in subsequent years:

- i. To maintain a comprehensive database of Shoolini Alumni.
- ii. To identify and promote alumni achievements and enhance the credibility and reputation of the University.
- iii. To keep the Alumni involved with the University through interaction programs, events and assist in placements.
- iv. To keep the Alumni engaged with the University through Social Media which helps in strengthening the association.
- v. To engage them in Social activities which contribute towards the development of society and nation as well.
- vi. Placement facilities further provided to all students even for two years after successful campus placements

### **6.12 Activities and support from the Parent – Teacher Association**

Though University has no formal structure like parent-teacher association, parents are an integral an important stakeholder in enhancing the institutional performance. There is a formal procedure of obtaining parent feedback and conducting their satisfaction survey so as to involve them in decision-making processes which impact the academic experience of the students.

### **6.13 Development programmes for support staff**

Computer proficiency up-gradation programmes for the administrative staff to achieve the desired standards and all the staff has been trained to handle computers for the routine jobs. The non-teaching staff has been motivated and the self-development achieved can be gauged from the higher qualifications attained by its staff during the last five years. Special SPRINT (Skill Progression through Rapid Innovative and Intensive training) programmes, Orientation programmes, Effectiveness programmes are also conducted regularly by the non-teaching staff.

### **6.14 Initiatives taken by the institution to make the campus eco-friendly**

Shoolini University's agenda is focused on harnessing, conserving and managing the Himalayan biodiversity. The University aspires to place itself as the resource pool in all fields pertaining to sustainable Himalayan development. It is with this mission that the University is a proud member of the Consortium on Himalayan Universities.

We have continued to improve the campus environment for students and staff, with new teaching research facilities, expanded students accommodation and new study spaces. The most significant addition to the campus is the Yogananda library of the university. We have envisaged on developing additional high-quality sporting amenities like the indoor sports complex with badminton and table tennis facilities for improving students' stay at the university. The addition of gymnasium has provided international look. In years to come, we expect the university to continue to prosper, making a strong and increasing contribution to the regional and national economy.

## Criterion – VII

### **7. Innovations and Best Practices**

#### **7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.**

IQAC (Internal Quality Assurance Cell) has been actively involved in improving the academic systems and processes. The IQAC prepared the Annual Quality Assurance reports and organized the academic review of the departments. Based on the report of the academic review an action plan to implement the findings of the academic review has been developed. The process covered a review of curriculum, research, staffing, infrastructure, governance, academic and administrative decision making, strategic and implementation planning encompassing much of the entire academic culture of the University. The findings report sets out a path, by means of a set of recommendations, to achieve a closing of the performance gap. There are also some observations and recommendations which are core to the contemporization process.

The following innovative measures were taken which has a positive impact on the functioning of the institution and cater to the changing requirements of the students and improving teaching methodology:

- i. Online support for teaching and evaluation is being used. eUniv; Shoolini's online academic portal based on Moodle is fully operational.
- ii. PPT, Videos, Research papers, EBSCO database are made available online.
- iii. Fully operational online examination system that incorporates - MCQ, short and descriptive questions, quiz, assignment etc.
- iv. Online discussion forums started to have anytime anywhere dialogue between faculty members and students.
- v. Complete and incognito student course feedback system introduced.
- vi. Yogananda Knowledge Center (YKC), the Central Library is made operational round the clock.
- vii. Students can use the practical labs round the clock.
- viii. Expert lecture sessions by the name of "Guru Series" are operational.
- ix. Faculty Development Program by "Managing partner- Proliferator Advisory & Consulting" firm was organized.
- x. Preparation of daily lecture taken report and monitoring by Pro VC/Dean-Academics/Associate Dean Academics.
- xi. Biometric attendance system for students in hostels introduced.
- xii. In situ monitoring of students during their internships and research projects in industry.
- xiii. 5 professional clubs for co-curricular and extra-curricular activities for students are in place.
- xiv. MOOCS courses started under SWAYAM portal.
- xv. Several academic, research and industry MOU's signed with foreign Universities and corporate firms of high repute.
- xvi. Each course has knowledge outcomes and skill outcomes which are in line with the objectives of the concerned program.

- xvii. Each course is broken down into separate lecture schedules with clear-cut learning outcomes. These learning outcomes collectively make up to the outcome of a particular course. ANNEXURE III
- xviii. All the courses in a particular program in a particular semester are compiled in the form of a booklet with syllabus, lecture schedules, practical details, problem sets and necessary discussion caselets.
- xix. Enhancing employability through skill enhancement, outcome driven curriculum and modern pedagogy.
- xx. Shoolini's online learning initiative (eUniv) has innovated continuous learning delivery
- xxi. For functional and soft skills, the SPRINT program has been started as a credit course for MBA students and is being rolled out to other Schools. SPRINT has the potential to be a role model for functional and soft skills training.
- xxii. Progressively shift to online examination and evaluation.
- xxiii. Faculty development programs
- xxiv. Industry linkages and collaborations.
- xxv. Strengthening of the mentorship program.
- xxvi. Outer world exposure to faculty and students.

## **7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year**

Mentioned under Point 2.15 of the report

## **7.3 Give two Best Practices of the institution (*please see the format in the NAAC Self-study Manuals*)**

Aspiring to be amongst the Top 200 Global Universities that too by a defined timeline requires 'out of box' solutions and sustained efforts. Having taken up the gauntlet, Shoolini University remains committed to fructify the vision of its founder; the coverage of C-fore's nationwide survey carried in the Education Watch issue of May 2015 has acted as a tonic and reinforced this commitment. Being ranked 124<sup>th</sup> out of over 693 universities nationwide and 54<sup>th</sup> Most Admired Research University within a short journey of fewer than six years is indeed heartening. The University has built its edifice on following 'Best Practices in Education' and is pro-actively leveraging technological solutions towards attaining its time-bound goals.

### **Best Practice - 1**

#### **1. Title: Promoting Academic Excellence by blending Experience with Talent**

#### **2. Objectives of the Practice:**

The bedrock for creating a world-class University is contingent upon the quality of teachers, especially if it aspires to achieve excellence in academics and research. Though in congruence with the need of the hour for the nation, proliferation of universities and colleges has generated a pan India challenge for Institutes of Higher Education if they are to match and/ or better global standards. Within this, it is an uphill task for any up-coming 'private' University to attract and retain talented teachers to provide continuity in learning and research and at the same time, motivated to aspire for excellence.

Right from its inception, Shoolini University, envisioned itself to be among 200 global universities by the year 2022. To meet this time bound goal, it formulated its own model of faculty development with the aim of imparting balanced education and making its students employable. For this, it evolved a ‘Research Driven Model’, aimed at following an interdisciplinary approach between basic, applied and engineering sciences, with a wrap up of management sciences and liberal arts.

### **3. The Context:**

In order to meet its ambitious goals, a ‘Four tier System’ for Faculty Development was evolved by the sponsors of the University, with the pro-active support of visionary educationists and scientists, who remain either on its Executive or Advisory Board. The endeavour was to set up a world-class University, combining academic and teaching pursuits with research for achieving aforesaid rank in 12 years starting from the year 2010.

An analysis of the global ranking mechanism both by the ‘QS’ and

‘The Times’, indicated that over 60 percent emphasis laid on research and was calculated on the basis of research papers and their impact factor, resulting in h-index rewards, distinctions, patents along with quantum of extramural grants from public institutions and industrial sectors. Of the two ranking systems ‘The Times’ eligibility criteria is for filing application calls for a minimum of 200 research papers annually (continuously for five years) which may not be possible without the participation of meritorious and well trained Post Docs at the mid-level, along with the wisdom of Professors of Eminence who are available to train the younger faculty for and support the research-driven model of the University.

### **4. The Practice:**

The reputation of any University depends on the quality of teachers. Apropos, Shoolini University has adopted a four-tier policy to attract outstanding and experienced teachers. The manning of teachers is therefore planned at four tiers:

- **Top Tier.** Distinguished and decorated scientists academicians
- **Mid-Tier.** These are mid-career (Senior Assistant and Associate Professors) teachers, either with Post Doctorate from Internationally acknowledged Centers of Excellence or teachers serving in similar positions in other institutes or holding mid-career positions in corporate sectors.
- **Intermediate Tier.** This tier includes young dynamic and NET qualified Ph.D's., who have the attributes to excel.
- **First Tier.** This tier is manned by in-house qualified Ph.D. scholars in pre-identified disciplines. This with the twin aim of training the talented, and also to guide their further pursuit of experienced and talented mentors.

For the top tier, Shoolini University created twelve positions of Professors of Eminence, and in the second tier, it has recruited two dozen Post-Docs from the USA, Japan, Europe, Taiwan, Spain and South Korea and other reputed Centers from India and the Corporate Sector. At the third tier are young dynamic Doctoral teachers from renowned Institutes in India, while the first tier is manned by brilliant teachers who have registered for Ph.D. in pre-determined areas of the specialization.

Though desirable, the paucity of funds is an impediment to increasing the number of mid-career Post Doc teachers; the University having to spend three times better wages than their Indian counterparts. Presently a host of them is drawing more salary than their counterparts from public universities and even UGC scales.

Shoolini University recognizes that the commitment to increasing faculty does not end after the appointment of a new faculty member. Advancing and retaining talented faculty is just as important to enhance the quality and diversity of the faculty, as is the task of recruiting them.

Among the many factors that contribute to the advancement and retention of faculty is the working environment within various faculties, schools, and the University. In order to provide an intellectually stimulating and socially congenial atmosphere, the University has instituted several initiatives to retain the faculty.

Some of them are listed:

- Compensation competitive and at par/ better with top universities.
- Annual appraisal for enhancement of pay depending on the achievement(s).
  - Promotion of professional development.
  - Research support, especially to new faculty.
  - Spousal employment.
  - Safe environment, crèche and faculty club.
  - An award of Rs 10 lac for any research paper published in
- Nature or Rs 5 lac for publishing in any other distinguished
- journal of equivalent status.

The University has liberal rules to spend summer/winter vacations or sabbatical leave for finalizing their research finding and also for the purpose of strengthening of tie-ups with their counterparts in foreign countries.

## **5. Evidence of Success:**

The success of the practice of faculty engagement in the system can be gauged from the fact that over 90 percent teachers have continued in the University. Consequently,

noticeable improvements have taken place in teaching, research and extension activities and are substantiated by the following achievements of the University:

- Within a short span of eight years, the University is ranked 124<sup>th</sup> in the list of leading universities of the country, 41<sup>st</sup> among Private Universities, and 54<sup>th</sup> in the list of Most Admired Science/Technology Universities.(C-fare survey carried in Education World issue of May 2015). 66 Rank in NIRF Rankings 2016.
- Ranked second amongst Bio-Science based Universities by Bio-spectrum- a prestigious journal.
- Visible cooperation and participation of teachers has led to enhancing employable skills and placement of students.
- Teachers participate voluntarily in activities relating to the revision of curricula. Choice based credit system has been accepted willingly from the academic session (2015-16) onwards.
- All teachers formulate their schedule of lectures and lectures are uploaded by the teachers on eUniv platform. The University is in its process to implement switch over of online examinations.
- The library has been made fully digitalized by in-house software development.
- The number of Ph.D. teachers has increased and currently, there are many research scholars pursuing doctoral studies.
- Almost 24 teachers have external funding of their research projects. This totals to Rs 20 crores by way of extramural grants.
- Professors of Eminence at the top and mid-level of Post Docs has increased alliances with a dozen of countries for the exchange of students and faculty. In the last two years, 36 students have undergone semester exchange programs.
- 'h' index of 31 is the highest amongst all private and public universities established after 2008, in North India.
- All teachers and Ph.D. students publish papers in Scopus or Thomson and Reuter indexed journals.
- 100 patents have been filed by the University, essentially focusing on the biochemical and molecular studies on flora and fauna of Himalayas.

#### **6. Problems Encountered and Resources Required:**

- Despite such notable achievements, private universities have not been able to establish its credibility amongst the public and the academic community of public institutes. Young members often indulge in a confrontation with the Professors of Eminence in private universities retarding growth.



- In the guise of enforcing quality education, the academic authority of the universities tends to get eroded. It needs to be reiterated that globally, Academic Councils are accepted to be superior to administrative regulatory authorities.
- Increase or decrease of a number of seats in a program for the parity purposes and not on merit is un-academic.
- Any reduction in the number of doctoral students retards the utilization of talented and expensive mid-career Post Doc faculty. This also retards the vision of the University to be amongst globally ranked institutes.
- Lack of appreciation of global stands and enforcement of interpretations of regulations are generally counterproductive for those who strive for excellence. ‘h’ index of 31 achieved by Shoolini University, the highest among public and private institutes established after 2008, speaks of its research achievements by itself. Based on the above, the retention policy tends to fray as many teachers who have worked in the USA and other highly ranked Labs, murmur to return.
- Differential salary creates heartburning among teachers.
- Their mindset is to rest on previous laurels and bask in the glory of previous academic achievement, year of passing Ph.D., seniority of service etc. rather than on the quality of research papers published. To narrow down this gap, opportunities should be given to such teachers for Post Doc studies for which funds are required to be provided.
- Funds/resource requirement: Since this is a nationwide malady in the system of Higher Learning in India, and the gap needs to be bridged, it is recommended that the government needs should create a separate corpus fund for private universities and 50 percent salary of NRI teachers engaged by the private universities should be borne by the government. Liberal research grants should also be given to the teachers working in private institutions so that this national pool is nurtured collectively as a national responsibility.

## **Best Practice - 2**

### **1. Title: Developing Inclusive Competencies through SPRINT**

#### **2. Objectives of the Practice**

Delivering uniform pedagogy to the diverse student population with varied demography, social background, exposure levels and language skills is a major challenge. The objective of the SPRINT (denoting accelerated learning) program, therefore is to promote the personal and professional growth of each student and to make them globally competent. It attempts to inculcate professional ethics and respect for institutional values so that they are contributing members of the community and nation building.

### 3. The Context

The Confederation of Indian Industry (CII) released an illuminating report titled ‘India Skills Report 2014,’ highlighting the challenges that India faces in providing marketable skills and making the youth, ‘employment ready.’ While the Global Talent Index 2015 assesses that 39 percent of business houses around the world struggle to recruit the right persons, 64 percent of them citing the absence of requisite skills the challenge gets magnified for India as about 75 percent of the business houses struggle to find employable persons with the requisite technical and soft skills.

In view of these challenges, a pointed but sustained intervention was developed as a structured program to bridge gaps in the existing skill set of students. Tailored on the mini MBA program of Stanford University, the SPRINT program initiated by Shoolini University is a blend of classroom activities, simulation exercises, and real-life experiences. The objective is to provide an inclusive learning environment, which is stimulating, relevant, and engaging; a fusion of functional and technical skills required for practical use in the real life. Feedback from students provides ample evidence that this form of ‘experiential’ learning has made a qualitative change in the students of the University, and been a ‘Game Changer’ in their lives.

### 4. The Practice

Learning new things is invariably a challenge; it can be mentally exhausting to learn new skills, that too in a short period of time. It is in keeping with these that SPRINT training modules are divided into small interactive sessions to extend the learning process throughout the course. This not only helps to maintain contact with students but periodic intervention also acts to refocus, yet offering the intervening time for self-improvement. In addition, frequent interaction with the corporate bigwigs and experts from all walks of life opens the minds of students to wider horizons and varying perspectives which helps them to transit into the real world.

Each SPRINT has a central theme which differs for each module and it is need-based, hence different for each school and semester. The program which was started as a pilot project for MBA students has proved to be a major success story and enriched by the experience, this has been extended across all faculties of the University. SPRINT modules conducted for the MBA students are given below:

- **Induction.** This is a crisp program and acts as an icebreaker for new students once they come on board. This is a surefire way for students to bond with faculty, seniors and peer group to make them feel comfortable in the new environment. Students are given an opportunity to associate with the University’s culture and blend in the environment supportive of their professional growth.

- **Ten Day MBA (Basic).** This SPRINT attempts to introduce course subjects to the students and it helps the ones who are from various streams to understand the basics of subjects they have not studied earlier.
- **10 Day MBA (Advanced).** This deals with the subjects at an advanced level. It is interactive and case study is introduced for students on operational and practical aspects. Guest faculty adds value and is a good bedding in the ground for students as they prepare for their transition to the corporate world
- **Entrepreneurship.** Business models, franchising, network distribution, Business plan, interaction with successful entrepreneurs are part of this Sprint. Students create and launch a short-term business plan and even get rewarded for the one generating maximum revenue.
- **Self-Development.** Exhaustive sessions on written and verbal communication are conducted. Listening, articulating, probing, teamwork, time management, and goal setting are some of the subjects of this SPRINT.
- **Pre Placement.** This is the longest and the most strenuous module which is of two-three weeks duration. Students go through mock interviews, group discussions, etiquettes, grooming, content enrichment etc. Dedicated trainers take charge of aptitude training which helps students to cross the first hurdle of the selection process. Students are guided to answer the FAQ's related to technical and soft skills. There is a strong corporate presence and top management of leading companies interact with students guiding them through the campus to corporate experience.

The program for other schools has been patterned on the lines given above, though the technical content and placement requirements differ.

## 5. Evidence of Success

Students are the heart and soul of a University and are required to be trained and developed so they can reach their full potential. An employer may spend a fortune on hiring the most promising newcomers, but if not trained properly, even the talented will fail to deliver. This highlights the fact that such programs need to be student-centric and focused. Enhancement of confidence, communication skills and overall personality of students is reflected in the student's ability to face interviews with sought after companies which have very stringent recruiting procedures - the success of this program is evident from the response of recruiters.

- Alumni feedback is another evidence that validates the success of this program. They have expressed that undergoing the program has been a game changer for them as they feel a significant difference in their overall persona.
- The demand for this program has spread not only across the entire University but in other educational institutes.

- The enhancement in confidence levels of students is also apparent from the way they are able to compare shows, make presentations and organize events without interventions.
- Faculties who were skeptical of this program now ask for it on a regular basis.
- Shoolini students stand out during their training periods and seem to be more in control of their “Campus to Corporate” journey. This program has played a significant role in the laurels earned by The School of Business Management and Liberal Arts. It is essentially because of the success of the SPRINT that the school has been ranked the best private upcoming business school by ASSOCHAM India.

## **6. Problems Encountered and Resources Required**

The success of this program has not been without roadblocks.

- Since the demand for this program outstripped capabilities, it was a challenge to cater to large numbers.
- Maintaining the quality of the program remains a major challenge.
- Important resources required for SPRINT are top class infrastructure, dedicated trainers, corporate interaction and an environment that fosters learning. Support from governmental bodies would go a long way in supporting programs like this which are a very crucial part of the National Skill Development Program

## **7.4 Contribution to environmental awareness/protection**

Since sustainability of the Himalayan eco-system is a thrust area for Shoolini University, it is incumbent that the focus is directed on the environment, especially since the University is nested in the Mid Himalayas. This includes taking up eco-preservation in an institutionalized manner and focused research for the rejuvenation of the eco-system.

It was for this purpose that the University started an ‘Eco Club, in early 2012, with the aim of creating a ‘Clean and Green Consciousness’ on campus, and progressively extending to the immediate neighborhood and the larger Himalayan Region. It was in pursuance with this aim that the University not only takes pride in being a ‘neat and litter free’ campus but being a part of the Prime Minister’s ‘Swachh Bharat Abhiyan’ and undertaking research on Himalayan sustainability, individually and as part of the consortia of Himalayan Universities.

Students and faculty members of the university have been actively participating in Swachh Bharat Abhiyan started by the Prime Minister of India. On 2<sup>nd</sup> Oct 2016, the students and staff took the initiative of cleaning solan town. The university also installed dustbins at various places in the city. Similarly, on 2<sup>nd</sup> Oct 2017, the university’s students and staff held a candle march to spread awareness about the Swachh Bharat Abhiyan of the Government. In addition, the students and staff of the university have regularly been involved in plantation activities.

The Shoolini university has always been concerned about the economic plight of marginal hill farmers. In partnership with the Yogananda Satsanga Society of India and University of Horticulture and Forestry, Nauni, Solan, the university has adopted the Panthi Village in Shimla District, HP, for plantation of fruit trees- with the objective of creating ecological conservation as well as creating a secondary source of income for farmers in this dry and arid region. On February 8, 2015, several plants were distributed to villagers. Since the adoption of the village, over seven thousand saplings have been distributed free of cost to the farmers. The survival of these plants and aftercare is monitored.

**7.5 Whether environmental audit was conducted?**      Yes       No

**7.6 Any other relevant information the institution wishes to add. (For example SWOT Analysis)**

Shoolini's biggest Strength emanates from its determination to excel in academic repute and outshine in the quality of research, and by so doing, be counted in the elite club of Premier Institutes globally. Adding objectivity to this ambitious vision is the defined timeline of 2022. The fact that this vision is shared by the Trustees, Management and more importantly, by faculty and staff who are the life and blood of this institution, remains a major support.

Shoolini's focus on research and development across Schools and its success to date is its second biggest strength.

In the short journey of the University thus far, there has been an infusion of substantial government funds for research (over 25 Crores). With thirty (funded) labs, over a hundred patents and an 'h' factor of 31, Shoolini has emerged as a leading contender in the list of 'Most Admired Science Universities,' a distinction that places it heads above its contemporaries in India.

## **8. Plans of the institution for next year**

The uniqueness of the Himalayas biodiversity offers thousands of unanswered research issues which can make India a front-runner in the drug industry. The need is to undertake research work through coordinated efforts by Himalayan Universities. Shoolini University with a dozen patents in the field of life sciences can play the leading role among the Consortium of Himalayan Universities.

In addition, bio-remediation, climatic change, and conservation of water resources along with rehabilitation of bio-ecological and geological ecosystems need to be taken for societal benefits. Shoolini University needs to play the lead role in formulating joint projects for international funding on the aforesaid themes. While a start has been made, we need to further energize research efforts on the myriad issues that afflict the Himalayas. In order to be acknowledged as a premier institute in this field, we need to undertake outcome driven research. At the same time, the approach should be multi-disciplinary with multiple objectives and outcomes. Apart from opportunities within the institution, collaborative projects need to be formalized within the consortium of Himalayan Universities, Governmental Bodies and NGO's. In addition, this opens up another area for collaboration with China through the MoU with Lanzou University.

In view of its growing importance and expanding domains in the fields of ICT and the Cyberworld, coupled with the technical acumen and proven prowess of the University, there is a great opportunity to expand different fields in academics and to undertake research. In view of the fact that HP intends to be an IT hub, there is ample opportunity for expanding the scope of ICT and taking it to the next level – the role of a Center of Excellence is pivotal for this initiative.

In order to strengthen over activities the focus will be on:

1. Broad basing Funding and Governmental Support
2. Enhance Reach-through Technology and Linkages
3. Improve Quality of Academic faculty

Name \_\_\_\_\_ Name \_\_\_\_\_

\_\_\_\_\_  
*Signature of the Coordinator, IQAC*

\_\_\_\_\_  
*Signature of the Chairperson, IQAC*

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## **ANNEXURE I**

**Shoolini University**  
**Academic Calendar – 2016-17**  
**FOR OLD/ NEWLY ADMITTED UG, PG and Ph.D. STUDENTS**

<b>Course Title and Code to be offered</b>	June 20, 2016
<b>Meeting of Academic Council</b>	June 24, 2016
<b>Admission Call by Admission Cell</b>	June 27-July 01, 2016
<b>Allotment of courses and Notification by Deans</b>	July 01, 2016
<b>Course Design and Lecture Schedule</b>	July 15, 2016
<b>The release of Time Table by Vice Chancellor</b>	July 28, 2016

### **SEMESTER (ODD)**

	<b>All old students (UG/PG / M.Phil/ Ph.D)</b>	<b>Newly admitted Undergraduate Students</b>	<b>Newly admitted M Sc/ M BA/ M Pharma / M.Tech Students</b>	<b>Newly admitted M.Phil / PhD Students</b>
<b>Registration</b>	Aug 1, 2016	Aug 8-9, 2016	Aug 10-11, 2016	Aug 16, 2016
<b>Orientation/ Induction/ I Card Preparation/ Fee for newly admitted students</b>	–	Aug. 09, 2016 (Compulsory to attend)	Aug. 11, 2016 (Compulsory to attend)	Aug. 17, 2016 (Compulsory to attend)
<b>Commencement of Classes</b>	Aug 2, 2016	Aug 10, 2016	Aug 12, 2016	Aug 17, 2016
<b>Late Registration (With late fee)</b>	Aug 2-05, 2016	Aug 10-16, 2016	Aug 12-18, 2016	Aug 17-19, 2016
<b>Indoor Sports Championship</b>	Aug. 20-21, 2016	Aug. 20-21, 2016	Aug. 20-21, 2016	Aug. 20-21, 2016
<b>Teachers Day(Marathon 2015)</b>	Sept 5, 2016	Sept 5, 2016	Sept 5, 2016	Sept 5, 2016
<b>I Term Examination</b>	Sept 21 – 23, 2016	Sept 21 – 23, 2016	Sept 21 – 23, 2016	Sept 28 – 30, 2016

<b>Intra University Cultural Competition</b>	Oct. 06-08, 2016	Oct. 06-08, 2016	Oct. 06-08, 2016	Oct. 06-08, 2016
<b>Shoolini Univ. Foundation Day (Third Convocation)</b>	Oct. 16, 2016	Oct. 16, 2016	Oct. 16, 2016	Oct. 16, 2016
<b>II Term Examination</b>	Oct. 26-28, 2016	Oct. 26-28, 2016	Oct. 26-28, 2016	Nov 7-9, 2016
<b>Diwali Vacation Student/Staff</b>	Oct 29 – Nov. 4, 2016	Oct 29 – Nov. 4, 2016	Oct 29 – Nov. 4, 2016	Oct 29 – Nov. 4, 2016
<b>University Athletic Meet</b>	Nov 19-20, 2016	Nov 19-20, 2016	Nov 19-20, 2016	Nov 19-20, 2016
<b>Inter Deptt. Volley Ball/ Basketball</b>	Nov 26-27, 2016	Nov 26-27, 2016	Nov 26-27, 2016	Nov 26-27, 2016
<b>Payment of tuition fee/Hostel fee for next semester</b>	Dec. 1-15, 2016	Dec. 1-15, 2016	Dec. 1-15, 2016	Dec. 1-15, 2016
<b>Late fee payment with fine for next semester</b>	Dec. 16-30, 2016	Dec. 16-30, 2016	Dec. 16-30, 2016	Dec. 16-30, 2016
<b>Appraisal of staff</b>	Dec. 10, 11, 17 & 18, 2016	Dec. 10, 11, 17 & 18, 2016	Dec. 10, 11, 17 & 18, 2016	Dec. 10, 11, 17 & 18, 2016
<b>End Term Examination</b>	Dec. 16-30, 2016	Dec. 16-30, 2016	Dec. 16-30, 2016	Dec. 30, 2016 – Jan 03, 2017
<b>Result Declaration</b>	Jan. 7, 2017	Jan. 7, 2017	Jan. 7, 2017	Jan. 7, 2017
<b>Working Days</b>	<b>98 (Excluding Holidays)</b>	<b>93 (Excluding Holidays)</b>	<b>91 (Excluding Holidays)</b>	<b>90 (Excluding Holidays)</b>
<b>Winter Vacation (Students)</b>	Jan. 01- 29, 2017	Jan. 01- 29, 2017	Jan. 01- 29, 2017	Jan. 04- 29, 2017

**Allotment of courses and Notification by Deans** Jan. 2, 2017

**Course Design and Lecture Schedule** Jan. 12, 2017

**The release of Time Table by Vice Chancellor** Jan. 12, 2017

**Start of next semester** Jan. 30, 2017

**SEMESTER (EVEN)**



<b>Registration (Online)</b>	Jan. 30, 2017	Jan. 30, 2017	Jan. 30, 2017	Jan. 30, 2017
<b>Commencement of classes</b>	Jan. 31, 2017	Jan. 31, 2017	Jan. 31, 2017	Jan. 31, 2017
<b>Late Registration (With Late Fee)</b>	Feb. 3-6, 2017	Feb. 3-6, 2017	Feb. 3-6, 2017	Feb. 3-6, 2017
<b>I Term Examination</b>	March 8-10, 2017	March 8-10, 2017	March 8-10, 2017	March 8-10, 2017
<b>Spring cum Flower Festival</b>	March 19, 2017 (Sunday)	March 19, 2017 (Sunday)	March 19, 2017 (Sunday)	March 19, 2017 (Sunday)
<b>Theatre cum Musical Festival(MOKSH)</b>	March 24-25, 2017	March 24-25, 2017	March 24-25, 2017	March 24-25, 2017
<b>Inter Deptt. Cricket Championship</b>	April 08-09, 2017	April 08-09, 2017	April 08-09, 2017	April 08-09, 2017
<b>II term Examination</b>	May 3-5, 2017	May 3-5, 2017	May 3-5, 2017	May 3-5, 2017
<b>Payment of tuition fee/Hostel fee for next semester</b>	May 1-15, 2017	May 1-15, 2017	May 1-15, 2017	May 1-15, 2017
<b>Late fee payment with fine for next semester</b>	May 16-30, 2017	May 16-30, 2017	May 16-30, 2017	May 16-30, 2017
<b>End Term Examination</b>	June 1-13, 2017	June 1-13, 2017	June 1-13, 2017	June 1-13, 2017
<b>Declaration of Result/ Graduation Day/ Parent-Teacher Interaction</b>	June 20, 2017	June 20, 2017	June 20, 2017	June 20, 2017
<b>Vacation (for students)</b>	June 19–Aug 6, 2017	June 19–Aug 6, 2017	June 19–Aug 6, 2017	June 19–Aug 6, 2017
<b>Working Days</b>	<b>93 (Excluding Holidays)</b>	<b>93 (Excluding Holidays)</b>	<b>93 (Excluding Holidays)</b>	<b>93 (Excluding Holidays)</b>

**Note:**

1. Quiz/Surprise test will be during the class period.
2. Instructors will be giving assignments (8 for UG and 5 for PG) and after evaluation will return to the student within 4 days of submission.
3. Instructors to submit the result of I, II term within 4 days of examinations to Controller of Examination through Dean Academics.

## **ANNEXURE II**

### **FEEDBACK ANALYSIS**

Student feedback was taken on a predesigned questionnaire. The questionnaire was uploaded on the eUniv (learning management system LMS) of the university. The questionnaire consisted of six parameters viz. General, Content, Pedagogy, Communication/ Control, eUniv and Overall Rating. Parameter *General* had one item namely 'regular and punctual in taking the classes. *Content* had two items namely 'has good subject matter knowledge/command over the subject' and 'subject or the topic is presented systematically, clearly and according to the lecture schedule'. Parameter *Pedagogy* had two items namely 'encourage students participation and class discussions' and 'use of PPTs/audio-visual aids/examples/diagrams'. Parameter *Communication/Control* had two items namely 'easily/comfortably manages/ handles (any misconduct behavior) the students in class' and 'language/words/gestures/sound is loud & easily understood'. Parameter *Euniv* had two items namely 'course supplement on euniv is regularly updated with sufficient content (lecture schedule, PPT, Pdf, student notes, video lectures)' and 'takes tests, assignments etc. on euniv'. Parameter *Overall Rating* consisted of two items 'should he/she be teaching this course to the next set of students' and 'what is your overall rating for the teacher with respect to this course'.

All the questions were asked on a Likert scale consisting of five categories namely: strongly disagree, disagree, neutral, agree and strongly agree. One question of the overall rating parameter consisted of responses ranging from 1 star to 5 stars. There was also one open-ended question in the form which asked about any other suggestions or comments of the students. All the responses of the students were anonymous in order to make the process fair. The process of taking students' feedback is run at the end of the semester wherein each class is given an IT lab slot (date and time) during which they give the feedback of the respective course teachers. The data thus generated was analyzed by the centralized IT department of the university. From the analysis of the student feedback data of the year 2016-17, it was seen that all the faculty members of the university had a consolidated average score ranging from 3.26 to 4.87 (Refer images below). This implied that most of the faculty members had an above average feedback.

# Sample Feedback

Mode: Anonymous

There are required fields in this form marked \*.

## **General**

Regular and punctual in taking the classes.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

## **Content**

Has good subject matter knowledge/ command over the subject.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Subject or the topic is presented systematically, clearly & according to the lecture schedule.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

## **Pedagogy**

Encourage student participation and class discussions.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Use of PPT's/ audio-visual aids/ examples/ diagrams.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

## **Communication/Control**

Easily/ comfortably manages/ handles (any misconduct/ misbehavior) the students in class.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Language/ Words/ Gestures/ Sound is loud and clear & easily understood.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

## **eUniv**

Course supplement on eUniv is regularly updated with sufficient content (Lecture Schedule, PPT, PDF, Student notes, Video Lectures) \*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Takes tests, assignments etc. on eUniv.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

## **Overall Rating**

Should he/she be teaching this course to the next set of students.\*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

What is your overall rating for the teacher with respect to this course?\*

- 1 Star (Lowest)
- 2 Star
- 3 Star
- 4 Star
- 5 Star (Highest)

Any other suggestions or comments

Submit your answers

Cancel

---

## **ANNEXURE III**

**Course Name** :

**Course Code** :

**Course Instructor** :

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**Hours:**

**Credits:**

**Course Description:**

**Course Content:**

**Unit-A:**

**Unit-B:**

**Unit-C:**

**Unit-D:**

**Course Outcomes:**

### **1. Knowledge Outcomes:**

At the end of the course, the student should be able to:

- 
- 
- 

### **2. Skill Outcomes:**

At the end of the course, the student should be able to:

- 
- 
- 
- 

**Methodology:**

- 
- 
- 

**Grading:**

**Internal assessment**

-

**End Term Exam**

-

**Required Books and Materials:**

**Text Books:**

- 1.
- 2.

**Reference Books:**

- 1.
- 2.
- 3.
- 4.

**Lecture Schedule for (Course Code: Course Name)**

Lecture: No	
Pedagogy	<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>
Topics to be covered	<ul style="list-style-type: none"><li>•</li><li>•</li></ul>
Learning Outcome(s)	<ul style="list-style-type: none"><li>•</li></ul>
Readings	<ul style="list-style-type: none"><li>•</li><li>•</li></ul>
Case Study/Practical	<ul style="list-style-type: none"><li>•</li></ul>
Assignment/Quiz/Project	<ul style="list-style-type: none"><li>• No, mode, date and time</li></ul>
Instructions for Next lecture	<ul style="list-style-type: none"><li>•</li></ul>

## ANNEXURE IV



# Shoolini University outperforms in quality of research

SciVal Data (2014-2017)

Research Quality Indicators

	Research Output (SCOPUS Documents)	Category Normalized Citation Impact	% International Collaboration	Citation Impact	% Documents in Top 1%	% Documents in Top 10%
<b>Shoolini University* (Estb. 2009)</b>	452	1.41	37.8	5.1	1.5	25.4
<b>Top 10 Indian Private Universities</b>	28526	0.67	10.9	1.8	0.6	10.3
Indian Institute of Technology (IIT) - Mandi* (Estb. 2009)	789	0.95	27.8	3.3	3.2	30.9
Indian Institute of Technology Technology (IIT) - Delhi	8098	1.11	20.8	3.5	2.8	31.8
Indian Institute of Science (IISc) - Bangalore*	10456	1.06	27.2	4.0	2.2	37.9
<b>Top 10 Indian Academic Institutions</b>	54371	0.94	19.0	3.4	1.5	24.8
<b>Top 10 Global Universities</b>	393654	2.11	47.5	8.3	7.7	49.3

Source: SciVal

\*Time Period: [2014-2017]

Updated January 24, 2017



# Top Indian Patent Applicants from Institutes and Universities



S. No.	Name of Institute/University	Applications Filled		
		2015-16	2016-17	2017-18
1	Indian Institute of Technology	391		
2	Amity University	99		
3	Bharath University	65		
4	Indian Institute of Science	46		
4	Chitkara University	46		
5	Savitribha School of Engineering	33		
5	G. H. Raisoni College Of Engg / G. H. R. Labs And Research Centre	33		
6	Shoolini University Of Biotechnology And Management Sciences	22	33	48
6	Janardan Rai Nagar Rajasthan Vidyapeeth (Deemed) University	22		
7	Veltech Dr. Rr & Dr. Sr Technical University	20		
8	Siddaganga Institute of Technology	17		
8	National Institute Of Pharmaceutical Education And Research	15		
9	Dr. M.G. R Educational And Research Institute	15		
10	King George's Medical University	14		

**Abbreviations:**

CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission

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