

Annual Quality Assurance Report (AQAR)

of



Submitted to



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

P. O. Box. No. 1075, Opp: NLSIU, Nagarbhavi, Bangalore - 560 072 India

The Annual Quality Assurance Report (AQAR) of the IQAC

Part – A

1. Details of the Institution

1.1 Name of the Institution

Chitkara University

1.2 Address Line 1

Atal Shiksha Kunj, Atal Nagar

Address Line 2

Barotiwala

City/Town

District Solan

State

Himachal Pradesh

Pin Code

174103

Institution e-mail address

info@chitkarauniversity.edu.in

Contact Nos.

+91-1795-661011

Name of the Head of the Institution:

Dr. Varinder Singh Kanwar

Tel. No. with STD Code:

+91-1795-661011

Mobile:

+91-9805965401

Name of the IQAC Co-ordinator:

Dr. Madhu Gupta

Mobile:

+91-1795-661011

IQAC e-mail address:

coordiqac@chitkarauniversity.edu.in

1.3 NAAC Track ID (For ex. MHCOGN 18879)

HPUNGN 11244

1.4 NAAC Executive Committee No. & Date:

EC(SC)/15/A&A/87.1
Dated 25/05/2015

1.5 Website address:

www.chitkarauniversity.edu.in

Web-link of the AQAR:

https://www.chitkarauniversity.edu.in/pdf/2018/AQAR_2017-18.pdf

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	B	2.71	2016	5 Years
2	2 nd Cycle				
3	3 rd Cycle				
4	4 th Cycle				

1.7 Date of Establishment of IQAC :

DD/MM/YYYY

01/07/2013

1.8 AQAR for the year (for example 2010-11)

2017-18

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 2016-17 (07.11.2017)

1.10 Institutional Status

University

State

☒

Central

☐

Deemed

☐

Private

☐

Affiliated College

Yes

☐

No

☒

Constituent College

Yes

☐

No

☒

Regulatory Agency approved Institution	Yes	✓	No
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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 ☒

Arts ☐ Science ☐ Commerce ☐ Law ☐ PEI (Phys Edu) ☐

TEI (Edu) <input type="checkbox"/>	Engineering	✓	Health Science <input type="checkbox"/>	Management <input type="checkbox"/>
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Others (Specify)

Not Applicable

Autonomy by State/Central Govt. / University

NA

University with Potential for Excellence

NA

UGC-CPE

NA

DST Star Scheme

NA

UGC-CE

NA

UGC-Special Assistance Programme

NA

DST-FIST

NA

UGC-Innovative PG programmes

NA

Any other (*Specify*)

NA

UGC-COP Programmes

NA

2. IQAC Composition and Activities

2.1 No. of teachers	<input type="text" value="7"/>
2.2 No. of administrative/technical staff	<input type="text" value="3"/>
2.3 No. of students	<input type="text" value="4"/>
2.4 No. of management representatives	<input type="text" value="1"/>
2.5 No. of alumni	<input type="text" value="3"/>
2.6 No. of any other stakeholder and community representatives	<input type="text" value="1"/>
2.7 No. of employers/ industrialists	<input type="text" value="3"/>
2.8 No. of other external experts	<input type="text" value="3"/>
2.9 Total no. of members	<input type="text" value="25"/>
2.10 No. of IQAC meetings held	<input type="text" value="14"/>
2.11 No. of meetings with various stakeholders:	No. <input type="text" value="12"/> Faculty <input type="text" value="4"/> Non-Teaching Staff <input type="text" value="6"/> Students <input type="text" value="1"/> Alumni <input type="text" value="1"/> Others <input type="text"/>
2.12 Has IQAC received any funding from UGC during the year?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, mention the amount	<input type="text"/>
2.13 Seminars and Conferences (only quality related)	

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

Total Nos.	<input type="text" value="4"/>	International	<input type="text" value="0"/>	National	<input type="text" value="0"/>	State	<input type="text" value="0"/>	Institution Level	<input type="text" value="4"/>
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Details attached at **Annexure-I**

(ii) Themes

- Orientation programme for newly recruited faculty
- Plan of action of IQAC for 1st semester of academic year 2017-18
- Plan of action of IQAC for 2nd semester of academic year 2017-18
- Practice of sharing intra departmental best practices

2.14 Significant Activities and contributions made by IQAC

- i. To monitor the quality in teaching and allied domains on regular intervals.
- ii. Collection of quantitative and qualitative data from all departments on quarterly basis and suggest its analysis from time to time.
- iii. University has initiated a mechanism of rewarding the departments based on their overall performances on the basis of VII IQAC criterions. IQAC carry out the analysis of the data provided by the department and the best department is declared on the basis of score obtained.
- iv. To suggest research and innovation based learning, industry-institute interaction programmes faculty development programmes and MOOC courses that can be integrated in curriculum.

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 .

Plan of Action

- Planning for conduction and implementation of Academic Monitoring Committee
- Suggestion regarding industrial visits and expert lectures
- Creation of Research Eco System for faculty and students
- Increasing student employability through Industry Academia Interference
- Learning beyond class room hours by conducting extra classes
- Implementation of industry feedback in the curriculum
- Making the staff and students socially responsible

ACADEMIC CALENDAR FOR ACADEMIC YEAR 2017-18

July 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8 Convocation Batch 2013	9
10 Registration followed by start of class work	11	12	13	14	15 Off day for teaching and non teaching	16
17	18	19	20	21	22 Teaching Working	23
24	25	26	27	28	29 Teaching Working	30
31	Notes:					

August 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5 Off day for teaching and non teaching	6
7	8	9	10	11	12 Teaching Working	13
14	15 Independence Day	16	17	18	19 Teaching Working	20
21	22	23	24	25	26 Off day for faculty members & working day for non-teaching staff members	27
28	29	30	31	Notes:		

September 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2 Teaching Working	3
4	5	6	7	8	9 Off day for Teaching and non teaching	10
11 ST-1	12 ST-1	13 ST-1	14 ST-1	15 ST-1	16 Fresher's Party	17
18	19	20	21	22	23 Algorhythm	24
25	26	27	28	29	30 Dussehra	Notes:

October 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
2 Gandhi Jayanti	3	4	5	6	7 Teaching Working	8
9	10 ST-2 for All Batches	11 ST-2 for All Batches	12 ST-2 for All Batches	13 ST-2 for All Batches	14 ST-2 for All Batches	15
16 Diwali Break	17 Diwali Break	18 Diwali Break	19 Diwali	20 Diwali Break	21 Diwali Break	22
23	24	25	26	27	28 ICAN Non teaching Working	29
30 Global Engineering Week	31 Global Engineering Week	Notes:				

November 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
		1 Global Engineering Week	2 Global Engineering Week	3 Global Engineering Week	4 Guru Nanak Jayanti	5
6	7	8	9	10	11 Off day for teaching and non teaching	12
13	14	15	16	17	18 Teaching Working	19
20	21	22	23	24	25 Off day for Faculty members & working day for non-teachig staff members	26
27 External Lab Exams	28 External Lab Exams	29 External Lab Exams	30 External Lab Exams	Notes:		

December 2017						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1 External Lab Exams	2 External Lab Exams	3
4 End Term Exams	5 End Term Exams	6 End Term Exams	7 End Term Exams	8 End Term Exams	9 End Term Exams	10
11 End Term Exams	12 End Term Exams	13 End Term Exams	14 End Term Exams	15 End Term Exams	16 End Term Exams	17
18 End Term Exams	19 End Term Exams	20 End Term Exams	21 End Term Exams	22 End Term Exams	23 End Term Exams	24
25 Christmas	26 Winter Break	27 Winter Break	28 Winter Break	29 Winter Break	30 Winter Break	31
Notes:						

January 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2 University reopens for all staff members	3 Registration followed by start of class work	4	5	6	7
8	9	10	11	12	13 Teaching working Lohri Celebration	14
15	16	17	18	19	20 Teaching Working Annual Athletic Meet-2018	21
22	23	24	25	26 Republic Day	27 Off Day for all staff members	28
29	30	31	Notes:			

February 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1	2	3 Teaching working Inventor Meet	4
5	6	7	8	9	10 Teaching Working	11
12	13 Maha Shivratri	14	15	16	17 Off Day for all Staff members	18
19	20	21	22	23	24 Teaching Working	25
26 ST-1	27 ST-1	28 ST-1	Notes:			

March 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1 ST-1	2 Holi	3 Holi Vacations	4
5	6	7	8	9	10 Teaching Working Athlos'18	11 Athlos'18
12	13	14	15	16	17 Off Day for all Staff members	18
19	20	21	22	23	24 Teaching working	25 Ram Navami
26	27	28	29	30	31 Teaching working	Notes:

April 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
2	3	4	5	6	7 Teaching working	8
9 ST-2	10 ST-2	11 ST-2	12 ST-2	13	14 Teaching working	15
16	17	18	19	20	21 Teaching working	22
23	24	25	26	27	28 Off day for Faculty members & working day for non teaching	29
30	Notes:					

May 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5 Off day for faculty members & working day for non teaching staff members	6
7	8 ST-3	9 ST-3	10 ST-3	11 ST-3	12 ST-3	13
14 External Lab Exams	15 External Lab Exams	16 External Lab Exams	17 External Lab Exams	18 External Lab Exams	19 Off Day for all staff members	20
21 End Term Exams	22 End Term Exams	23 End Term Exams	24 End Term Exams	25 End Term Exams	26 End Term Exams	27
28 End Term Exams	29 End Term Exams	30 End Term Exams	31 End Term Exams	Notes:		

June 2018						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1 End Term Exams	2 End Term Exams	3
4 End Term Exams	5 End Term Exams	6 End Term Exams	7 End Term Exams	8 End Term Exams	9 Summer Vacations	10 Summer Vacations
11 Summer Vacations	12 Summer Vacations	13 Summer Vacations	14 Summer Vacations	15 Summer Vacations	16 Summer Vacations	17 Summer Vacations
18 Summer Vacations	19 Summer Vacations	20 Summer Vacations	21 Summer Vacations	22 Summer Vacations	23 Summer Vacations	24 Summer Vacations
25 University reopens for all staff members	26	27	28	29	30	Notes:

2.16 Whether the AQAR was placed in statutory body

Yes

☐

No

☐

Management

☒

Syndicate

☐

Any other body

☒

Provide the details of the action taken

Approved

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	1	2	3	0
PG	3	0	3	0
UG	3	0	3	0
PG Diploma	0	0	0	0
Advanced Diploma	0	0	0	0
Diploma	0	0	0	0
Certificate	0	0	0	0
Others	0	0	0	0
Total	7	2	9	0
Interdisciplinary	0	0	0	
Innovative	0	0	0	

1.2 (i) Flexibility of the Curriculum:

CBCS/Core/Elective option

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	Yes
Trimester	
Annual	

1.3 Feedback from stakeholders*

(On all aspects)

Alumni	<input checked="" type="checkbox"/>	Parents	<input checked="" type="checkbox"/>	Employers	<input checked="" type="checkbox"/>	Students	<input checked="" type="checkbox"/>
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Mode of feedback : Online ☒ Manual ☒ Co-operating schools (for PEI) ☐

(*Please provide an analysis of the feedback in the Annexure)

Analysis of the feedback is attached at **Annexure-II**

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

Yes, there ought to make some minor changes in course curriculum on yearly basis based on the feedback received from the stakeholders. Changes agreed upon in the departmental meeting were presented to the Board of Studies (BOS) and further got approved by the Academic Council after due deliberations.

1.5 Any new Department/Centre introduced during the year. If yes, give details.

- PhD -CSE
- PhD -Applied Sciences.
- Centre for Entrepreneurship Education and Development (In house Innovation Incubator: Explore Hub)

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Assistant Professors	Associate Professors	Professors	Others
146	102	27	17	-

2.2 No. of permanent faculty with Ph.D.

31

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
12	0	1	0	1	0	2	0	16	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

Guest Faculty: 20

Visiting faculty: 6

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended Seminars/ Workshops	-	4	1
Presented papers	24	6	9
Resource Persons	1	3	1

Details attached at ***Annexure-III***

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

- Regular teaching blended with online courses on MOOCs platform.
- Hands on training to all engineering students by offering them application oriented learning through courses like Engineering Exploration right from the first year.
- Started a Top Coder Chapter for conducting Hackathons and other Programming competitions for the students and faculty.

- Peer-Teaching beyond classroom hours where a team of 50 students with CGPA above 9.0 were designated as Chitkara Scholars and were actively engaged in teaching beyond classroom hours under the supervision of faculty in the evening after the conduct of second mid semester examinations.
- Learning beyond classroom through activities like group discussions, educational visits, quizzes, poster making, industrial visits, guest and invited talks are the regular practices in academics.
- Students are trained on latest technologies like Red Hat, Linux, Amazon Web Services, Quick Heal for Cyber Security and Pega tool under Pega etc to keep them at pace with the new technology and industry trend.
- Students undergoing the Integrated Project were also given a choice of certification from Udacity namely Nano degrees in the field of: machine learning, android developer, front end developer, full stack developer and data analysts
- Industry based workshops on AutoDESK, STAAD.Pro and MX Road were conducted for civil engineering students by the industry experts.
- Introduction to CCNA routing and switching courses for CSE students and Online NETACAD for electronics and communication engineering students .
- Industry based workshops on NXP- Semiconductors : future through automotive sensors for students and faculty of ECE.
- Office of Patent Facilitation & Licensing Consultancy (OPFLC) Cell of the University conducts regular events like IPR sensitization seminars, patent filing competitions, IPR workshops to spread IPR awareness among students & faculty. It also assist the budding innovators through services of Patent Attorney.
- In order to acquaint the students with latest technologies and innovations, the University organizes "Technical Fest" each year and the same was organized on March 24, 2018 this year
- Regular visits are conducted for the students and faculty to industries and renowned R&D laboratories.
- Chitkara University Centre for Entrepreneurship Education & Development (CEED) conducts regular events like Startup Day & Startup OPD to encourage innovation and creativity of students and to facilitate all their entrepreneurial needs, starting from filing patents to preparing them for investor pitches. The University has organized several camps in this academic year under the aegis of CEED.

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

181

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

- Bar Code secrecy
- Online Examinations

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

Curriculum Restructuring	Curriculum Revision	Syllabus Development
21	60	60

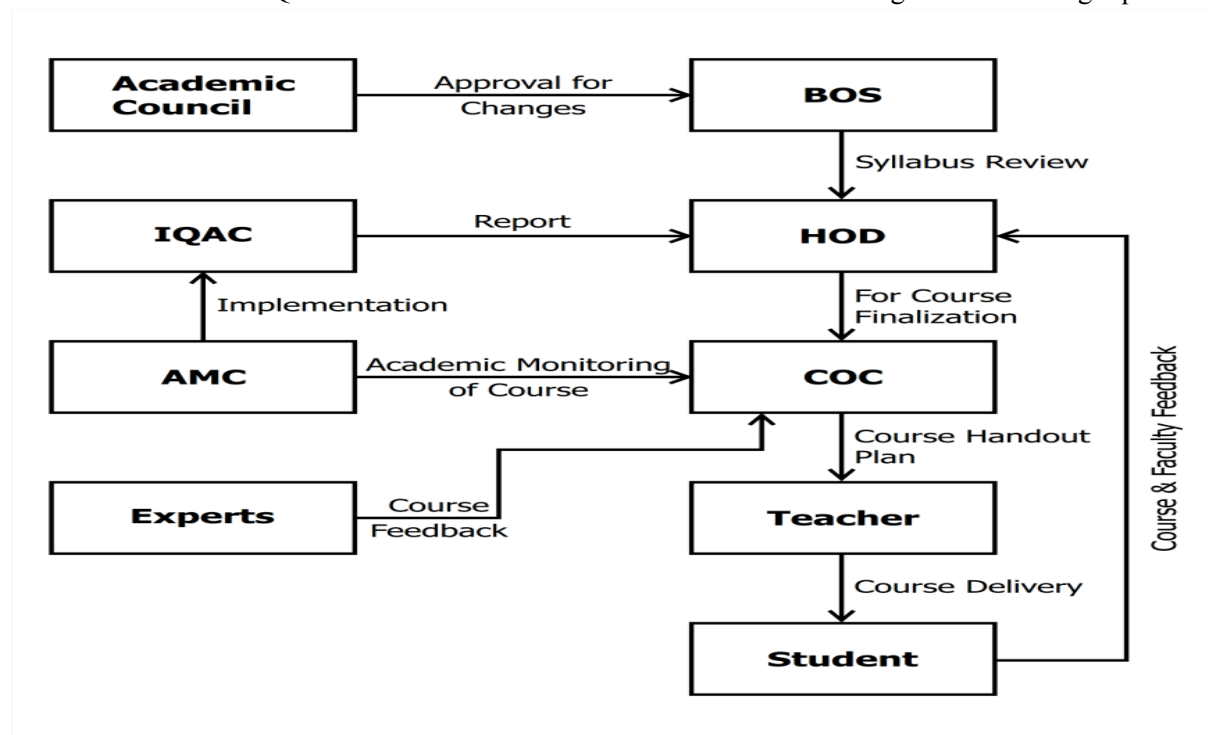
2.10 Average percentage of attendance of students

>75%

2.11 Course/Programme wise distribution of pass percentage :

Title of the Programme	Total no. of students appeared	Total no. of students passed	CGPA Ranges					
			9 -10	8 - 8.99	7 -7.99	6 - 6.99	5 - 5.99	4.5 - 4.99
BE (CSE)	324	292	03	39	162	94	11	15
BE (ECE)	39	32	Nil	05	17	11	01	05
BE (CE)	121	102	Nil	09	40	55	10	07

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



BOS: Board of Studies

IQAC: Internal Quality Assurance Committee

HOD: Head of Department

AMC: Academic Monitoring Committee

COC: Course Coordinator

- IQAC ensures overall quality improvement in all the processes by monitoring and evaluating the teaching learning process. University and departmental level monitoring committees are setup that regularly gather the required information, analyse it and then submit the final report to IQAC. IQAC

compile all the data, analyse it and forward the suggestions to the concerned departments for implementation of changes where ever required.

- Feedback is obtained from the students, faculty and alumni on each of the courses offered and the same is analysed along with the inputs that are received from the industry. This feedback supports in framing the new courses, making necessary changes in the existing ones based on latest trends and requirements in the industry. Academic results of each of the courses also act as a feedback for incorporating further changes in the course curriculum. Certain courses for which the failure rate is on the higher side goes through critical analysis to ascertain to be done in the teaching learning process to improve the pass percentage. A proposal for changes is submitted to Board of Studies for further discussion and its recommendations are sent to the Academic Council for approval. Internal Quality and Assessment Cell ensures proper functioning of teaching processes in all departments.
- The lecture-wise break-up of the syllabus along with the evaluation scheme, course objectives & outcomes and resource material are made available in the form of course handouts to all students at the beginning of each semester. The academic results for mid-term exams as well as ETE exams are analysed using bar charts. A course showing higher failure rate is put under the scanner for necessary corrective actions required. Academic Monitoring Committee (AMC) meetings are conducted in each semester on regular basis to monitor the student performance in each course, syllabus covered and teaching methodology.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programs	Number of faculty benefitted
Refresher courses	--
HRD programs	3
Staff training conducted by the university	25
Staff training conducted by other institutions	30
Summer / Winter schools, Workshops, etc.	10
Others	58

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	95	0	3	0
Technical Staff	30	0	2	0

Criterion – III

3. Research, Consultancy and Extension

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

- IQAC took the initiative to establish a Centre for Entrepreneurship Education and Development (CEED) which has in house innovation incubator: Explore Hub that imbibes the rhythm of igniting young minds to nurture the Nation's vision of STARTUP INDIA-STAND UP INDIA. There's a dedicated team of experts to facilitate all entrepreneurial needs, starting from filing patents to preparing them for investor pitches. Currently there are 9 student startups - Logolize, Robo Champ, Satshri Technologies, SD Fine arts, Sea cup, Tspot, Alrado, Brooks and Grew and Code Street13 successfully executing under the aegis of CEED.
- IQAC is working with Chitkara University Research and Innovation Network (CURIN) to promote interdisciplinary and applied research beneficial to our University, Society, National and International Community and keeps on motivating the faculty members to submit projects to the funding agencies like DST, UGC etc. This initiative of IQAC helped the University to obtain research funding to the tune of about 1 crore from different Government funding agencies.
- The Office of Patent Facilitation & Licensing Consultancy (OPFLC) of university has appointed a full time patent attorney who act as a mentor to the students/faculty in filing patents. OPFLC conducts regular events like IPR sensitization seminars, patent filing competitions, IPR workshops to spread IPR awareness among students & faculty.
- IQAC encourage and motivate the departments to organize conferences, seminars, symposia, workshops etc. in various fields of research.
- IQAC is also working in synchronisation with the academic departments by laying down the foundation for taking challenges in research work. Students are involved in integrated projects from the first year of their programme. These projects are usually interdisciplinary where they work in a team / group and allocated a project under the guidance of a faculty member. Every week, 4 hours have been allocated for students to interact and update their guide about the progress of their project. Weekly or fortnightly evaluation of each student is done and they are appraised about what is still required at their end. The faculty also provides them the necessary resource material. At the end of the semester students design the complete project/prototype which is evaluated and these projects are further enhanced in subsequent years of their graduation.

3.2 Details regarding major projects

	Completed	Ongoing	Submitted
Number	1	4	14
Outlay in Rs. Lakhs	8.4	36.37	672.79

Details attached at ***Annexure-IV***

3.3 Details regarding minor projects

	Completed	Ongoing	Submitted
Number	-	-	-
Outlay in Rs. Lakhs	-	-	-

3.4 Details on research publications

	International	National	Others
Peer Review Journals	16	5	0
Non-Peer Review Journals	0	0	0
e-Journals	0	0	0
Conference proceedings	11	0	0

Details attached at ***Annexure-V***

3.5 Details on Impact factor of publications:

Range Average h-index Nos. in SCOPUS

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

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received
Major projects	2018-2020 2018-2019	DEST, Govt of HP DEST, Govt of HP	10 8	5 4
Minor Projects	-	-	-	-
Interdisciplinary Projects	-	--	-	-
Industry sponsored	-	-	-	-
Projects sponsored by the University/ College	-	-	-	-
Students research projects (other than compulsory by the University)	-	-	-	-
Any other(Specify)	-	-	-	-
Total	-	-	18	9

3.7 No. of books published i) With ISBN No. Chapters in Edited Books

ii) Without ISBN No.

Details attached at ***Annexure-VI***

3.8 No. of University Departments receiving funds from

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

3.9 For colleges

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

3.10 Revenue generated through consultancy

26,26,058/-

Sr. No	Name of Agency	Detail	Amount	Name of
1	Quality Council of India	Onsite Training for Company Capacity Building for J&K, NER, Industrially Backward and Remote Areas	1,64,575/-	Dr Varinder S Kanwar Dr Hitakshi Dutta
1	Quality Council of India	ZED Industry Awareness Programme for MSME in Himachal Pradesh	32,283/-	Dr Varinder S Kanwar Dr Hitakshi Dutta
2	Axis Bank	12 Days Residential Induction Training Programme for Managers	7,32,000/-	Dr Varinder S Kanwar Dr Hitakshi Dutta
3	IPR Cell 2017-18 HPSCSTE	IPR Cell is being established with DST, HP to increase awareness and promote Innovation and Research in the State	20,000/-	Mr Sagar Juneja Dr Hitakshi Dutta
4	Dr Reddy's Laboratories Ltd	Induction programme for new joinees	14,07,200/-	Dr Hitakshi Dutta Dr Sukhbir Singh
5	Propagation of best practices HPSCSTE	Workshop for awareness and propagation to the regional Higher Educational Institutions	No monitory benefit	Dr Varinder S Kanwar Dr Hitakshi Dutta
6	DST - Meeting of the Expert Committee for the SC/ST R&D Scheme	Meeting of the Expert Committee for the SC/ST R&D Scheme	2,70,000/-	Dr C.Prakasam

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	1	1	-	-	-
Sponsoring agencies	Chitkara University, NITTTR	Chitkara University	-	-	-

Details attached at **Annexure-VII**

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

5

Details attached at **Annexure-VIII**

3.13 No. of collaborations

International

National

3

Any other

3.14 No. of linkages created during this year

3

3.15 Total budget for research for current year in lakhs :

From Funding agency

18.2

From Management of University/College

15

Total

23.2

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	13
	Granted	1
International	Applied	1
	Granted	1
Commercialised	Applied	-
	Granted	-

Details of Patent filed & Copyright granted attached at **Annexure-IX**

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
19	3	8	3	5	-	-

Details of attached at **Annexure-X**

3.18 No. of faculty from the Institution who are Ph. D. Guides and students registered under them

5

7

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

2

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

JRF

04

SRF

Project Fellows

Any other

3.21 No. of students Participated in NSS events:

University level State level National level International level

Details attached at *Annexure-XI*

3.22 No. of students participated in NCC events: 77

University level State level
National level International level

- *Himachal Pradesh, IHP Battalion NCC Boys Solan organized 20 days NCC Camp (Combined Annual Training Camp) at Chitkara University, Himachal Pradesh from June 10-29, 2018, where more than 1000 NCC Cadets from different parts of Himachal Pradesh participated in it.*

3.23 No. of Awards won in NSS:

University level State level
National level International level

- Prithvi Jha Secured First position in quiz Competition at NIC Camp held at Vishwakarma Government Engineering College, Chandkheda, Ahmadabad, Gujarat.

3.24 No. of Awards won in NCC:

University level State level
National level International level

3.25 No. of Extension activities organized

University forum College forum
NCC NSS Any other

Details attached at *Annexure-XII*

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

- Independence Day Celebration followed by Run for Unity, Pledge Taking ceremony and skit by students on social issues.
- Cleanliness Drive was organized in accordance to the nationwide Swachh Bharat Cleanliness Campaign launched by Prime Minister.
- Guest Lecture on "Drug abuse" was organized in which police officials from nearby police stations enlightened the students about various menaces of the society and measures that can be followed to curb them.

- Mock drill on disaster management was conducted to sensitize people on how to act in case of earthquake, fire and any other natural calamity or emergency situation.
- Blood Donation Camp were organized regularly under the supervision of team of doctors from nearby government medical college and hospital.
- Yoga Camp was organized to keep youth aware of its benefits.
- Visit to Orphanage home was organized to inculcate civic engagement and moral values in our students.

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	17 Acres	-	-	-
Class rooms	50	5 (Amount spent Rs 38.95 Lakhs)	Self-financed	55
Laboratories	34	7	Self-financed	41
Seminar halls	5	-	-	5
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	30	3	Government funding agencies & Self financed	33
Value of the equipment purchased during the year (Rs. in Lakhs)	Rs. 785.78	Rs. 22.65	Government funding agencies & Self financed	-
Others (Rs. in Lakhs)	-	Rs. 9.69	Self financed	-

4.2 Computerization of administration and library

ERP: The University has a fully Wi-Fi campus and also has its own ERP - chalkpad and all the major processes of the University are digitalised which includes ;

- From admission to degree granting
- Payment of fees, salaries and other transactions
- Maintaining daily MIS of University Administrative Processes
- Adoption of National Academic Depository (NAD) and Digi locker for academic verification and virtual depository of the records

Library – The University's Library's resources and services are fully automated. It has its own website and mobile app. The main features of the library are;

- Digital Section: to access Internet and online learning resources.
- Online access to library resources.

- Online Public Access Catalogue (OPAC): is available round the clock to access information regarding library collection and to use other informational resources.
- Free online courses and lectures from reputed institutions like MIT (USA), Amrita University and NPTEL etc. have been downloaded and made available in the University library for the benefit of faculty and the students.
- Library subscribes IEEE and DELNET databases
- E-Books package with perpetual access.
- Library offers E-books available free of cost on web to supplement text books to the users through LAN.
- Computerised in and out records of library users.

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	30710	76494125	474	193240	31184	76687365
Reference Books	304	94660	2	1120	306	95780
e-Books	10496	41467	Nil	-	10496	41467
Journals	69	77453	11	11342	80	1,03,946
e-Journals	5169+Back Files	778450	NIL	-	5169+Back Files	778450
Digital Database	1	11500			1	11500
CD & Video	1573	Nil	84	Nil	1657	Nil
Others (specify)	16	37612	NIL	-	16	41152

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	770	19	BSNL 1Gbps Vodaphone 100Mbps	18	2	40	5	4 Servers
Added	-	-	-	-	-	-	-	-
Total	770	19		18	2	40	5	4

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

- The University has a dedicated office of Information Technology, wherein a team of IT professionals are providing the requisite IT support to whole University and maintaining it.
- University has 19 computer labs equipped with internet facility.
- The University has smart classrooms, conference halls, auditorium etc all equipped with audio visual facilities..
- A dedicated internet link of approximately 1 Gbps from BSNL and 100 Mbps from Vodafone. This internet connection cadre to the needs of all the students and staff of the University through WiFi and LAN connection.
- The core connectivity across different buildings through optical fibre.
- Within the buildings the connectivity has been done by CAT-6 and CAT-5e cables.
- All the computers are equipped with latest configurations.
- Industry sponsored labs of CCNA, CUDA and Apple etc are operating in the University under Academy Industry Collaboration where technical trainings are provided to staff and faculty dedicated to the concerned labs by industry and academic experts.

4.6 Amount spent on maintenance in lakhs :

i) ICT	15,13,940/-
ii) Campus Infrastructure and facilities	1,21,55,273/-
iii) Equipments	17,19,921/-
iv) Others	46,13,454/-
Total :	2,00,02,588/-

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

Chitkara University boast its Student Support Services. Most of the Student Support Services are available to the students digitally through our campus ERP. IQAC keeps a close watch on the delivery of these services to the student. The details about some of the services are as mentioned below:

- (a) The university organize Orientation week for the newly admitted students at the beginning of each academic session where students are informed about various support services by deans, librarian, placement officer, counsellor and other academic heads during their induction programme. Students are also made acquaint with the faculty coordinators and their responsibilities as well as informed about anti ragging norms, staff and their functions etc.
- (b) Academics: In addition to the regular teaching support provided to the students, the University also schedule the extra teaching support to the needy students as suggested by IQAC. Teaching aids like presentations, videos, assignments, MOOCs links etc. are provided to the students through campus ERP. In order to give international flavour to the students the University has a unique practice of organizing Global Engineering Week every year, wherein, the eminent academicians from different countries visit the University and teaches a credit course to the students'. It not only gives a global exposure to the student but also balances their economic status by keeping them on the same platform and providing a chance of global learning to the students who can't afford to pursue the higher education abroad.
- (c) Patent Filing: An in-house Intellectual Property Rights cell has also been established where there is a dedicated Patent Attorney to assist the budding innovator who have a passion to think innovative and to generate a new idea in filing their patent.
- (d) Entrepreneur Skills: The Entrepreneurship Development Cell of the University inculcate a zest for becoming an employer among the students through different initiatives such as Startup OPD in the campus for mentoring and sensitizing the students, Startup Day, an award winning competition for students to pitch their idea, workshops and Earn While You Learn, a paid internship program and also provide them incubation space in Chitkara University Incubation Centre to work on their business ideas.
- (e) Library Resources: The University has a well-established library with internet and Wi-Fi facilities. All the library services are automated to save the time of students and anytime access of resources. Library actively contribute to increase student access to library resources by creating students awareness and working critically to provide them all required information. Library hours are flexible to meet students needs.

Lectures are conducted for the students of all batches at the beginning of each academic year wherein the students are appraised of various library services, nomenclature of book shelves, classification schemes, e-resources and print resources, research journals, library timing and rules and regulations.

- (f) Academic Monitoring Committee: IQAC works jointly with academic departments to develop programs, adapt curricula and create learning activities that expose students to information and resource discovery and provide regular & ongoing opportunities to students to actively develop their information skills by giving a regular feedback on the same.
- (g) Placements : To increase the employability of the students in addition to the regular teaching processes the University provide soft skills, aptitude, domain specific trainings and other grooming facilities to the students free of cost. It has set up Inlingua cell in the University which works on the soft skills and personality development of the students' by grooming them. It helps the students to appear confidently for any interview, group discussions or other professional conducts.
- (h) Grievances and Counselling: Various committees are established to safeguard the interests of the students and to solve their grievances, if any. The IQAC keep a close check on the functioning and responses of these committees. Keeping in view the privacy, sensitivity and problems of the young generation, the University has appointed a Student Counsellor who stays on campus and communicate regularly with students who need the counselling services. The Student Counsellor also take sessions with students of all batches and use different modes such as PPTs, role plays, brainstorming sessions to sensitize them about the various issues and to motivate them to face the life with positive attitude. The students are mapped under different mentor (faculty), who acts as a guardian for the students in the University and is responsible for their overall performance in the University.
- (i) Creating a Healthy Campus Environment: In addition to the necessary infrastructure, IQAC keep a check if the students are getting proper services in hostels, messes and academic system including laboratories, IT, sports, transportation etc. With the suggestion given by IQAC the University is maintaining a daily MIS where the staff and students can raise a complaint for any maintenance service and the officials are required to take necessary action on the same within stipulated time period.
- (j) Digitalization: The digitalization of the processes has facilitated the students by providing them convenience in terms of fee deposits, ERP, teaching and examination resources etc.
- (k) Co-curricular activities: The university has formed various student clubs, wherein, they can participate in different domain of their interest. These clubs organises different activities such as quizzes, workshops, expert lectures and competitions. These clubs are managed by the students under the guidance of faculty in order to inculcate the leadership skills among them. The University also organizes different cultural, technical and sports festivals every year and also has self-financed NCC and NSS wing on Campus.

5.2 Efforts made by the institution for tracking the progression

IQAC in association with the departments provides centralized services and support to ensure consistent and high-quality advice and services across the University. It has the following primary functions towards tracking the Student Progression:

Student Enrolment

- To provide advice to staff and students in relation to key processes like admission, registration in each semester, dates and procedures of registration
- Issue of circulars /notices through ERP and email for keeping them updated.
- Once the student is admitted, the orientation week is conducted to make the student and parents aware about the university processes and get them settled in the new environment.

Graduation:

- Annual Convocation of the University is conducted in the first week of July every year to confer the degree and award to the students on successful completion of degree requirements .
- Production of Graduation documentation including Academic Transcripts, syllabus etc.;
- Verification of past awards.

Alumni Network:

- Strong alumni network to keep a track on the students progression;
- Regular interaction with graduates through programs such as alumni meets, board of study meeting, IQAC meetings etc. in order to get their feedback and valuable suggestion regarding latest trends in industry and course contents they have studied.
- To hold alumni meets at such prominent locations on quarterly basis where maximum number of alumni can attend the event.

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
1859	30	13	-

Men	No	%
	1477	79.5

Women	No	%
	382	20.4

Last Year (Batch 2016)						This Year (Batch 2017)					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
434	34	3	48	0	519	367	13	3	38	0	421

Demand ratio - 2:1 (Applicant: Admitted)

Dropout - 1%

(b) No. of students outside the state

1218

(c) No. of international students

23

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

- Chitkara University conducts Chitkara Placement Module (CPM) during the sixth semester of BE program along with their regular courses. The main objective of this is to prepare students to get selected in upcoming placement drives as well as in various competitive examinations such as GATE, GRE, CAT.
- Aptitude and communication skills are one of the mandatory requirement in graduate employability. The professional organizations are hired to impart aptitude training (on campus) to help students to qualify the written test as well as technical interviews of competitive examinations and campus placement.
- In addition to this, personality development classes are conducted by the Chitkara School of Languages which helps the students to improve their soft skills. The department conducts a preliminary evaluation of all students during the first year of the programme and categorises the various students in different groups based on the level of training required.
- Regular workshops to face job interviews, recent trends in global markets etc. are also arranged to provide adequate exposure to the students and telling them about emerging industry requirements.

List of major activities are attached at *Annexure XIII*

No. of students beneficiaries

1865

5.5 No. of students qualified in these examinations

NET

SET/SLET

GATE

1

CAT

3

IAS/IPS etc

State PSC

UPSC

Others

5

5.6 Details of student counselling and career guidance

- In order to achieve the compliance of our tag line “Explore Your Potential”. We at Chitkara University, Himachal Pradesh believe that every student deserves an opportunity to make optimum use of her or his abilities. With this view in mind, our university has started the practice of mentoring in which every student has a mentor who will focus on the overall development of the student during their four years of graduation.
- There has been a special cell made in Chitkara University, named “Student Mentorship Cell” in which each Faculty member of the University becomes the mentor to the distinct group of students. The mentor is a Friend, Philosopher and Guide to a student and helps him / her to grow not only as a professional but also as a responsible citizen of the country.
- The “Mentorship Cell” allocates the faculty mentors to all the students. This plan has helped building student – teacher relationship more interactive and reduces the communication gap. Mentorship cell allocates students to the respective mentor’s at least 7 days before the start of regular class work for a semester.
- Student face both academic and personal issue while at university. Sometimes, personal issues become intense and affect their performance and personal happiness. In reference to this, we have on rolls a full time professional counsellor who works in close collaboration with students, parents, teachers, mentors and management to positively influence the learning and emotional well being of the students. It involves collaborating with others about learning, social and behavioral problems that students experience.
- Different therapies and coping strategies are used to help the student recover from their maladaptive believes and behaviour which are considered to be the main cause of problems. This whole process helps us to know students better and helping them change positively.

No. of students benefitted

1859

5.7 Details of campus placement

On campus			Off Campus	
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed	
62	445	289	25	

List of major placement companies visited for campus placement and students placed therein is attached at *Annexure XV*

5.8 Details of gender sensitization programmes

Gender sensitization- means modification of behaviour by raising awareness about gender equality concerns. For the same concern, session were conducted with the students with an aim to educate students about respect and dignity of fellow students and building a conducive and healthy atmosphere in the campus, keeping in mind the present scenario of problems in our country.

Ragging-it is a similar practice to hazing in educational institutions. It involves existing students baiting or bullying new students.

It was mainly conducted to apprise students about various anti-ragging measures taken by the government, organization to curb ragging on the campus. The program also highlighted the different forms of ragging, its implications on the victim and his/ her family members. The students were also acquainted with various punitive actions to students involved in ragging. Overall, both the sessions gained a lot of participation from the students. They were actively involved in discussion and bringing about solutions.

Activity 1

The student were made to do role reversal that is, how would they feel or what would they do if they were a man/ woman? They took a lot of time to reflect and answer on this question. However, they did come up with interesting answers and most even realized that it was difficult in being in someone else's position.

Activity 2

The students were distributed into smaller groups of 5-10 and were made to frame their answers about- what does gender mean in your life? Given a chance, would you like to be a woman or a man? Discuss specific roles people play in our life/home/society relating to gender. The objective of the activity was to make the students understand the fact that equality is the essence of democracy. Democracy becomes hollow in the absence of equality. Gender equality should be the battle cry of today's democratic India.

5.9 Students Activities

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

State/ University level	1859	National level		International level	
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No. of students participated in cultural events

State/ University level	290	National level	12	International level	1
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5.9.2 No. of medals /awards won by students in Sports, Games and other events

Sports : State/ University level	189	National level		International level	
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Cultural: State/ University level	116	National level		International level	
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List of major events are attached at *Annexure XVI*

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	29	9,40,125/-
Financial support from government	11	The University only verifies the details of the student and amount is directly credited to the student's account.
Financial support from other sources	0	0
Number of students who received International/ National recognitions	0	0

5.11 Student organised / initiatives

Fairs : State/ University level National level International level

Events : State/ University level National level International level

List of major events are attached at *Annexure XVII*

5.12 No. of social initiatives undertaken by the students

List of activities are attached at *Annexure XVIII*

5.13 Major grievances of students (if any) redressed:

The University has formed a grievance redressal cell to handle all type of complaints. In addition to this it has also constituted a women safety committee, anti-ragging committee, ombudsman and grievance redressal committee, committee to prevent cast based discrimination and University disciplinary committee. No serious grievance was reported and the University Committees has provided a suitable resolution to the grievance it has received.

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

VISION

To be a globally recognized organization promoting academic excellence through interdisciplinary applied research and to expand realms of knowledge through innovation.

MISSION

- To carry out the academic process for achieving excellence through active teacher-student-industry participation
- To promote research, innovation and entrepreneurship in collaboration with industries and laboratories
- To inculcate high moral, ethical and professional standards amongst our students
- To contribute to build a skilful society

6.2 Does the Institution has a management Information System

Yes

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

6.3.1 Curriculum Development

The University has a systematic and institutionalized process of design and development of curriculum and involves Board of Studies (B.O.S.) that includes internal and external expert members. The departments have coordinator of courses to develop, revise or update the curriculum of their respective courses as approved by Academic Council to incorporate latest knowledge development. Most of the departments have included the guest lectures and industrial visits in the curriculum for providing industrial exposures to the students. The MOOCs are also supplementing the regular teaching.

6.3.2 Teaching and Learning

- Teaching and learning has been organized through the academic calendar of the University.
- Industry oriented learning through courses like JAVA/HTML/PHP/PYTHON/RAPTOR to students as part of ongoing “Integrated Projects”.
- Blended learning through e-resources. Lecture recording facility available which provides innovative video enabled learning solutions that drive better outcomes in the higher education sector. Learning through MOOCs and Industrial visits for the academic exposure of the students.

- Enrichment of learning experiences through application oriented assignments and integrated projects in majority of the courses.
- Learning through various student oriented activities like group discussion, educational tours, quiz competitions, declamation contests, project making and poster making competitions.
- Students are encouraged to participate in the in workshops /conferences etc.
- Student centric learning through extensive use of Information and Communication Technologies.
- Library equipped with e-resources. Fostering the culture of knowledge acquisition through wider self-exposure to latest knowledge through on-line subscribed books and journals.
- Concretization and enrichment of learning experiences through mandatory assignments, seminar presentations, and project work.
- Ensuring team teaching by deputing teachers to teach the specialised topics in their expertise areas. Strong policy of train the teacher, organizing refresher courses and participating in conferences / seminars / workshops is adopted.

6.3.3 Examination and Evaluation

Examinations

The university examinations have two segments;

Internal Assessment: It comprises of quiz tests, seminars, class participation and Mid Semester Examination and any other component of evaluation to be decided by the faculty.

External End Semester Examination: It is conducted at the end of each semester. There are three Sessional Tests namely, Sessional Test 1, Sessional Test 2 and Sessional Test 3. Results of best two Sessional Tests are taken in to account to calculate the Grade Point Average. The dates of Examination(s) are as specified in the Academic Calendar.

Evaluation

Evaluation is carried out under the supervision of Controller of Examination (COE), at time and place earmarked for the same. Secrecy series are provided to all answer sheets before the central evaluation starts. The time, date and place of evaluation is pre notified to the concerned examiners. All answer scripts are marked at a place centrally designated by the COE. Marks are entered on inside pages of the answer book, for each question. Award list is filled by examiner with hand, indicating marks secured in words and figures, and signed clearly. The internal marks are made available to the students on ERP portal of the University on their individual logins. Marks for each course are compiled for the whole course and converted to letter grades. The grades then are converted into Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) for each student and final results are prepared by the Examinations Branch. The results is declared within the time schedule fixed by the Examinations Committee and Grade Card prepared for each student. A student is entitled to apply for re-evaluation on payment of prescribed fee for each subject within 15 (fifteen) days of the date of publication of result. The Controller of Examinations gets re-evaluation done to ascertain whether the marks awarded to various answers

have been correctly added and whether the examiner has evaluated answers to all the questions written by the examinee. In case the variation of marks in first and second evaluation is more than 10 % then the answer sheet is evaluated by the third examiner and after that the average of closest two evaluations is considered as the final result.

6.3.4 Research and Development

- Chitkara University is known for its strategic, multidisciplinary research. The university has been continuously augmenting infrastructure for facilitating research on the campus through an extensive network by its researchers, staff and students, who work across disciplines to extend the boundaries of knowledge.
- At CURIN various research centres build and sustain Chitkara University's competitive advantage through leadership. These centres and institutes are the locus of research for collaborative groups of investigators pushing the frontiers of knowledge forward. They are involved in cutting edge research, exploring new technologies to create highly efficient solar devices, developing ever-smarter applications, creating new materials and using wireless sensors networks that improve the country's infrastructure and safety — and contributing to society through many other discoveries and innovations.
- NOVATE is the annual innovation challenge of Chitkara University. Each year we identify problems, which affect our lives and of those around us. In Integrated projects our student take these challenges to find innovative solutions to the problems. Some of the major projects under NOVATE are: Automatic Room Cleaning Equipment, Automatic Peeling Machine, Construction Robot, Fruit Plucking Machine, Library Book Stacking Device, Home Automation using IoT, Sun Tracking System, Toy Car, Smart Shoe for Blind etc.
- The university has submitted 44 patents. One patent and one copyright has already been granted.
- In order to boost faculty to pursue research, the university provides adequate research infrastructure to faculty members and access to research labs, several e-resources of the library.
- The university supports the departments financially to organize conferences/ symposia/ workshops of National and International levels. It also provides seed money and research allowances to the faculty to undertake the research in various areas including filing of patents.
- The university provides financial support to every faculty members to participate in conferences/symposia/workshops organized in the country and abroad.
- Office of Patent Facilitation & Licensing Consultancy (OPFLC), Chitkara University has an easy patenting policy under which all the expenses related to government fee of patent filing, fee of patent attorneys etc are borne by the university and 90% of the commercial rights of the patents rest with the inventors
- The University has a strong industry academia collaboration with several MNCs which are helping our research scholars to perform lab experiments.

6.3.5 Library, ICT and physical infrastructure / instrumentation

Automation

- The University is fully automated with Wifi facility across campus. All its processes like admission, hiring of staff, purchase, mess, fee collection etc. are digitalized. It also houses a well-established digital library with different softwares like KOHA, DSPACE, JOOMLA.
- Circulation of resources fully computerised and accessible online anytime, anywhere through University ERP system

Digital Library

- Fully equipped Separate digital library section for students to access library resources and services round the clock.
- Independent library website for online access to journals, eBooks and learning resources
- Access to the latest computing equipment – facility is available to telecast NPTEL and other lectures

Infrastructure

- State of the art infrastructure with well equipped classrooms with multimedia facility and hi tech labs. All modern amenities are available in University's hostels, gymnasium, sports complex, dining areas and food courts.
- Technology-enriched spaces are incorporated into laboratories to facilitate both individual and collaborative learning. Laboratories are well equipped with state of the art infrastructure.
- The University regularly solicits suggestions from students and staff to improve services, facilities and infrastructure and shares it with the concerned departments and IQAC.
- Industry sponsored laboratories are established.
- The University has a zero discharge green campus where clean and hygienic living areas are provided to the staff and students.
- Fully secured campus under the surveillance of 120 CCTV cameras. Fully equipped wellness center where round the clock availability of doctor is ensured.

6.3.6 Human Resource Management

The university has an adequate pool of qualified human resources in the form of regular full time faculty, adjunct faculty and visiting faculty to take care of its requirements. Considering the prevailing environment in the country the faculty members of the University are suitably qualified and are regularly provided opportunities to enhance their skills.

The process of curriculum designing in the University has already been explained. However, it is to be mentioned again that the qualified pool of human resource in the University works hand in hand with other scholars and experts invited from the other universities and industry at the state and national level to frame the curriculum. If any shortfall is identified in any part of the qualified pool of human resource, the services of experts outside the university is availed. Shortfall, if any, is supplemented by appointing part time / temporary faculty in different areas as well as utilizing the services of qualified administrative staff.

6.3.7 Faculty and Staff recruitment

The vacancies are positions are approved, and advertised for seeking profiles of suitable candidates. The medium used for such advertisement includes print media, job postings on Chitkara University website, postings on job portals, internal circulation in the University for referrals etc. From the pool of CVs that is generated, they are then screened as per the recruitment guidelines as laid down by regulatory authorities and short listing criteria.

The short listed candidates are then contacted telephonically and through email to understand their inclination in the open position as identified and to attend an interview. A copy of their latest resume is also sought at this time. With the lining up of candidates, process of selection begins. A CV of the candidate is sent to the HODs/Dean and a selection panel for interview is formed. Such panel is called a Selection Committee in the University and generally comprises of Vice Chancellor, Dean Academic, HODs (as per relevant position) and subject matter experts. An invite is sent across to the Selection committee seeking their participation to finalize convenient interview dates. On finalization of the date and location of Selection Committee, the candidates already shortlisted are informed and interaction takes place.

6.3.8 Industry Interaction / Collaboration

- Regular industrial visits bridges the gap between theoretical training and practical learning in a real-life environment and help students to gain hands-on experience of how industry operations are executed.
- Industry academia collaboration with Amazon Web Services Educate and Red Hat, which provides storage, operating system platforms, middleware, applications, management products, and support, training, and consulting services. Red Hat creates, maintains, and contributes to many free software projects.
- Industry oriented learning through courses like JAVA/HTML/PHP/PYTHON/RAPTOR to CSE students as part of ongoing “Integrated Projects”.
- The University also organizes workshops and training and awareness programmes where experts from industries are involved.
- Industry academia collaboration with nVIDIA under which it has a set a dedicated lab for parallel and distributed computing. Students work on enhancing their programming skills wherein the coding is done on the CUDA platform offered by nVIDIA. The course has a huge potential of

research work and 2 of faculty members are actively engaged in research on parallel computing in cyber security. This collaboration helps the researcher to get a DST sponsored project in parallel and distributed computing too.

- Under collaboration with Infosys Limited, the industry-institute academic alliance offers several training programs to faculty members, research scholars and students.
- In order to have continuous and sustained engagement between corporates and innovative technology ventures, the University connects its start ups to industry leaders for better exposure and knowledge to build their own business. Few of the industry partners are: JAARVIS Accelerator, Chandigarh Angel Network, Xovian, IndianWeb2, Yellow Cursor, etc.

6.3.9 Admission of Students

The University ensures wide publicity to the admission process through notification and advertisements in local and national newspapers as well as on the University website. Admission notifications along with the eligibility criteria are circulated through newspapers. These notifications are also placed on the University website. The process is implemented by the Admission Cell. The Admission Cell is entrusted with the responsibilities like the preparation of admission notification, course directory and identification of centres for entrance examinations, if required. There is separate admission procedure for M. E. and Ph. D. Programmes administered through Post Graduate Admission Cell and Departmental Research Committee

6.4 Welfare schemes for

Teaching	Yes
Non teaching	Yes
Students	Yes

6.5 Total corpus fund generated

Nil

6.6 Whether annual financial audit has been done Yes

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

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	Regulatory Commission set up by Government of Himachal Pradesh	Yes	Academic Monitoring Committee & IQAC
Administrative	Yes	External Auditor	Yes	University Level Committee

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

For UG Programmes

Yes

For PG Programmes

Yes

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

To streamline the examination system following reforms have been added in the previous academic year;

- a. Chitkara University, Himachal Pradesh has granted the golden chance to all students, who have exhausted their degree duration to complete the degree.
- b. On-boarded on NAD portal-Online degree available on NSDL
- c. Digilocker on-boarding in progress
- d. Online Examinations conducted/tested on various platforms e.g Co-cubes, AMCAT, E-box, HackerRank and HakerEarth etc.
- e. Just in Time processes: To save time/ effort and to provide better services to students/alumni Online system developed on university website (<https://www.chitkarauniversity.edu.in/request-certificate/>) for requesting a certificate. The online system ensures the delivery of documents on the day as requested by the students.
- f. Online payment gateway for applying for re-appear examinations provided on university ERP system i.e Chalkpad, where students can register for the re-appear courses as and when offered by the University.

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

- To hold alumni meets regularly at prominent locations such as Pune, Bangalore, Hyderabad, Delhi, and Chandigarh.
- Employee referrals of juniors by the alumni in case of openings in their respective organization.
- To implement / propose changes in the course curriculum based on the feedback received from the alumni during such alumni meets.
- Guest lectures are conducted by the alumni as a part of industry interaction programme.

6.12 Activities and support from the Parent – Teacher Association

- Under Mentorship programme a faculty member is allocated as a mentor to a group of 15-20 students and he is in regular touch with their parents taking this parent teacher association to a next level. Also he keeps a close eye on the academic performance of his / her mentees in terms of attendance and performance in various evaluation components.
- In case of observance of long period of absence (more than one week) of a student, an attempt is made to gather information from his fellow students. In case of their inability to provide the desired information, a telephone call is made to the parents of students to know the where about of student and the same is also informed to the HOD/ coordinator of the dept./ SMC.
- In case of involvement of any student in any undesirable activity, mentor counsel the student and also inform the parents in a very humble manner about the same, in case the situation warrants.
- Mentors are required to conduct regular mentor meetings and prepare minutes of meeting for their records. In case of any conversation with parents, record of communication with parents are maintained by mentors itself and also updated in ERP system for the reference.
- After Sessional test 1, SMC circulates the list of students whose attendance has fallen below 75%. Mentors are told to take undertakings from such students duly signed by their parents in the following format.
- Parents of students of all batches who are having any backlog were called for a meeting in the university with the mentor and the respective head of department. A thorough discussion with the parents is carried out in order to improve the academic performance of their ward.

6.13 Development programmes for support staff

- | |
|---|
| <ul style="list-style-type: none">- Skill up gradation Programs- Sports & Recreation activities- Health Checkups and counselling Programs |
|---|

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

- Rain Water Harvesting: Roof top rain water is collected to minimize the withdrawal from groundwater and is used for ground water recharge.
- The University has installed noise free generators for power backup to avoid Noise Pollution.
- Waste Management: The solid waste management through recycling is achieved through recycling plant at university, with the aim to recycle waste paper and converted into new papers, file covers, sheet, noting pad etc.
- Kitchen waste is taken care by Vermi composting.
- Own nursery, to enrich and sustain Greenery and maintain flora and fauna of the geography.

- Sewage Treatment Plant of 250 KLD has been installed. The treated water is being used for plantation within the premises and for double plumbing purpose.
- Regular Tree Plantation
- Separate bins for recycled waste
- Array of solar panels installed on rooftop of hostel and institute buildings with a production capacity of around 150 kw solar energy. It is part of solar system to provide hot water and is one of the major alternate sources of energy, which results in saving electricity a scarce resource in our country.
- Based on Nutrient Film Techniques, the university has set up a Hydroponic Farming plant in its campus where tomatoes, broccoli and strawberries are produced using this technique. The total cost of the project is Rs. 9.5 lacs (approximately) whereby 15-20 kg seasonal vegetables are produced per day.
- The students of Civil Engineering Department of the University have constructed a “Bio- Texture” green home as a live project during the semester in collaboration with ACC Cement Ltd. The material used includes Vehicle tyres, trash bottles and scrap.
- The University has followed all the guidelines for fire safety as per relevant codes and is approved by the fire department of Government of Himachal Pradesh.

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.

The following innovations have been introduced over a period of time and during this session which created a positive impact on the functioning of the university:

- The result analysis of ST's helps faculty to focus on weak students in their respective courses. The students are being taken care through giving and evaluating assignments. Teaching beyond working hours provides support to majority of students. These classes were delivered by senior students to junior students under guidance of an expert faculty member.
- The formation of buddy system impact positively in academic performance of students.
- Outsourced Industry Professional to train the students under University Coding Academy (UCA).
- Udacity "Nano degree programme" for the students of BE CSE opted under the hands on training of the students.
- MOOC courses from SWAYAM platform offered.
- Introduction to knowledge through innovative video enabled learning solutions that drive better outcomes.
- The University has adopted project-based learning as a keystone of its pedagogy. The students are assigned projects in each semester to develop their innovative potential. The project statements are designed after due deliberations and the students are encouraged to arrive at the driving question and the problems that need to be solved based on that. The projects are so designed that they have more than one solution and the students are encouraged to apply their minds to identify those solutions, evaluate those and adopt the most suitable solution.
- The practical exercises in various laboratories are also designed to develop creativity amongst the students. For this purpose simulation software, like LABVIEW, MATLAB, Full suite of Cadence Design Tools have been procured by different departments.

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

Plan of Action	Action Taken
Planning for conduction and implementation of AMC	Successfully conducted twice in every semester for all courses offered
Suggestion regarding Industrial Visits and Expert Lectures	Departments arranged visits to several recommended industries / research laboratories and students also benefitted through several Invited talks/Seminars by resource persons

Creation of Research Eco System for Faculty and Students	The faculty submitted various research projects to the different funding agencies and received research grant of more than Rs 40 Lacs in Academic Year 2017-18. Students and Faculty filed 13 patents during this academic year. Also multi-disciplinary research projects were offered to the students in each semester. NOVATE competition, Start-Up days and IPR sensitization programs were organised to promote research and entrepreneurship
Learning beyond teaching by conducting extra classes	A team of 50 students with CGPA of more than 9.0 were designated as Chitkara Scholars and were actively engaged in teaching beyond classroom hours in the evenings throughout the semester after the conduct of second mid semester examinations under the supervision of faculty.
Increasing student employability through Industry academia interference	University has collaborations with Red Hat Linux and Amazon Web Services These collaborations will add new dimensions which are essential for the students to enhance their ability to prosper, remain competitive and to enhance their employability.
Implementation of Industry feedback in the curriculum	As per the suggestion received from the industry the University motivated the students and faculty to get certified by various certification to increase their employability
Making the staff and students' socially responsible	Initiatives were taken towards digitalization, NSS integration camp. Based on these initiative the University was awarded Environmental Leadership Award by Government of Himachal Pradesh for its contributions towards environmental conservation and social upliftment.

7.3 Give two Best Practices of the institution

Best Practice I: Engineering Projects for solving Community Service ((EPIC)

In Integrated Project EPIC is introduced and university has adopted 5 villages in its vicinity. Several problems are being faced by these villages and also by the society that we live in. Many of these require Engineering solutions – some short term and the others long term., which affect our lives and of those around us. In Integrated projects our student take these challenges to find innovative solutions to the problems. Some of such project titles are: Automatic Room Cleaning Equipment, Automatic Peeling Machine, Construction Robot, Fruit Plucking Machine, Library Book Stacking Device, Home Automation using IoT, Sun Tracking System, Toy Car, Smart Shoe for Blind etc.

Best Practice II: Detailed Course Delivery Plan

A detailed Course Delivery Plan And Session Plans named Course handout is shared with the students by the concerned faculty before the commencement of the semester.

A copy of Course handout is attached at Annexure XIX.

7.4 Contribution to environmental awareness / protection

Beyond effective education system the University provides an eco friendly campus to produce positive energy and bonding the human with their surrounding environment. Various environment friendly factors such as Water, Air & Noise, Land, Parking, Flora & Fauna, Socio Economic, Solid Waste Treatment, Nursery, Solar Systems contribute in making it environment friendly. It has a zero discharge environmental friendly campus where students & staff are encouraged to be responsible citizens for a clean and healthy nation. Regular sensitization of employees and residents on environmental issues through special seminars and programmes are conducted.

A change has been observed in social behaviour of nearby areas due to such activities and processes for clean environment which improves the health of the residents of nearby areas. The various best practices towards Swachh Bharat through Resource Conservation Measures introduced includes:

- Effective management set-up for regular checks and maintenance of the campus and surrounding areas
- Treated waste water is generated through STP used for double plumbing purpose.
- Roof top rain water collected and disposed off in rain water harvesting pits
- Vermin Compost Plant
- Organic Composting using water wastes from vermin compost plant.
- Hydroponic Farming
- Solar lights, solar heating panels and solar energy production
- Modernized kitchens and messes
- Modernized housekeeping resources
- Mechanised Laundry
- Installation of LED Lights
- Nursery with different varieties of plants
- Maintenance of green belt
- Regular tree plantation drives
- Clean up of aquatic reservoirs nearby the university areas.
- Regular conduct of environmental sensitization programmes/workshops for student, staff and residents of nearby areas to increase awareness.
- Separate well defined parking zone within the premises
- Energy observant buildings planned to reduce consumption of electricity in terms of light and air efficiency through least usage of air conditioners and lights
- Paperless operations where the mode of communication is own Enterprise Resource Planning (ERP) –Chalkpad and recycled paper is used in daily operations if required.

7.5 Whether environmental audit was conducted?

Yes and the University was ranked third under “Swachhta Ranking 2017” by Ministry of Human Resource Development and has also been awarded as “Best Higher Educational Institution for Excellence in Promotion of Environmental Conservation & Sustainable Development -2017” by Government of Himachal Pradesh for its contribution and best practices.

7.6 Any other relevant information the institution wishes to add.

The University being self financed is keeping no stone untouched to provide quality education to the students' to make them employable as well as to make them a responsible citizen.

STRENGTHS

Infrastructure

- Incubator- Explore Hub
- IPR Cell
- Seminar Halls: : 2 (Seating Capacity –100)
- Mini Auditorium: 3 (Seating Capacity – 2@300 & 80)
- Open Air theatres: 2
- Fully wi-fi campus
- Boys/Girls Common Room
- Special facilities for People With Disability(PWD)
- Well equipped Wellness center with Ambulance facility – Doctors available round the clock

Academic & Research

- Application Oriented Teaching
- Curriculum based on feedback from Industry, Faculty, Alumni, Students
- Separate assignments for Slow, Average and Advanced Learners
- Regular Technical events to recognize / appreciate outstanding projects
- MOOC /SWAYAM Courses
- Buddy System / Mentorship
- International Faculty - Global Engineering Week
- Academia-Industry collaboration – Over 10 Laboratories established by the Industry on the Campus

Internationalisation

- Semester Abroad
- Semester Exchange
- Articulation
- Summer Programs
- Internationalization at Home through Global Engineering Week

Research Initiatives

The University has taken good research initiatives by setting up a dedicated department of Research-CURIN (Chitkara University Research & Innovation Network under the aegis of the same the University is making good efforts in entrepreneurship, publications, patents and community services.

Constructive Outcomes:

- 1 patent and 1 copyright granted & 44 patents filed in last 4 years
- Research grant received – More than 1 Crore from Government Funding Agencies
- 8 new Start ups in last 1 year
- Establishment of DST sponsored IPR Cell in the University
- Effective Placement Cell with over 75% placement record
- Strong Student Progression
- Awards and Recognitions on National and State Level

Institutional Social Responsibility

The University has set up a self financed NSS, NCC Unit and is also selected under the Unnat Bharat Abhiyan of MHRD, Government of India and working for the betterment of the society through several programs.

Strong Student Support Services

- Mentorship and student counseling
- Active Alumni Network and University's Alma Mater
- Co- curricular activities
- Sports
- Student clubs
- School of Languages

WEAKNESSES

- Poor connectivity from the highway
- Less Government sponsorships as compared to Government Institutions

8. Plans of institution for next year

- The University will start three new programs in Hospitality Management, Computer Applications and Pharmaceutical Sciences from Academic Year 2018-19.
- Along with core academics university is focusing on research based initiatives such as writing research proposals to various government funding agencies, filing patents, research publications and entrepreneurship to boost the start ups by turning the youth of India from job-seekers to job-creators.
- The university also look forward to increase its industry and global collaborations.
- To improve its ranking in academics and other initiatives at various government ranking agencies such as NIRF, Swachhta Ranking etc.

Name: Dr. Madhu Gupta



Signature of the Coordinator, IQAC

Name: Dr. Varinder Singh Kanwar



Signature of the Chairperson, IQAC

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

Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Sr. No.	Choose one: Seminar/ Conference/ Workshop/ Symposia	Name of Event	Level	Date	No. of Participants	Names of Experts
1.	Workshop	Orientation programme for newly recruited faculty	Institute	07/07/2017 to 08/08/2017	20	Dr Sangeeta Pant
2.	Workshop	Plan of action of IQAC for 1 st semester of academic year 2017-18	Institute	24/07/2017	130	Dr Varinder S Kanwar
3.	Workshop	Plan of action of IQAC for 2 nd semester of academic year 2017-18	Institute	30/12/2017	130	Dr Varinder S Kanwar
4.	Workshop	Chitkara University Intra departmental best practices	Institute	17/03/2018 to 18/03/2018	20	Dr Shaily Jain, Ms Lipika Gupta, Dr Rohit Verma, and Dr Uma Malik

Sample feedback analysis

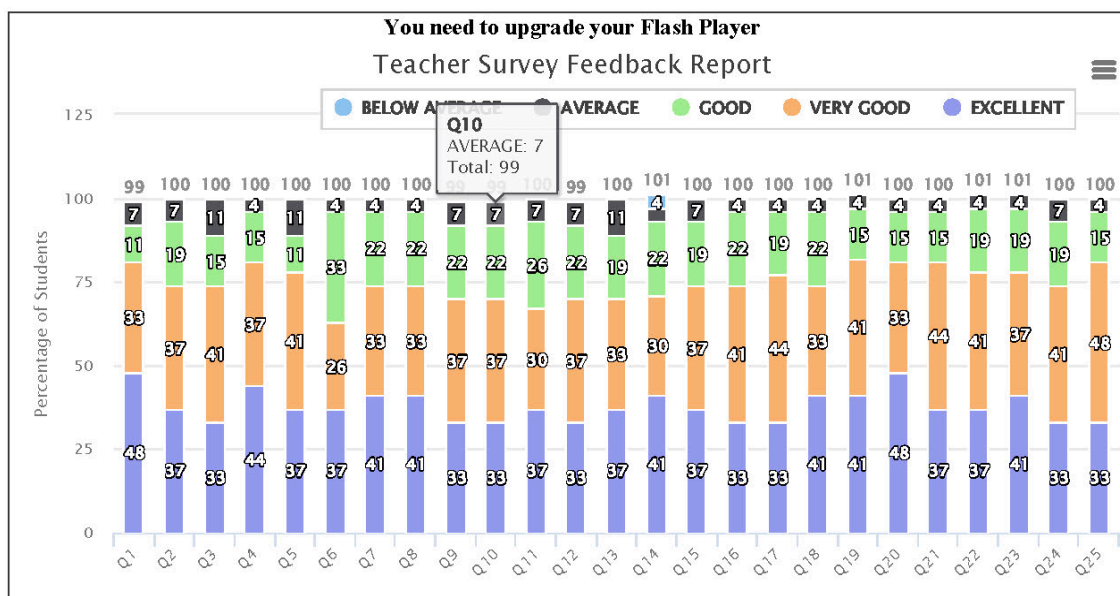

Chitkara School of Engineering and Technology.

Date : 12-Nov-18

Time : 11:20:27 AM

Teacher Survey Feedback Report

Survey : FEEDBACK JAN 18 - APR 18 Teacher : Dr. Sita Ram



Feedback Details for teacher : Dr. Sita Ram , Total Questions : 25

#	Legends	Question	Score
1	Q1	Uses Class time well and takes classes regularly	4.22
2	Q2	Comes well prepared for each class	4.04
3	Q3	Clearly explains structure, objectives and requirements of the session	3.96
4	Q4	Avoids Unnecessary repetition of subject matter	4.22
5	Q5	Suggests additional reading to facilitate learning process	4.04
6	Q6	Has good command over the subject	3.96
7	Q7	Stresses important points in lectures and discussions	4.11
8	Q8	Is enthusiastic and seems to enjoy teaching	4.11
9	Q9	Makes good use of examples and teaches at appropriate level	3.96
10	Q10	Gives clear explanations and is systematic in teaching	3.96
11	Q11	Is skillful in observing students reactions	3.96
12	Q12	Understands students' difficulties with course work	3.96
13	Q13	Emphasizes concepts and relevant practical field applications	3.96
14	Q14	Makes proper use of white-board and LCD projector	4.00
15	Q15	Is friendly and helpful	4.04
16	Q16	Maintains an atmosphere of cordiality	4.04
17	Q17	Encourages active participation and motivates to learn	4.07
18	Q18	Stimulates discussion	4.11
19	Q19	Responds to questions in non-threatening way	4.19
20	Q20	Willing to meet and help students outside the class	4.26
21	Q21	Suggests specific ways for students to improve	4.15
22	Q22	Test items are adequately discussed after a test is given	4.11
23	Q23	Tries to readjust his teaching technique if the class does not follow him	4.15
24	Q24	Did you enjoy learning the course	4.00
25	Q25	Did you find the course useful	4.11

Your score against every question asked from students is on a 5 point scale.

Following rating applies to judge your performance against every aspect of teaching:

4.5 < Outstanding

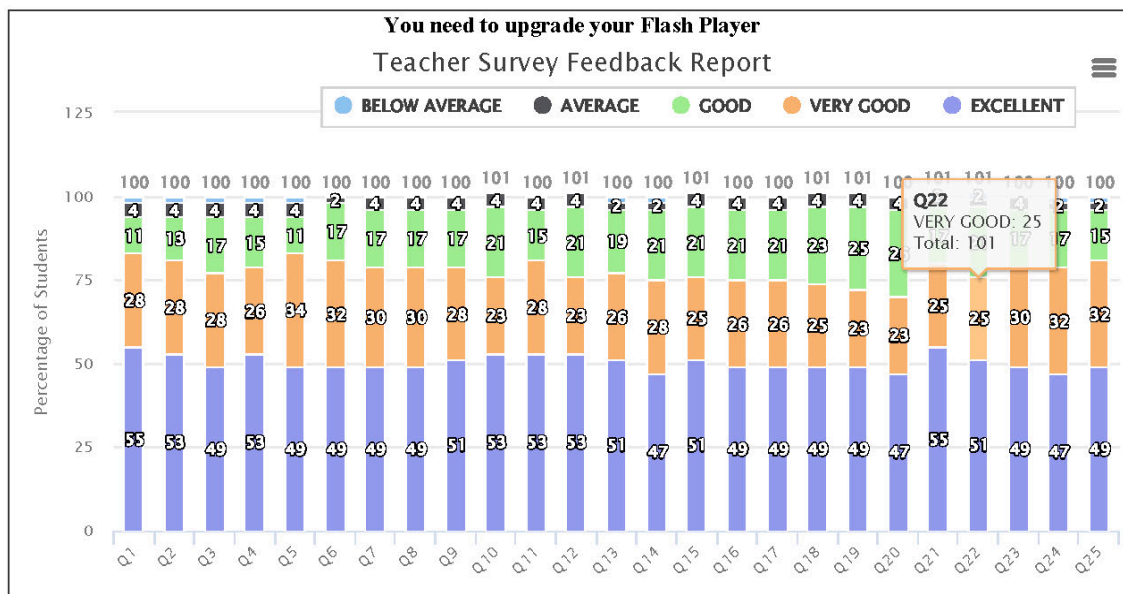
4.0 ≤ Excellent < 4.5

3.5 ≤ Very good < 4.0

3.0 ≤ Good < 3.5

Faculty member needs to work hard to improve that particular aspect of teaching, where score obtained is less than 3.0.

Generated By : nitinsh



Feedback Details for teacher : Shivani Gautam , Total Questions : 25

#	Legends	Question	Score
1	Q1	Uses Class time well and takes classes regularly	4.30
2	Q2	Comes well prepared for each class	4.26
3	Q3	Clearly explains structure, objectives and requirements of the session	4.19
4	Q4	Avoids Unnecessary repetition of subject matter	4.25
5	Q5	Suggests additional reading to facilitate learning process	4.25
6	Q6	Has good command over the subject	4.28
7	Q7	Stresses important points in lectures and discussions	4.25
8	Q8	Is enthusiastic and seems to enjoy teaching	4.25
9	Q9	Makes good use of examples and teaches at appropriate level	4.26
10	Q10	Gives clear explanations and is systematic in teaching	4.25
11	Q11	Is skillful in observing students reactions	4.30
12	Q12	Understands students' difficulties with course work	4.25
13	Q13	Emphasizes concepts and relevant practical field applications	4.23
14	Q14	Makes proper use of white-board and LCD projector	4.17
15	Q15	Is friendly and helpful	4.23
16	Q16	Maintains an atmosphere of cordiality	4.21
17	Q17	Encourages active participation and motivates to learn	4.21
18	Q18	Stimulates discussion	4.19
19	Q19	Responds to questions in non-threatening way	4.17
20	Q20	Willing to meet and help students outside the class	4.13
21	Q21	Suggests specific ways for students to improve	4.28
22	Q22	Test items are adequately discussed after a test is given	4.21
23	Q23	Tries to readjust his teaching technique if the class does not follow him	4.25
24	Q24	Did you enjoy learning the course	4.21
25	Q25	Did you find the course useful	4.25

Your score against every question asked from students is on a 5 point scale.
Following rating applies to judge your performance against every aspect of teaching:

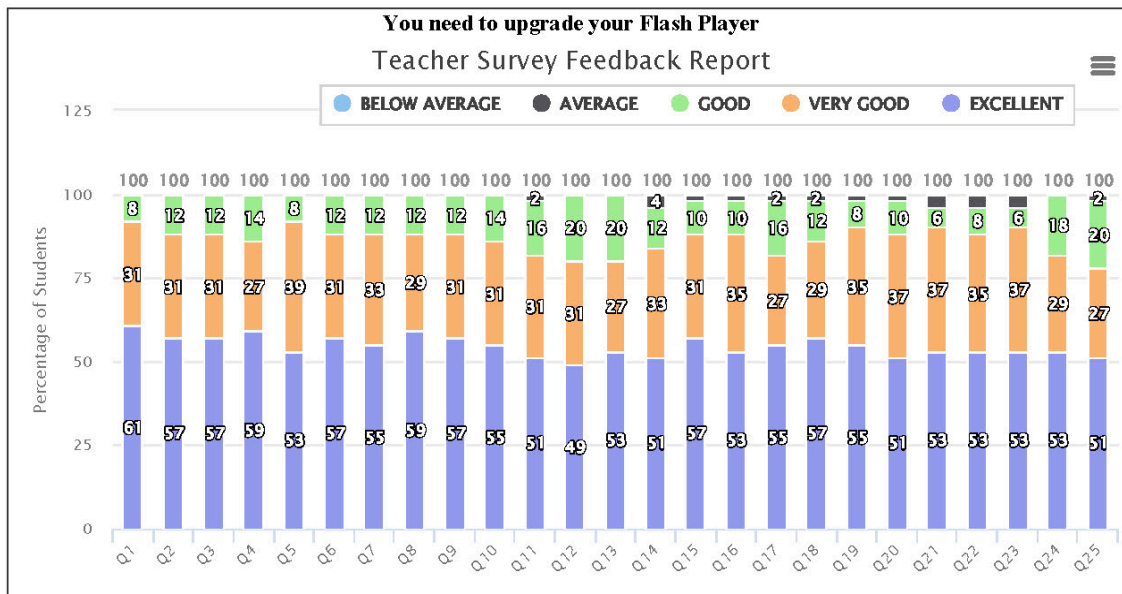
4.5 < Outstanding
4.0 ≤ Excellent < 4.5
3.5 ≤ Very good < 4.0
3.0 ≤ Good < 3.5

Faculty member needs to work hard to improve that particular aspect of teaching, where score obtained is less than 3.0.

Generated By : nitinsh

Teacher Survey Feedback Report

Survey : FEEDBACK JAN 18 - APR 18 Teacher : Sartajvir Singh



Feedback Details for teacher : Sartajvir Singh , Total Questions : 25

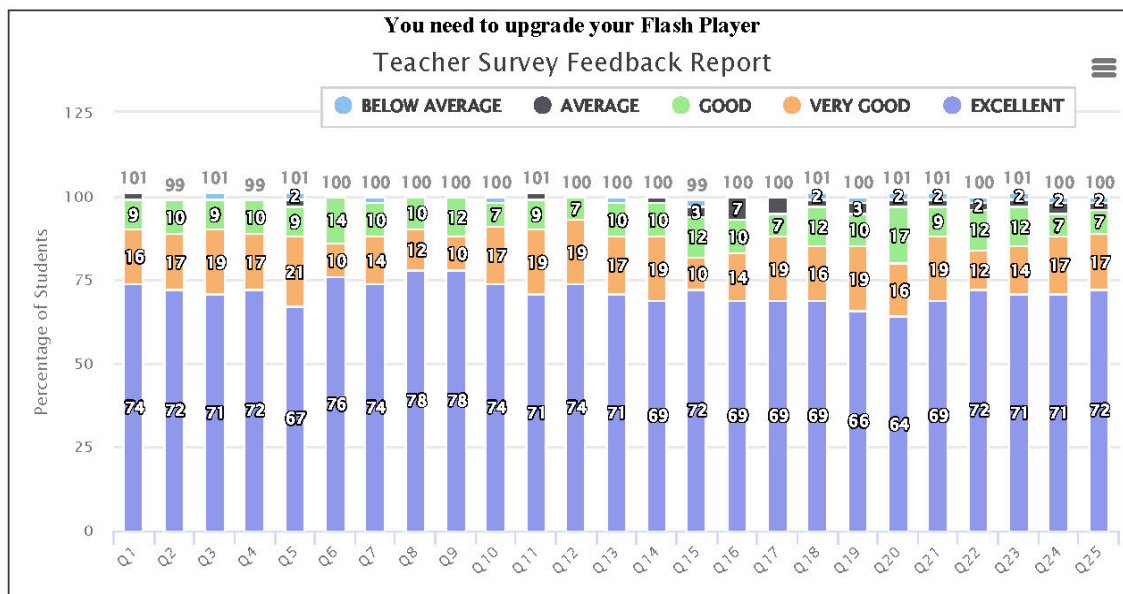
#	Legends	Question	Score
1	Q1	Uses Class time well and takes classes regularly	4.53
2	Q2	Comes well prepared for each class	4.45
3	Q3	Clearly explains structure, objectives and requirements of the session	4.45
4	Q4	Avoids Unnecessary repetition of subject matter	4.45
5	Q5	Suggests additional reading to facilitate learning process	4.45
6	Q6	Has good command over the subject	4.45
7	Q7	Stresses important points in lectures and discussions	4.43
8	Q8	Is enthusiastic and seems to enjoy teaching	4.47
9	Q9	Makes good use of examples and teaches at appropriate level	4.45
10	Q10	Gives clear explanations and is systematic in teaching	4.41
11	Q11	Is skillful in observing students reactions	4.31
12	Q12	Understands students' difficulties with course work	4.29
13	Q13	Emphasizes concepts and relevant practical field applications	4.33
14	Q14	Makes proper use of white-board and LCD projector	4.31
15	Q15	Is friendly and helpful	4.43
16	Q16	Maintains an atmosphere of cordiality	4.39
17	Q17	Encourages active participation and motivates to learn	4.35
18	Q18	Stimulates discussion	4.41
19	Q19	Responds to questions in non-threatening way	4.43
20	Q20	Willing to meet and help students outside the class	4.37
21	Q21	Suggests specific ways for students to improve	4.39
22	Q22	Test items are adequately discussed after a test is given	4.37
23	Q23	Tries to readjust his teaching technique if the class does not follow him	4.39
24	Q24	Did you enjoy learning the course	4.35
25	Q25	Did you find the course useful	4.27

Your score against every question asked from students is on a 5 point scale.
Following rating applies to judge your performance against every aspect of teaching:

4.5 < Outstanding
4.0 ≤ Excellent < 4.5
3.5 ≤ Very good < 4.0
3.0 ≤ Good < 3.5

Faculty member needs to work hard to improve that particular aspect of teaching, where score obtained is less than 3.0.

Generated By : nitinsh



Feedback Details for teacher : Dr Neha Kumra , Total Questions : 25

#	Legends	Question	Score
1	Q1	Uses Class time well and takes classes regularly	4.62
2	Q2	Comes well prepared for each class	4.62
3	Q3	Clearly explains structure, objectives and requirements of the session	4.57
4	Q4	Avoids Unnecessary repetition of subject matter	4.62
5	Q5	Suggests additional reading to facilitate learning process	4.50
6	Q6	Has good command over the subject	4.62
7	Q7	Stresses important points in lectures and discussions	4.59
8	Q8	Is enthusiastic and seems to enjoy teaching	4.67
9	Q9	Makes good use of examples and teaches at appropriate level	4.66
10	Q10	Gives clear explanations and is systematic in teaching	4.62
11	Q11	Is skillful in observing students reactions	4.59
12	Q12	Understands students' difficulties with course work	4.67
13	Q13	Emphasizes concepts and relevant practical field applications	4.55
14	Q14	Makes proper use of white-board and LCD projector	4.55
15	Q15	Is friendly and helpful	4.48
16	Q16	Maintains an atmosphere of cordiality	4.45
17	Q17	Encourages active participation and motivates to learn	4.52
18	Q18	Stimulates discussion	4.48
19	Q19	Responds to questions in non-threatening way	4.43
20	Q20	Willing to meet and help students outside the class	4.38
21	Q21	Suggests specific ways for students to improve	4.52
22	Q22	Test items are adequately discussed after a test is given	4.52
23	Q23	Tries to readjust his teaching technique if the class does not follow him	4.50
24	Q24	Did you enjoy learning the course	4.52
25	Q25	Did you find the course useful	4.57

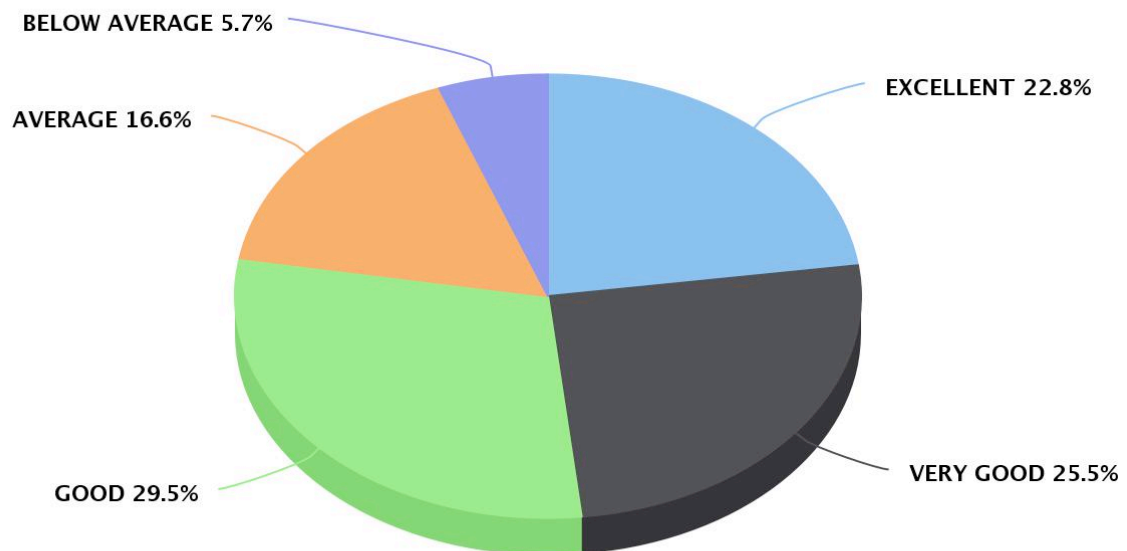
Your score against every question asked from students is on a 5 point scale.
Following rating applies to judge your performance against every aspect of teaching:

4.5 < Outstanding
4.0 ≤ Excellent < 4.5
3.5 ≤ Very good < 4.0
3.0 ≤ Good < 3.5

Faculty member needs to work hard to improve that particular aspect of teaching, where score obtained is less than 3.0.

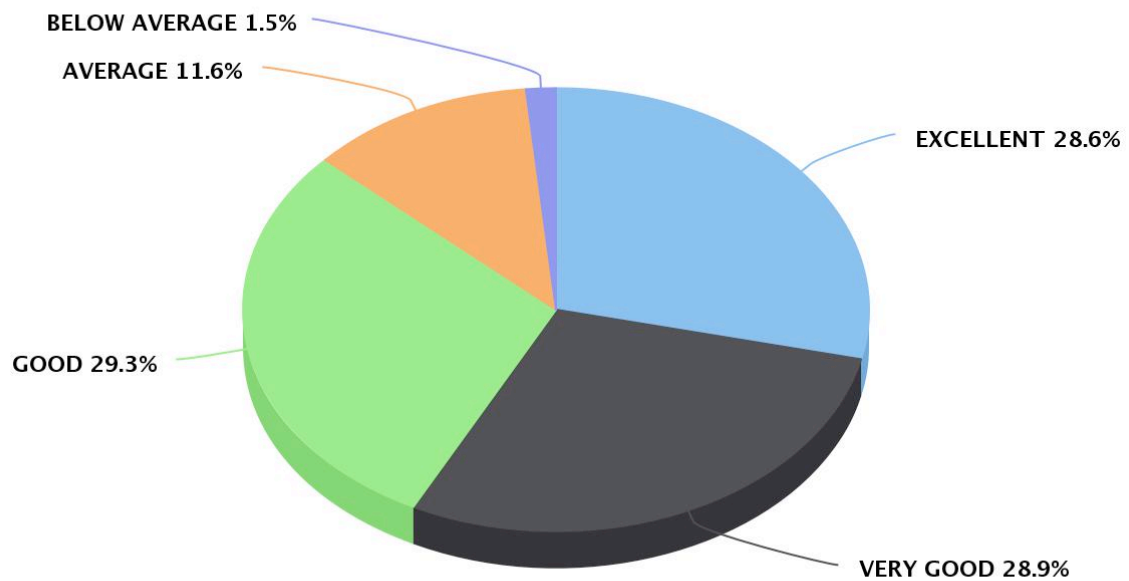
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ECL4207–DIGITAL ELECTRONICS AND LOGIC DESIGN



1. Were objectives of Course clear to you?
2. The course content met with your expectations?
3. The lecture sequence was well planned
4. The level of the course was: Excellent/Very Good/Good/Average/Below Average?
5. The course contents compared with your expectations
6. Did you enjoy learning the course?
7. Did you find the course useful?
8. The course exposed you to new knowledge and practices

CSL3203-COMPUTER NETWORKS



1. Were objectives of Course clear to you?
2. The course content met with your expectations?
3. The lecture sequence was well planned
4. The level of the course was: Excellent/Very Good/Good/Average/Below Average?
5. The course contents compared with your expectations
6. Did you enjoy learning the course?
7. Did you find the course useful?
8. The course exposed you to new knowledge and practices

Faculty participation in conferences and symposia

As a Resource Persons

	Names of Presenting Authors	Title of Talk	Level	Details of Conference	From	To
1	Dr. Sushil Kumar	Innovative Teaching Tools & MOOCs	National	National Conference at Govt College, Kathua, Jammu	11/11/2017	11/11/2017
2	Dr. Sita Ram	Resource Person :Teaching Pedgogy in Mathematics and application of Mathematics	State	workshop for newly appointed TGTs and PGts at SCERT Solan	31/07/2017	05/08/2017
3	Ms Ankita Tuteja	United Nations Conference Centre in Bangkok, Thailand	International	8th University Scholars Leadership Symposium “Building Life, Giving Hope” at United Nations Conference Centre in Bangkok, Thailand	01/08/2017	07/08/2017
4	Dr. Uma Malik	Effect of Urbanization on Watershed Management	National	NITTTR, Chandigarh	29/05/2018	29/05/2018
5	Dr. Uma Malik	Water Analysis	National	NITTTR, Chandigarh	20/02/2018	20/02/2018

Papers Presented: International Level

S.No	Names Authors	Title of Paper	Details of Conference	From	To
1	Dr. Sita Ram	Inequalities between moments of continuous distribution	GNDU Amritsar	02/02/2018	04/02/2018
2	Dr. Sunil Kumar	L shell x-ray production in ultra-thin 76Os using 4-6 MeV/u fluorine ions	7th Topical Conference of the Indian Society of Atomic and Molecular Physics(ISAMP)IIT Tirupati	06/01/2018	08/01/2018
3	Mr Neeraj Kansal	An Efficient Offline Handwritten Gurmukhi Character Recognition System Based On Combined Feature Extraction & Different Classification Techniques	BBICAM, New Delhi	14/03/2018	16/03/2018
4	Mr Sagar Juneja	Strategic Partnership with Industry to Strengthen Core Competency in Electronics – Need, Opportunities, Challenges and Success Stories	Kuala Lumpur, Malaysia	13/11/2017	17/11/2017

5	Ms Parul Datta, Dr Bhisham Sharma	A Survey of IoT Architectures, Protocols, Security and Smart City based Applications	Indian Institute of Technology, Delhi	03/07/2017	05/07/2017
6	Dr Neha Kishore, Dr Sapna Saxena, Ms Priya	Big Data as a Challenge and Opportunity in Digital Forensic Investigation	Amity University Uttar Pradesh	10/08/2017	11/08/2017
7	Dr Prasenjit Das	Conservation of Feature Sub – Spaces Across Root kit Sub-Families	International Conference on Computing, Analytics & Networks – ICAN2017	27/10/2017	28/10/2017
8	Ms Rani Kumari	Secure Communication using PFS in a distributed environment	On-line International Conference	24/10/2017	25/10/2017
9	Ms Poonam singh, Dr. Sachin Ahuja, Dr. Shaily Jain	Latest Trends in Recommender Systems 2017	Indira Gandhi National Tribal University, Amarkantak (M.P.)	17/11/2018	18/11/2017
10	Ms Nandini Nayar, Dr Sachin Ahuja, Dr Shaily Jain	Swarm Intelligence for Feature Selection: A Review of Literature and Reflection on Future Challenges	Indira Gandhi National Tribal University, Amarkantak(M.P) India	17/11/2017	18/11/2017
11	R Aravinth, C.Prakasam, S.Sanjeevi Prasad	Building footprint extraction from high resolution remote sensing data- A Case Study on Ayyappankovil, Elappara And Upputhara Villages, (Idukki district, Kerala)	Asian Association of Remote Sensing, Indian institute of Remote Sensing	23/10/2017	27/10/2017
12	Prakasam, C., Aravinth, R., Kanwar, Varinder S., Nagarajan, B	Estimation of Seasonal Variations in Land Surface Temperature Using Landsat (TIRS & OLI) through Single–Window Algorithm Method–A Case Study	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
13	Aravinth, R., Srimadhi, K., Prasad, S Sanjeevi., Prakasam, C	Application of land surface temperature for rooftop solar energy generation–A case study using remote sensing and GIS.	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
14	Prakasam, C., Aravinth, R., Kanwar, Varinder S., Nagarajan, B	Landslide Hazard Mapping using Geo-Environmental Parameters – A Case study on Shimla Tehsil, Himachal Pradesh	Indian Institute of Technology Roorkee	05/04/2018	06/04/2018

15	Ali, Jafar., Sharma, Aisha	Smart Campus: Schooling in underdeveloped Areas.	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
16	Kanwar, Varinder S,Kandra, Harpreet Singh., Sharma, Nitish Kumar	Need for integrated urban water management in India –The way forwarded	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
17	Sharma, Aisha., Sharma, Dipali	Need of building Pathology,A crucial practice	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
18	Gaurav,Nishant., Sharma, Aisha	LID structure in flood management biofilters	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
19	Kumar,Chandan., Singh, Nishant, Sharma,Ravi., Malik, Uma	Clean Technologies: Water Conservation through Rainwater Harvesting.	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
20	Rana, Abhishek Singh., Malik, Uma., Sharma, Sanjay	Sustainable infrastructure: Rainwater Harvesting Structure	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
21	Ali, Jafar., Sharma, Monika	Smart Villages	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
22	Thakur, Prashant., Rathore, Sagar., Sharma, Aisha	Flooding in urban areas: A frequent threat.	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
23	Thakur, Prashant., Sharma, Monika	Renewable Energy Resources	Chitkara University, H.P. and NITTTR, Chandigarh	23/02/2018	24/02/2018
24	Akhil Shetty	Design thinking (IUCEE-EPICS)	Thiagarajar College of Engineering, Madurai	08/01/2018	09/01/2018
Papers Presented: National Level					
1	Lata Rani	New Technological advancements in green chemistry in mitigating climate change: A comprehensive review	MAU, Himachal Pradesh	08/12/2017	09/12/2017

2	Anshu Sharma	Human Energy Harvesting: A Promising Solution For Energy Requirements	Indian school of business, Mohali	12/10/2017	13/10/2017
3	Alok Kumar Aggarwal	Cyber physical system for monitoring the air and water quality in the himalayan region	Hotel Peterhoff, Shimla	21/11/2017	21/11/2017
4	Uma Malik ,Akhil Shetty	Design Thinking	CURIN at Chitkara University	25/08/2017	17/11/2017
5	Dr. C Prakasam, R Aravinth and Dr. Varinder S Kanwar, Maj Gen Dr. B Nagarajan	Landslide Hazard Evaluation Methods – A Review	Indian Institute of Technology Mumbai	08/12/2017	09/12/2017
6	R Aravinth,Dr C Prakasam., Ms. Monika Sharma., Dr R. Vijaya	long-term shoreline change analysis using remote sensing and gis - a case study on rameshwaram coastal area, tamilnadu, india	Maharaja Agrasen University	08/12/2017	09/12/2017
Papers Presented: State Level					
1	Rohit Verma	Revisiting the texture zero ansatz for the Yukawa sector in the Standard Model	2nd Himachal Science Congress,Hotel Peterhoff, Shimla	20/11/2017	20/11/2017
2	Ashok Kumar	Analysis of Health Conditions using C4.5 Algorithm	nd Himachal Science Congress,Hotel Peterhoff, Shimla	20/11/2017	20/11/2017
3	Dr Neha Kumra	Chaos Control in two and three dimensional discrete systems using asymptotic stability analysis	2nd Himachal Science Congress,Hotel Peterhoff, Shimla	20/11/2017	20/11/2017
4	Aisha Sharma, Dr. Uma Malik	Comparative Study of Hydrological Models Available for Design of Storm Water Infrastructures	Himachal Pradesh Science Congress	20/11/2017	20/11/2017
5	Dr. C Prakasam, R Aravinth and Dr. Varinder S Kanwar	Land use and Land cover changes & Urban sprawl changes using geospatial techniques: A case study on Shimla Tehsil	Himachal Pradesh Science Congress	20/11/2017	20/11/2017
6	Dr. C Prakasam, R Aravinth and Dr. Varinder S Kanwar	Landslide studies; A review	Himachal Pradesh Science Congress	20/11/2017	20/11/2017

7	Mr Akhil Shetty, Ms Monika Sharma	A review of Technologies for pharmaceutical industry wastewater treatment and its reclamation	Himachal Pradesh Science Congress	20/11/2017	20/11/2017
8	Dr. Varinder Kanwar, Ms. Upasana Grover , Mr.Brijbhushan,Mr. SurinderKumar	Use of Sludge Containing Caco3 in The manufacturing of Concrete	Himachal Pradesh Science Congress	20/11/2017	20/11/2017
9	Ms Monika Sharma, Mr Akhil Shetty	A review of Performance of concrete under the influence of different fibers	Himachal Pradesh Science Congress	20/11/2017	20/11/2017

Conference Attended : National/State Level					
1	Dr. Madhu Gupta	Attended	Conference on Matrix Analysis, NIT Jalandhar	30/11/2017	02/12/2017
2	Abhishek Kanoungo	Attended only	Development in pavement engineering, IIT-Kharagpur	12/02/2018	14/02/2018
3	Monika Sharma	Attended only	State Council for Science, Technology & Environment, H.P. and HIMCOSTE, Shimla	08/09/2017	09/09/2017
4	Abhishek and Gurmohan Singh	Attended only	international competition award ceremony	27/04/2018	28/04/2018
5	Dr. Uma Malik	Attended only	Under representation of women in crucial fields of judiciary system and civil engineering,NCU, Gurugram	08/03/2018	09/03/2018

Details regarding major projects

Major Research project completed				
Sr. No	Title of Project	Names of PI and all Co-PIs	Name of Funding Agency	Grant received (INR: Lakhs)
1	Study the effect of multiple ionization and nuclear spin in X-Ray production cross-section of High-Z elements by heavy ions	Dr Sunil Kumar	DST/SERB	8.4
Major Research project Ongoing				
1	Fermion mixing, CP violation and mass matrices in flavor physics	Dr Rohit Verma	DST/SERB	5.4
2	Study the effects of parallel hashing algorithms and use of digital footprints for security and fast digital forensics investigation	Dr Neha Kishore	Project Sponsored by Govt. Agencies (DST)	12.97
3	Use of industry sludge containing Calcium Carbonate for manufacturing hard grade bitumen	Dr. Varinder S Kanwar (PI), Mr. Abhishek Kanoungo (Co-PI),	Department of Environment, Science & Technology, Govt. Of Himachal Pradesh	10
4	Impact of Hydro Power Project on environment: A Case study of Beas River Basin in Himachal Pradesh, India for Assessing the need of minimum ecological flow in the downstream – A GIS Approach	Dr C. Prakasam (PI), Ms. Monika Sharma (Co-PI)	Department of Environment, Science & Technology, Govt. Of Himachal Pradesh.	8
Major Research project Submitted				
1	Smart waste rewarding network	Mr Manik Gupta	Project Sponsored by Govt. Agencies (DST)	11
2	Proposal for formulation of Eco-Village Development Plan	Dr. Varinder S Kanwar, Dr C. Prakasam, Dr Uma Malik, Dr Arun Srivastva, Mr Sagar Juneja, Mr. Akhil Shetty, Ms. Monika Sharma, Ms. Aisha Sharma	Department of Environment, Science & Technology, Govt. Of Himachal Pradesh	50
3	Water resource planning and management for water stressed and drought prone areas: a geospatial approach. Case study of Una district, Himachal Pradesh	Dr C. Prakasam	Department of Science and Technology (DST), New Delhi	122.25

4	Development of an integrated watershed management strategy for resource conservation in rural area of Himachal Pradesh	Dr Uma Malik	SERB, Department of Science and Technology (DST), New Delhi	10
5	Surface Topography and Kinematics of active faulting in the Sub-Himalaya, close to Chandigarh: Implications to infrastructure development and seismic hazard for a proposed smart city	Dr. Tejpal Singh (PI), Dr C. Prakasam (Co-PI), Dr. Soumyajit Mukherjee (Co-PI), Dr. Mahesh Kumar Jat (Co-PI) ,Dr. Seema Singh (Co-PI)	Ministry of Earth Sciences (MoES)	144
6	Site specific landslide Invitation and Risk Management – A Geospatial Approach: Case Study On Mandi District (KOTROPI).	Dr C. Prakasam	Council for Science, Technology & Environment (HIMCOSTE), Shimla	10
7	Proposal of Alternative Agriculture System and Water Harvesting Methods for selected Panchayat Participatory GIS Approach	Dr C. Prakasam (PI), Ms. Monika Sharma (Co-PI)	Department of Science and Technology (DST), New Delhi	102.74
8	Establish a Training Centre and to Transfer the Technology for the socio economic Upliftment of SC/ST population	Dr Varinder Kanwar (PI) Professor - CE, Dr Hitakshi Dutta (Co-PI), Deputy Registrar Dr C. Prakasam (Co-PI)	Department of Science and Technology (DST), New Delhi	30
9	Fifteen days School on “Introduction to Landslides – Mapping Migration and Preventive Measures	Dr C. Prakasam	Department of Science and Technology (DST), New Delhi	21.35
10	Alternative Agriculture Practice for water stressed and drought prone areas in Solan District, HP: A Geospatial Approach	Dr C. Prakasam	Department of Science and Technology (DST), New Delhi	86.83
11	Geospatial Technology Winter and Summer School	Dr C. Prakasam	Department of Science and Technology (DST), New Delhi	20
12	Monitoring of seasonal snow cover variation over north Indian Himalayas using change detection analysis, Himachal Pradesh	Sartajvir Singh	HIMCOSTE	9.77
13	Design and Development of Wireless Sensor Network based Early Warning System of Landslides, Himachal Pradesh	Sartajvir Singh, Shivendu Prashar	HIMCOSTE-DST	47.1
14	Inequalities between Moments of a Statistical Distribution and their Applications to Algebra Theory	Dr Sita Ram	DST/SERB	7.75

Details on research publications

Publications in Journals : National										
S. No	Names Authors	Title of Paper	Name of Journal	Publisher	Year	Vol. No.	Issue No.	Page No(From)	Page No(To)	ISSN Number
1	Ishwar Dutt Suman Mittal	The dependence of surface diffuseness parameter on N/Z ratio of the fusion of neutron-rich colliding nuclei	Journal Of Nuclear Physics, Material Sciences, Radiation And Applications	Chitkara University Publication, India	2017	4	2	1	15	2321-8649
2	Madhu Gupta, Rajesh Sharma, and S.R. Sharma	on some inequalities involving harmonic mean and moments	Mathematical Journal of Interdisciplinary Sciences	Chitkara University Publication, India	2017	6	1	54	65	Print: 2278-9561 Online: 2278-957X
3	Dinesh Kumar Sharma, Himani Mittal, S R Sharma	Effect Of Deformation On Semi – Infinite Viscothermo elastic Cylinder Based On Five Theories Of Generalized Thermoelasticity	Mathematical Journal of Interdisciplinary Sciences	Chitkara University Publication, India	2017	6	1	17	35	Print: 2278-9561 Online: 2278-957X

4	Neetu Rani	Image Processing Techniques: A Review	Journal on Today's Ideas Tomorrow's Technologies	Chitkara University Publication, India	2017	5	1	40	49	2321-3906
5	Jyoti Arora, Ambica Sood	A Survey on knowledge extraction Approaches from Big Data and Rectifying Misclassification strategies	International Journal of Computer Science and Engineering	IJCSE, 501, King Tower, Navlakh a Square, AB Road, Indore, MP 452001 India	2017	5	12	187	200	2347-2693

Publications in Journals : International

S. No	Names Authors	Title of Paper	Name of Journal	Publisher	Year	Vol. No.	Issue No.	Page No(From)	Page No(To)	ISSN Number
1	Rohit Verma	Exploring the predictability of symmetric texture zeros in quark mass matrices	Physical Review D	American Physical Society, USA	2017	96	9	093010-1	093010-16	2470-0010
2	Rohit Verma	Quark mass matrices, textures and CKM precision measurements	International Journal of Modern Physics A	World Scientific, Singapore	2017	32	25	1750151-1	1750151-13	0217-751X

3	Suman Mittal, Ishwar Dutt	The systematic study of N/Z dependence on surface diffuseness parameter in the fusion of heavy neutron-rich colliding nuclei by using Skyrme energy density formalism	International Journal of Pure and Applied Physics	Research India Publications, India	2017	13	1	84	88	0973-1776
4	Hitakshi Dutta, Sandhir Sharma	Trends of Employee Engagement in Indian Banking Industry	International Journal of Applied Business and Economic Research	Serials Publications, India	2017	15	9	137	144	0972-7302
5	M. Oswal, Sunil Kumar, Udai Singh, G. Singh, K.P. Singh, D. Mehta, D. Mitnik, C.C. Montana ri, T. Nandi	L x-ray production cross sections in high-Z atoms by 3–5 MeV/u silicon ions	Nuclear Inst. and Methods in Physics Research B	Elsevier, Netherlands	2018	416	-	110	118	0168-583X
6	Ajay Sharma	Inner shell alignment of atom in a photon impact ionization	Journal of electron spectroscopy and related phenomena	Elsevier, Netherlands	2018	225	-	1	4	ISSN: 0368-2048

7	VijayKumar, Ajaypal Singh Dhillon, NN.Sharma	Surface Modification of Textured Dielectrics and their wetting behavior	Journal of Materials Engineering and Performance	Springer , United States	2017	26	2	822	827	1059-9495
8	Sartajvir Singh, Rajnish Talwar	Response of fuzzy clustering on different threshold determination algorithms in spectral change vector analysis over western Himalaya, India	Journal of Mountain Science, Springer	Springer , China	2017	14	7	1391	1404	1672-6316
9	Shivendu Prashar, Derick Engles, Sham Sunder Malik	Dependence of thermal sensitivity of LPFG on waveguide and material parameters	Photonic Network Communications	Springer , Netherlands	2017	-	-	1	7	1387-974X
10	Neeraj Kumar, Sheifali Gupta	A Novel Handwritten Gurmukhi Character Recognition System Based On Deep Neural Networks	International Journal of Pure and Applied Mathematics	Academic Publications Ltd, Kuwait	2017	117	1	663	678	13118080
11	Neeraj Kumar, Sheifali Gupta	Offline handwritten gurmukhi word recognition using deep neural networks	International Journal of Pure and Applied Mathematics	Academic Publications Ltd, Kuwait	2018	119	12	14749	14767	13118080

12	Rachita Nagpal, Chetan Sharma	Marketing Digitally: Hybrid Approach	Elk Asia Pacific Journal Of Marketing And Retail Management	ELK Asia Pacific Journals, India	2018	9	1	0	0	2349-2317 (Online) ;
13	Deepika Koundal, Bhisham Sharma	Spatial intuitionistic fuzzy set based image segmentation	Imaging in Medicine	Pulsus Group 40 Bloomsbury Way Lower Ground Floor London, United Kingdom WC1A 2SE	2017	9	4	95	101	1755-5191
14	Bhisham Sharma, Deepika Koundal	Cattle health monitoring system using wireless sensor network: a survey from innovation perspective	IET Wireless Sensor Systems	IET Digital Library, London	2018	8	4	143	151	2043-6394
15	Kanwar, V.S., Johan, Siby	Use of Electroplating Industry sludge as a Construction material	MedCrave Civil Engineering	MedCrave	2017	2	1	1	8	2471:139X
16	Prakasm, C., R Aravinth., Varindar S Kanwar	Land Use Land Cover Change Detection & Urban Sprawl Study: A Case Study on Shimla Tehsil, Himachal Pradesh , India	Journal of Geography, Environment and Earth Science International	Science domain	2018	16	1	1	13	2454-7352

Publications in Conference Proceedings : International								
S.No	Names Authors	Title of Paper	Name of Conference Proceedings	Publisher	Year	Page No(From)	Page No(To)	ISSN Number
1	Prakasam, C., Aravinth, R., Kanwar, Varinder S., Nagarajan, B	Estimation of Seasonal Variations in Land Surface Temperature Using Landsat (TIRS & OLI) through Single-Window Algorithm Method-A Case Study	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	466	473	978-81-920249-9-8
2	Aravinth, R., Srimadhi, K., Prasad, S Sanjeevi., Prakasam, C	Application of land surface temperature for rooftop solar energy generation-A case study using remote sensing and GIS	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	79	87	978-81-920249-9-8
3	Ali, Jafar., Sharma, Aisha	Smart Campus: Schooling in underdeveloped Areas	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	164	168	978-81-920249-9-8
4	Kanwar, Varinder S., Kandra, Harpreet Singh., Sharma, Nitish Kumar	Need for integrated urban water management in India -The way forwarded	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	28	30	978-81-920249-9-8

5	Sharma, Aisha., Sharma, Dipali	Need of building Pathology, A crucial practice	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	42	46	978-81-920249-9-8
6	Gaurav, Nishant, Sharma, Aisha	LID structure in flood management biofilters	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	210	225	978-81-920249-9-8
7	Kumar, Chandan., Singh, Nishant, Sharma, Ravi., Malik, Uma	Water Conservation through Rainwater Harvesting	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	452	454	978-81-920249-9-8
8	Rana, Abhishek Singh., Malik, Uma., Sharma, Sanjay	Sustainable infrastructure: Rainwater Harvesting Structure	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	389	393	978-81-920249-9-8
9	Ali, Jafar., Sharma, Monika	Smart Villages	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	2018	199	209	978-81-920249-9-8

10	Thakur, Prashant., Rathore, Sagar., Sharma, Aisha	Flooding in urban areas: A frequent threat	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	201 8	216	223	978- 81- 920249 - 9- 8
11	Thakur, Prashant., Sharma, Monika	Renewable Energy Resources	International conference on clean technology and sustainable development, proceedings	Chitkara University, H.P., NITTTR, Chandigarh	201 8	378	383	978- 81- 920249 - 9- 8

List of books published

Sr. No .	Title of Book	ISBN Number	Publisher	Author	Year of Publication
1	Employee Engagement in Indian Banking Sector	978-620-2-01554-7	LAP-Lambert Academic Publishing	Hitakshi Dutta	2017
2	Health monitoring of RCC buildings using vibration measurements	987-620-2-01204-1	Lambert Academic Publishing	Varinder S. Kanwar	2017
3	Challenges of managing storm water in an urbanised watershed of India	987-620-2-02431-0	Lambert Academic Publishing	Dr Uma malik	2017
4	Spatial analysis of land use land cover changes using RS and GIS	987-3-330-32193-9	Lambert Academic Publishing	Prakasam, C.	2017
5	Comparitive Drainage morphometric study using Geospatial technology	978-3-330-34217-0	Lambert Academic Publishing	Prakasam, C.	2017
6	Remote Sensing & GIS Application in Water Stress and Geomorphic study	978-620-2-30150-3	Scholar Print house, Mauritius	Prakasam, C.	2017

Annexure-VII

Detail of conferences organized by the Institution

Sr No.	Department	Name of Conference	Date and venue	Level	No. of participants	Names of Experts with affiliation
1	Civil Engineering	International Conference on Clean Technologies and Sustainable Development – 2018	23/02/2018 to 24/02/2018	International	181	Prof. D.P. Aggarwal, Former Chairman, UPSC. Mr. Navjot Singh Sidhu, Hon'ble Cabinet Minister, Government of Punjab. Mr. Andrew Ayre, Deputy, British High Commission. Mr. Subodh Aggarwal, Advisor FICCI. Dr. Said Mohammad Rabiah, Chairman, NG Middle East group Dr. S.S. Pattnaik, Director, NITTTR Mr. GB Singh, Regional Head FICCI
2	Civil Engineering	Educational Conclave on Emerging Trends in Technical Education	23/02/2018 to 24/02/2018	National	123	Prof.(Dr.) S.S. Pattnaik, Director, NITTTR, Chandigarh., Prof.(Dr.) Manoj Arora, Director, PEC, Chandigarh., Sh. Vajralingam, IAS, VC, IKGPTU., Prof.(Dr.) M.P.S. Ishar, VC, MRSPTU

List of faculty served as experts, chairpersons or resource persons

Resource Persons

	Names of Presenting Authors	Title of Talk	Level	Details of Conference	From	To
1	Dr. Sushil Kumar	Innovative Teaching Tools & MOOCs	National	National Conference at Govt College, Kathua, Jammu	11/11/2017	11/11/2017
2	Dr. Sita Ram	Resource Person :Teaching Pedgogy in Mathematics and application of Mathematics	State	workshop for newly appointed TGTs and PGts at SCERT Solan	31/07/2017	05/08/2017
3	Ms Ankita Tuteja	United Nations Conference Centre in Bangkok, Thailand	International	8th University Scholars Leadership Symposium “Building Life, Giving Hope” at United Nations Conference Centre in Bangkok, Thailand	01/08/2017	07/08/2017
4	Dr. Uma Malik	Effect of Urbanization on Watershed Management	National	NITTTR, Chandigarh	29/05/2018	29/05/2018
5	Dr. Uma Malik	Water Analysis	National	NITTTR, Chandigarh	20/02/2018	20/02/2018

List of patents

Detail of Granted Patent and Copyright

Sr.No.	Name Of The Inventor	Invention Title	Patent Filing Number	Date of Filing	Date of Granted
1	Ashish Vadhan and Atul Rana	Tape Dispenser	Design Patent – 291772	15/03/2017	19/03/2018
2.	Dr Hitakshi Dutta and Dr Sandhir Sharma	Employee engagement in selected banks of Northern India	Copyright – Txu002072457	11/10/2017	2017

S.No	Name of Inventors	Submitted the Patent Entitled	Patent Filing Number	Date of Filing
1	Nitin Malhotra, Manik Sharma	Improved electrical switch socket board for enhanced safety	201711034650	29/09/2017
2	Pintu Kumar	Anti-theft system and method for protection of two wheeler	201711035110	04/10/2017
3	Aniket Bharadwaj, & Shubham Goyal	Rear view mirror for vehicle	Design - 298997	31/10/2017
4	Aniket Bharadwaj, & Shubham Goyal	Dustbin	Design - 299365	12/11/2017
5	Sahil Goel, Ripudaman Kaushik, Neeraj Kumar, Anshu Sharma	Guiding shoe for blind	201711043039	30/11/2017
6	Sartajvir Singh & Vishakha Sood	Smart scroll wheel for mobile phone	201711043934	07/12/2017
7	Sartajvir Singh & Vishakha Sood	Method of automatic backlight adjustment of mobile screen	201711047427	30/12/2017
8	Sartajvir Singh & Vishakha Sood	Wheel shaped edge scroller for bezel free cell phones and method thereof	201811003806	01/02/2018
9	Yash Mittal	Portable bladeless fan with smart air heating and cooling control	201811002395	20/01/2018
10	Pratyaksh Joshi, Sagar Juneja	Telegraphic communication instrument	Design # 302846	22/02/2018
11	Sagar Juneja, Hitesh Sharma & Arjun Sharma	Wearable system to enable disabled person to transmit voice message and method of use thereof	201811014507	17/04/2018
12	Sartajvir Singh, Deepak Punetha	Gas detection device	201811022863	19/06/2018
13	Varinder Singh Kanwar, D.C. Rana ,Abhishek Kanoungo , Dr. Shukla Sanjay Kumar	Hot mix asphalt modified with toothpaste and paper industry	201811020079	05/29/2018

List of research awards/ recognitions received by faculty and research fellows of the institute in the year

S. No	Name of Faculty	Name of Award	Level	Name of Awarding Organization
1	Girish Rao	Python Certification	International	MITX
2	Girish Rao	Certification program	International	Oracle University
3	Amanjot Kaur	Course certificate	International	University of Michigan
4	Girish Rao	BEST TEACHER AWARD	National	ISTE
5	Neha Kishore	BEST TEACHER AWARD	National	ISTE
6	Girish Rao	Silver partner Faculty	National	Infosys
7	Sapna Saxena	Silver partner Faculty	National	Infosys
8	Abha Sharma	Bronze Partner Faculty	National	Infosys
9	Nandini Nayyar	Bronze Partner Faculty	National	Infosys
10	Latika	Bronze Partner Faculty	National	Infosys
11	Shankar Aggarwal	Wipro Certified Faculty	National	Wipro
12	Rohit Verma	Best Paper Presentation	State	HP Sceience Congress
13	Ashok Kumar	Best Paper Presentation	State	HP Sceience Congress
14	Harpreet Kaur	Appreciation Certificate	University	Chitkara University
15	Sartajvir singh	Appreciation Certificate	University	Chitkara University
16	Amit monga	Appreciation Certificate	University	Chitkara University
17	Shiveta Bhat	Appreciation Certificate	University	Chitkara University
18	Monika Parmar	Appreciation Certificate	University	Chitkara University
19	Ms. Aisha Sharma	Best Poster	State	HP Science Congress

Students Participated in NSS events

DETAILS OF NSS EVENTS					
Sr. No	Name of Event/ Theme/ Activity	Type	Date (DD/MM/YYYY)	Place where held	Number of Participants
1	Nss evaluation (conference)	University	12/07/2017	CUHP	22
2	Slogan Writing and Poster Making Competition	University	01/08/2017	CUHP	34
3	NIC Camp at Ahmedabad	National	12/08/2017 to 16/08/2017	V.G. Engineering College, Chandkheda, Ahmadabad, Gujrat	10
4	Independence Day Celebration (Run for Unity and Pledge Taking ceremony and Skit by Sankalp Sudent)	University	15/08/2017	CUHP	42
5	Drawing competion (innovative in garbage cleaning)	University	06/09/2017	CUHP	43
6	Blood Donation Camp	University	08/09/2017	CUHP	32
7	Essay Writing Competition on theme (Swatchta hi sewa)	University	22/09/2017	CUHP	6
8	Cleanliness Drive	University	24/09/2017	CUHP	26
9	NSS Showcase	University	07/10/2017	CUHP	28
10	Yoga Camp	University	24/10/2017 to 28/10/2017	CUHP	51
11	Run for Unity	University	31/10/2017	CUHP	156
12	Blood Donation Camp	University	07/11/2017	CUHP	36
13	Cloth distribution	University	28/11/2017	CUHP	10
14	Republic Day Celebration	University	26/01/2018	CUHP	100
15	Cloth distribution drive	University	01/02/2018	CUHP	20
16	Guest Lecture on "Drug abuse"	University	06/02/2018	CUHP	40
17	NSS Annual Camp	University	26/03/2018	CUHP	35
18	Mockdrill On Earthquake	University	04/04/2018	CUHP	20
19	Orphanage Visit	University	15/04/2018	CUHP	20
20	Blood Donation Camp	University	16/04/2018	CUHP	22
21	Yoga Awarness Day	University	02/05/2018	CUHP	50
22	4th International Yoga Day	University	21/06/2018	CUHP	500

Detail of Extension activities organized by the University

INCUBATION AND STARTUP INITIATIVES

Sr. No.	Event /Theme /Activity	Forum: Univ/ College	Date	Place	No. Of Participants
1.	Startup Day	Chitkara University	04/10/2017	Chitkara University, Himachal Pradesh	80
2	Earn While You Learn	Chitkara University	01/09/2017	Chitkara University, Himachal Pradesh	103
3	nRays	Yellow Cursor	22/09/2017 to 24/09/2017	Chitkara University, Punjab	4
4	E-Leader Contest	Chitkara University	21/01/2018	Chitkara University, Himachal Pradesh	23
5	TiEcon CHD – I2C	TiEcon CHD	08/03/2018 to 09/03/2018	ISB, Mohali	10
6	E-Spark	Chitkara University	03/04/2018	Chitkara University, Himachal Pradesh	25
07	HST2018	IIT Mandi	28/04/2018to 29/04/2018	IIT Mandi, Himachal Pradesh	04

CO-CURRICULAR AND CLUB ACTIVITIES

Sr. No.	Name of Event/ Theme/ Activity	Forum: Univ/College	Dates From (DD/MM/ YYYY)	Dates To (DD/MM/ YYYY)	No. of Participants
1	Magic Box	University	27/09/2017	27/09/2017	15
2	Goal for Win	University	05/10/2017	05/10/2017	9
3	Shoot and Run	University	06/11/2017	06/11/2017	25
4	Group Discussion	University	15/03/2018	15/03/2018	7
5	THINK QUICK (QUIZ)	University	28/09/2017	28/09/2017	11 Teams
6	CODING HACKATHON	University	28/10/2017	28/10/2017	50 Teams
7	Fastest Typing Event	University	26/01/2018	26/01/2018	20
8	Counter Strike	University	23/03/2018	23/03/2018	50
9	Debug the Code	University	23/03/2018	23/03/2018	101
10	Hackathon	University	23/03/2018	23/03/2018	156
11	Mad CAD	University	23/03/2018	23/03/2018	7
12	PC Garage	University	23/03/2018	23/03/2018	38
13	UI Development	University	23/03/2018	23/03/2018	44
14	INTERACTIVE SESSION	UNIVERSITY	30/08/2017	30/08/2017	50
15	AUDITIONS	UNIVERSITY	01/09/2017	01/09/2017	40
16	PITTHU LEAGUE	UNIVERSITY	08/09/2017	09/09/2017	80
17	ANTAKSHARI	UNIVERSITY	26/10/2017	26/10/2017	25
18	Dog and the Bone	University	08/03/2018	08/03/2018	27
19	Dance Faceoff	University	24/01/2018	24/01/2018	7

20	Electrohunt	University	29/09/2017	29/09/2017	49
21	Circuit Designing software based hands on session	University	02/11/2017	02/11/2017	51
22	Emerging Applications of Digital Image Processing (EADIP)	University	30/03/2018	31/03/2018	36
23	Workshop on raspberry Pi, Arduino & IOT	University	19/04/2018	20/04/2018	46
24	General quiz	University	07/09/2017	07/09/2017	69
25	Civil Simplified Workshop	University	27/09/2017	28/09/2017	80
26	Civil - O - Graphy	University	27/09/2017	28/09/2017	10
27	Poster Making	University	27/09/2017	28/09/2017	20
28	Model-IT	University	24/03/2018	24/03/2018	19
29	Build-O-Arch	University	24/03/2018	24/03/2018	14 teams

30	Survey Hunt	University	24/03/2018	24/03/2018	21
31	Arbit	University	24/03/2018	24/03/2018	32
32	Interactive Session With Freshers	University	29/09/2017	29/09/2017	20
33	Wheel Of Fortune: Express To Impress	University	30/10/2017	30/10/2017	18
34	Republic Day Celebration	University	26/01/2018	26/01/2018	5
35	Group Discussion	University	02/07/2018	02/07/2018	12
36	MUN Workshop	University	03/09/2018	03/09/2018	12
37	Gender Benders	University	03/08/2018	03/08/2018	6
38	Tell Me If U Can	University	26/09/2017	26/09/2017	39
39	Think out of the box	University	10/03/2017	11/05/2017	30
40	Let Us Code	University	26/04/2017	26/04/2017	14
41	Scratch Workshop	University	27/09/2017	28/09/2017	98
42	Open Mic Jam	University	09/02/2017	09/02/2017	21

43	Antakshari	University	23/09/2017	23/09/2017	14 Teams
44	Online Singing Competition	University	28/09/2017	28/09/2017	9
45	Voice Of Chitkara	University	31/01/2018	31/01/2018	21
46	Dumb Charades	University	20/02/2018	20/02/2018	20
47	6 on 6 cricket tournament	University	02/09/2017	05/09/2017	96
48	3 on 3 Basketball Tournament	University	19/09/2017	20/09/2017	40
49	VOLLEYBALL TOURNAMENT	University	05/11/2017	07/11/2017	50
50	CUPL CHITKARA UNIVERSITY PREMIER LEAGUE	University	30/10/2017	11/11/2017	80
51	7 A side-soccer	University	09/11/2017	12/11/2017	606
52	IIT Mandi SPORTS FEST	University	30/09/2017	02/10/2017	318
53	Jaypee university	University	12/11/2017	13/11/2017	20
54	Urja'18,Thapar University	University	16/02/2018	18/02/2018	67

55	Athlos'18, Chitkara University	University	03/9/2018	03/10/2018	50
56	Aarohan'18,IIT Ropar	University	16/03/2018	18/03/2018	73
57	Lakshya'18,Badd i University	University	24/03/2018	25/03/2018	30
58	6 on 6 Cricket	University	01/11/2018	01/12/2018	60
59	Athletic Meet	University	20/01/2018	20/01/2018	90
60	CPL	University	02/04/2018	22/04/2018	160
61	Hostel League	University	04/03/2018	19/04/2018	88
62	BTC & Pool	University	19/04/2018	20/04/2018	50
63	Collage Making	University	30/08/2017	30/08/2017	30
64	Bollywood quiz	University	09/02/2017	09/02/2017	25
65	Calligraphy	University	22/09/2017	22/09/2017	70
66	Ludo	University	31/10/2017	31/10/2017	20
67	Rangoli	University	31/10/2017	31/10/2017	15
68	Fifa	University	31/10/2017	31/10/2017	20
69	Cs-go	University	31/10/2017	31/10/2017	30
70	Kabbadi	University	11/07/2017	11/07/2017	40
71	Leg cricket	University	11/06/2017	11/06/2017	60
72	Tug of war	University	20/09/2017	20/09/2017	50
73	Karva Night	University	10/08/2017	10/08/2017	35
74	Call of Duty	University	27/03/2018	27/03/2018	24
75	Calligraphy	University	13/03/2018	13/03/2018	35
76	Kho-Kho	University	07/03/2018	07/03/2018	44
77	4 A Side Soccer	University	06/04/2018	06/04/2018	17

78	Counter Strike GO	University	27/03/2018	27/03/2018	20
79	Best campus shot	university	21/09/2017	07/12/2017	24
80	Mr. & Ms. Photogenic	univesrity	05/10/2017	28/10/2017	17
81	Photowalk	university	28/10/2017	28/10/2017	49
82	Best campus shot-2	university	22/01/2018	10/05/2018	16
83	Canon workshop-2	university	12/03/2018	12/03/2018	33
84	SnapMind	University	09/08/2017	17/09/2017	53
85	Solve To Step	university	28/09/2017	28/09/2017	37
86	HuntMania	University	02/06/2018	02/06/2018	91
87	Ganit Erruer	University	19/02/2018	19/02/2018	90

Annexure XIII**Details of student support mechanism for coaching for competitive examinations**

Sr. No.	Name of event/Support activity	Department	Date and venue	No. of students benefitted
1	Numerical Ability and Logical Reasoning	Civil	03/01/2018 to 14/05/2018	104
2	Life skill	Civil	03/01/2018 to 14/05/2018	104
3	Mentorship classes	Civil	03/01/2018 to 14/05/2018	104
4	Analog layout Design	ECE	03/01/2018 to 14/05/2018	05
5	FPGA	ECE	03/01/2018 to 14/05/2018	06
6	IOT	ECE	03/01/2018 to 14/05/2018	02
7	Aptitude and Logical reasoning	CSE	03/01/2018 to 14/05/2018	324
8	Placement Module	CSE	03/01/2018 to 14/05/2018	324
9	Life Skill	CSE	03/01/2018 to 14/05/2018	324

List of students qualified examinations

- Mr. Nishesh Mehta ID B130020092 of Department ECE has qualified IELTS Exam conducted in 10thFeb, 2018.
- Mr. Ashish Kumar ID B130020073 of Department ECE has qualified CAT Exam conducted in January 2018.
- Mr. Anuj Aggarwal ID B100020082 of Department ECE has qualified CAT Exam conducted in January 2018.
- Mr. Rajat Goyal ID B100020295 of Department ECE has qualified CAT Exam conducted in January 2018.
- Mr. Karan Sehgal ID B110020141 of Department ECE has qualified IELTS Exam conducted in 24th December, 2017.
- Mr. Shivam Sharma ID B110020303 of Department ECE has qualified IELTS Exam conducted in 22nd December, 2017.
- Mr. Karan Chugh ID B120020134 of Department ECE has qualified GRE Exam conducted in November 2017.
- Mr Gaurav ID B090020133 of Department ECE has qualified GATE 2017 conducted in February 2017.
- Mr. Prateek Mahajan ID B100020276 of Department ECE has qualified GMAT Exam conducted in 15 June 2017

Annexure XV

List of major placement companies visited for campus placement and students placed there PLACEMENT DETAILS

Name of the Company	Number of Students Placed	Name of the Company	Number of Students Placed
Infosys	2	BSH Household Appliance Manufacturing Pvt. Ltd.	4
CHC Consulting, Mohali	13	Edwisor	2
Deepak Nitrite Ltd.	01	Orange	3
Emm Ess Constructions	01	Panasonic	1
Jindal ITF	2	Secure meters	2
Afcons Infrastructure	03	ST Microelectronics	1
Sterling & Wilson	03	Thots Lab	1
Bara Infoware	02	U Shin	1
OYO	3	Opterna Technologies	2
Clear trip	4	Snowmicro Technologies	2
Evive	1	Zscaler	2
Novolnvent	8	Click Lab	3
Gemini Solutions	2	Cybage	3
Utrade	5	GlobalLogic	3
Quick Heal	1	KPIT	3
Informatica	5	MSys Technologies	3
ARI simulation	2	OT - Morpho (Syscom Corporation)	3
Arezzo Sky	1	Startup Farms (SUFI)	3
Persistent Systems	1	Tavisca	3
EXL Services Pvt. Ltd.	8	Virtusa	6
Drishti Soft Solutions	2	Birlasoft	4
Amazon	1	Calsoft	5
Amphisoft Technologies	2	Wipro	5
Byjus	2	RV Technologies	6
Capital Via Global	2	Edwisor	7
EME Technologies	2	Capgemini	15
Evalueserve	2	Infosys	43
GyanDhan	2	Others	28
ITC Infotech	2	Ocwen	1
Net2Source	2	Click Lab	1
Newgen Software	2	Policy Bazaar	22

Details of medals /awards won by students in Sports, Games and other events

Details of Student Participation in Sports – Inter University

Sr. No.	Event / Theme / Activity	Level	Date	Place	No. of Participants
1.	IIT Mandi sports fest	University	30/09/2017 to 02/10/2017	IIT, Mandi	318
2.	Jaypee university sports fest	University	12/11/2017 to 13/11/2017	Jaypee university	20
3.	Urja'18,Thapar University	University	16/02/2018 to 18/02/2018	Thapar University	67
4.	Aarohan'18,IIT Ropar	University	16/03/2018 to 18/03/2018	IIT Ropar	73
5.	Lakshya'18,Baddi University	University	24/03/2018 to 25/03/2018	Baddi University	30

Details of Student Participation in Sports – Intra University

S.No.	Name of Club	Date of Event	Name of Event	No. of Participants	List of Winners with position
1	CU ARCS	02/09/2017	6 on 6 cricket tournament	96	WINNING TEAM-LAKERS Rohan Verma, Rahul Sharma Arpit Walia, Aman Thakur Shubham Mishra, Manik Garg RUNNER UP TEAM: UNDERDOGS Rukul Raina(c) Bharat Gupta, Ashadeep Adarsh Sharma,Aditya Changotra
2	CU ARCS	19/09/2017	3 on 3 Basketball Tournament	40	Winning Team-Triology Rohit Dhiman(c), Shivender Thakur

					Aditya Changotra, Konark Anand Runner Up Team-Sky Hawks Gaurav Sharma,Abhay Singh(c) Navjot Rana
3	CU ARCS	05/11/2017	VOLLEYBALL TOURNAMEN T	50	Winning Team: BALL BUSTERS Anil, Kartik(c), Sumit,Abhishek Diwansh, Rishivdeep Runner Up Team: SPARTANS Sachin(c), Ankit, Rohan, Manik Manik, Gaurav
4	CU ARCS	30/10/2017	CUPL CHITKARA UNIVERSITY PREMIER LEAGUE	80	Winning Team: THE DUCKSTERS Runner up Team: ROARING DYNAMOS
5	CU ARCS	09/11/2017	7 A side-soccer	606	Winning Team-BHUTAN FP Runner up Team- DAY SCHOLARS
6	CU ARCS	03/09/2018	Athlos'18, Chitkara University	50	Basketball Boys(2nd Position), Basketball Girls(2nd Position)
7	CU ARCS	01/11/2018	6 on 6 Cricket	60	Underdogs(1st Position) Lakers(2nd Position)
8	CU ARCS	20/01/2018	Athletic Meet	90	...
9	CU ARCS	02/04/2018	CPL	160	FIRST PRIZE: BPL SECOND PRIZE: Underdogs
10	CU ARCS	04/03/2018	Hostel League	88	FIRST PRIZE: Mahadevas SECOND PRIZE: F.O.L.S United(2nd Position)
11	CU ARCS	19/04/2018	BTC & Pool	50	Badminton Winner - Aman Runner Up- Neel Chess Winner- neel Runner Up- Preeti Table Tennis Winner- Abhinav Runner Up- Rahul Karki Pool Winner-Karandeep Runner Up-Kartik Arora

Details of Participation in cultural activities

Sr. No.	Event /Theme /Activity	Level	Date	Place	No. of Participants From CU	No. of Participants From Outside CU
1	Vogue	University	07/10/2017	CUHP	15	211
2	Counter Strike	University	07/10/2017	CUHP	15	82
3	Fantastic Toe	University	07/10/2017	CUHP	14	124
4.	Stomp the yard	University	07/10/2017	CUHP	-	134
5.	Mr. & Ms. Algorythm'17	University	07/10/2017	CUHP	25	292
6.	Matinee	University	07/10/2017	CUHP	-	57
7	HallaBol	University	07/10/2017	CUHP	27	96
8	Fifa	University	07/10/2017	CUHP	36	109
9	Euphonious Fusion	University	07/10/2017	CUHP	15	196
10	3 on 3 basketball	University	07/10/2017	CUHP	17	76
11	Snaptext	University	07/10/2017	CUHP	42	121
12	Need for Speed	University	07/10/2017	CUHP	38	123
13	8 Balls of Fire	University	07/10/2017	CUHP	23	168
14	4 A Side Soccer	University	07/10/2017	CUHP	21	71
15	Humorous Speech	International	24/09/2017	ISB,Mohali	4	20
16	Nukkad Natak	National	03/11/2017	NIT,Hamirpur	12	150

List of Student organised / initiatives

Sr. No	Organised By	Event /Theme /Activity	Date	Participants	Prizes /Award / Achievement
1.	CU-ISOTOPES	Magic Box	27/09/2017	15	FIRST PRIZE -Ashutosh
2.	CU-ISOTOPES	Goal for Win	05/10/2017	9	FIRST PRIZE -Abhiraj
3.	CU-ISOTOPES	Shoot and Run	06/11/2017	25	FIRST PRIZE -Habeeb, Abhimanyu, Akash Yadav, Puranjay, Harsh
4.	CU-ISOTOPES	Group Discussion	15/03/2018	7	FIRST PRIZE -Mayank Manas
5.	CSI	Expert Talk on “Role of Client-side technology in Industry”	31/08/2017	100	NA
6.	CSI	THINK QUICK (QUIZ)	28/09/2017	11 Teams	FIRST PRIZE - Sagar Sharma & Sachin Kumar Runnerup - Naman & Prashant
7.	CSI	CODING HACKATHON	28/10/2017	50 Teams	FIRST PRIZE - Mr. Tarun Narain & Mr. Sushil Kainth SECOND PRIZE: Mr. Anshul Goel & Mr. Arshpreet Singh Mr. Vaibhav & Ravi Jain
8.	CSI	Fastest Typing Event	26/01/2018	20	FIRST PRIZE: Mukul Kansal
9.	CSI	Workshop on BITCOIN Professional by Quick Heal	03/02/2018	180	NA

10.	CSI	Industrial Visit to C-DAC, Mohali	03/02/2018	28	NA
11.	CSI	Tech Mahindra Auto Quotient	12/03/2018	300	NA
12.	CSI	Oyo Placement Experience Talk	13/03/2018	35	NA
13.	CSI	Workshop on Python - Machine learning, Amazone - Console platform	22/03/2018	80	NA
14.	CSI	Counter Strike	23/03/2018	50	Puneet Singh, Akarsh Chhabra, Vishal Sahrawat, Shivam Sharma
15.	CSI	Debug the Code	23/03/2018	101	FIRST PRIZE: Armaan, Chandan, SECOND PRIZE: Gagandeep Singh, Bhadresh Sharma
16.	CSI	Hackathon	23/03/2018	156	FIRST PRIZE: Ankit Yadav SECOND PRIZE: Raghav Kahol
17.	CSI	Mad CAD	23/03/2018	7	FIRST PRIZE : Chetan Gupta
18.	CSI	PC Garage	23/03/2018	38	FIRST PRIZE: Naveen Kaushal, Sourav Rana
19.	CSI	UI Development	23/03/2018	44	FIRST PRIZE : Anmol Jain SECOND PRIZE : Sumit
20.	CUT-C	INTERACTIVE SESSION	30/08/2017	50	NA
21.	CUT-C	AUDITIONS	01/09/2017	40	FIRST PRIZE Boys: Piyush, Shivam Sharma, Shivam, Padam, Aman
22.	CUT-C	PITTHU LEAGUE	08/09/2017	80	FIRST PRIZE Girls: Anamika, Varsha, Suchita, Aarti, Radhika

23.	CUT-C	ANTAKSHARI	26/10/2017	25	FIRST PRIZE: Anshul, Ankit, Ashruti
24.	CUT-C	Lohri	13/01/2018	All hostlers	NA
25.	CUT-C	Republic Day Event	26/01/2018	All hostlers	NA
26.	CUT-C	Dog and the Bone	08/03/2018	27	FIRST PRIZE :Ashruti, Varnika, Shardha
27.	Staccatos	Dance Party	21/09/2017	60	FIRST PRIZE Musical chairs- Raghav Bindal FIRST PRIZE Balloon Bursting- Roubal FIRST PRIZE Dance freeze-Lakshay FIRST PRIZE Dance Faceoff- Rayna singh
28.	Staccatos	Dance Faceoff	24/01/2018	7	FIRST PRIZE :Mr. Vikram
29.	Staccatos	Freestyle Workshop	On regular basis	12	NA
30.	Staccatos	Stage choreos	On regular basis	14	NA
31.	Staccatos	Flashmob	24/03/2018	20	NA
32.	Staccatos	Showcase	On Regular basis	15	NA
33.	Mystics	Electrohunt	29/09/2017	49	FIRST PRIZE-Akash & Anuj Agnihotri SECOND PRIZE-Rahul & Jafar Ali
34.	Mystics	Circuit Designing software based hands on session	11/02/2017	51	NA
35.	Mystics	Two day workshop on Raspberry Pi, Arduino and IoT	19/04/2018	21	Nil

36.	IETE	Introduction to bread boards and PCB	27/09/2017	40	NA
37.	IETE	Circuit Designing software based hands on session	02/11/2017	51	NA
38.	IETE	Circuit Designing software based hands on session	02/11/2017	51	FIRST PRIZE: Akshay Parmar SECOND PRIZE: Nikhil Thakur THIRD PRIZE: Harsh Wardhan
39.	IETE	Emerging Applications of Digital Image Processing (EADIP)	30/03/2018	36	FIRST PRIZE: Manmeet & Nitin SECOND PRIZE: Binod & Aditya THIRD PRIZE: Saksham & Nikhil
40.	IETE	Workshop on raspberry Pi, Arduino & IOT	19/04/2018	46	FIRST PRIZE: Abhishek Thakur & Akshay Sharma
41.	Civengs	General quiz	07/09/2017	69	FIRST PRIZE: Amandeep Singh
42.	Civengs	Civil Simplified Workshop	27/09/2017	80	FIRST PRIZE: Shubham Vats SECOND PRIZE: Prashant
43.	Civengs	Civil - O - Graphy	27/09/2017	10	FIRST PRIZE: Tanvi Chauhan SECOND PRIZE: Ashish Pathania
44.	Civengs	Poster Making	27/09/2017	20	FIRST PRIZE: Jafar Ali, Saurab Deb, Nishant6, Vivek SECOND PRIZE: Shivank Shukla, Divyansh
45.	Civengs	Model-IT	24/03/2018	19	FIRST PRIZE: Shubham Vats SECOND PRIZE: Prashant
46.	Civengs	Build-O-Arch	24/03/2018	14 teams	FIRST PRIZE: Tanvi Chauhan SECOND PRIZE: Ashish Pathania

47.	Civengs	Survey Hunt	24/03/2018	21	FIRST PRIZE: Jafar Ali, Saurab Deb, Nishant6, Vivek SECOND PRIZE: Shivank Shukla,
48.	Civengs	Arbit	24/03/2018	32	FIRST PRIZE: Binod Khanal, Dipesh Yadav SECOND PRIZE: Jafar Ali, Saurab Deb, Nishant
49.	S.U.F.Y.	Interactive Session With Freshers	29/09/2017	20	FIRST PRIZE:Sachin SECOND PRIZE: Meenu
50.	S.U.F.Y.	Wheel Of Fortune: Express To Impress	30/10/2017	18	FIRST PRIZE :Aman mahajan
51.	S.U.F.Y.	Republic Day Celebration	26/01/2018	5	FIRST PRIZE: Rahul,Ramakant,Divyanshu SECOND PRIZE: Pankhuri,Kanika, Raghav
52.	S.U.F.Y.	Group Discussion	02/07/2018	12	NA
53.	S.U.F.Y.	MUN Workshop	03/09/2018	12	FIRST PRIZE: Avantika Rana SECOND PRIZE: Arushi Mahajan THIRD PRIZE: Jasraj
54.	S.U.F.Y.	Gender Benders	03/08/2018	6	NA
55.	ISTE	Tell Me If U Can	26/09/2017	39	FIRST PRIZE: Rahul,Ramakant,Divyanshu SECOND PRIZE: Pankhuri,Kanika, Raghav
56.	ISTE	Think out of the box	10/03/2017	30	FIRST PRIZE: Rohan, Gurinder, shubham Radhika, SECOND PRIZE: Kunal, Kavish,Plaban,Suraj, THIRD PRIZE: Nishant, Laksh,Ashish
57.	ISTE	Workshop on LINUX & FOSS	05/02/2018	79	N/A

58.	ISTE	National Science Day- "Jyotirgamaya" Science show	28/02/2018	500 (approx.)	N/A
59.	ISTE	Workshop on Bash Scripting	14/03/2018	71	N/A
60.	ISTE	Web Development	26/03/2018	40	N/A
61.	3C-Tech	Let Us Code	26/04/2017	14	FIRST PRIZE: Raghav kaho
62.	3C-Tech	Tech-Talks	09/07/2017	24	NA
63.	3C-Tech	Scratch Workshop	27/09/2017	98	FIRST PRIZE: Taru Narain
64.	3C-Tech	Learn to code: Using C	26/10/2017	51	NA
65.	3C-Tech	Graphic Designing Workshop	23/01/2018	22	NA
66.	3C-Tech	Cyber Security Workshop	01/02/2018	66	NA
67.	3C-Tech	Learn Basic Web Designing	20/03/2018	46	NA
68.	EUPHONY	Open Mic Jam	09/02/2017	21	FIRST PRIZE: Kashish Kaushal SECOND PRIZE: Parth
69.	EUPHONY	Antakshari	23/09/2017	14 Teams	FIRST PRIZE: Nikhil, Akshay SECOND PRIZE: Diksha,
70.	EUPHONY	Online Singing Competition	28/09/2017	9	FIRST PRIZE: Akshat Gupta SECOND PRIZE: Rohit
71.	EUPHONY	Live Performance- Republic Day	26/01/2018	5	NA
72.	EUPHONY	Voice Of Chitkara	31/01/2018	21	FIRST PRIZE: chanderveer SECOND PRIZE: Pranav THIRD PRIZE: Avantika, Kartikey

73.	EUPHONY	Dumb Charades	20/02/2018	20	FIRST PRIZE: Arushi,Karan, Kohinoor SECOND PRIZE: Abhinav,Geetika Karan
74.	EUPHONY	Live Performance- Soolini University	24/03/2018	5	NA
75.	PIC-IT	Canon workshop	31/08/2017	35	NA
76.	PIC-IT	Best campus shot	21/09/2017	24	FIRST PRIZE: Shashank kumar
77.	PIC-IT	Mr. & Ms. Photogenic	05/10/2017	17	FIRST PRIZE:Sachin SECOND PRIZE:Meenu Makkar
78.	PIC-IT	Photowalk	28/10/2017	49	FIRST PRIZE: Aman Mahajan
79.	PIC-IT	Best campus shot-2	22/01/2018	16	Pending
80.	PIC-IT	Canon workshop-2	12/03/2018	33	FIRST PRIZE: Saurav
81.	Math Pirates	SnapMind	09/08/2017	53	FIRST PRIZE: Abhinav Gupta SECOND PRIZE: Arnav Goel
82.	Math Pirates	Solve To Step	28/09/2017	37	FIRST PRIZE:Karneet, Khusboo SECOND PRIZE: Ayush
83.	Math Pirates	Workshop on Vedic Mathematics and Shortcut Techniques	30/10/2017	78	NA
84.	Math Pirates	HuntMania	02/06/2018	91	FIRST PRIZE: Damanpreet, Shivam and Shivesh SECIND PRIZE: Vibhu,Pranav and Saurabh
85.	Math Pirates	Ganit Erruer	19/02/2018	90	FIRST PRIZE: AnkitMahajan,Arayan Gupta,Arayan Khurana SECOND PRIZE: Meenu ,Sakshi, Navneet

Details of Fairs/Exhibitions Student Initiatives

EVENT /THEME /ACTIVITY	FAIR/ EXIBITION	DATE	PLACE	NO. OF PARTICIPANTS
Hachathon	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	156
I-Sketch	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	5
Pc Garage	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	38
Extempore	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	5
UI Development	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	44
BRIDGING Pcs	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	18
Debug The Code	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	101
Blindfold Type-Racer	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	44
Techelone Roadies	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	45
Excel With MS-Excel	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	11
LAN Gaming Mini Militia	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	25
LAN Gaming CS-GO	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	50
LAN Gaming - FIFA	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	17
MAD CAD	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	7

DJ MIXTURE	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	8
Line Following Robot	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	3
Project-O-Mania	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	7
Electrotrade	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	6
MAD Ads	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	4
E-Waste	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	8
Model-IT	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	24
Build-o-arch	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	20
Survey hunt	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	36
Arbit	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	45
Grey Matter	Techelone 2018	24/03.2018	Chitkara University, Himchal Pradesh	35

List of social initiatives undertaken by the students

SR. NO.	EVENT /THEME /ACTIVITY
1	Slogan Writing and Poster Making Competition was organized with a theme of Swacch Bharat.
2	Independence Day Celebration was followed by Run for Unity and Pledge Taking ceremony and skit by students of Sankalp activity.
3	Drawing competition was organized with a theme of innovative in garbage cleaning.
4	Blood Donation Camp was organized under the supervision of a team from Department of transfusion medicine, Chandigarh.
5	Essay Writing Competition was organized with a theme of Swacchta hi sewa.
6	Cleanliness Drive was organized in accordance to the nationwide Swachh Bharat Cleanliness Campaign launched by Prime Minister
7	Yoga Camp was organized to keep youth aware of its benefits
8	Meeting With NSS co-ordinator Dr. Sushil Kumar regarding innovation in NSS activities.
9	Run for Unity was organized to celebrate National Unity Day.
10	Blood Donation Camp was organized under the supervision of a team from Doctors team from Government Medical College and Hospital, Chandigarh
11	Cloth distribution was conducted at a slum near Pinjore railway crossing.
12	Republic Day was celebrated in which NSS volunteers participated in a Parade.
13	Cloth distribution was conducted at a slum near by the campus.
14	Guest Lecture on "Drug abuse" was organized in which Shri Jai Ram Dogra, SHO, Barotiwala enlightened the students about various menaces of the society and measured that can be followed to curb them.
15	NSS Annual Camp was organized with the activities of Yoga, Dental health check up camp, tree plantation etc.
16	Mock drill On Earthquake was conducted just to help a people on how they should act when they are facing one of the earthquakes.
17	Orphanage Visit in collaboration with various NGOs.
18	Blood Donation Camp was organized under the supervision of team of doctors from IGMC, Shimla
19	Yoga Awareness Day was organized in the campus to make people aware about the benefits of Yoga.
20	4th International Yoga Day was organized in the campus in two phases in the campus in which various pranaayams were performed.
21	Combine Annual Training Camp for NCC students

Course Handout: detailed course delivery plan and session plans

Institute / School Name	Chitkara School of Engineering and Technology		
Program Name	BE (CE)		
Course Code	CEL4301		
Course Name	TRANSPORTATION ENGINEERING I		
Lecture / Tutorial (per week)	4-1-0	Course Credits	4.5
Course Coordinator Name			

Objectives

- To understand the importance of transportation and characteristics of road transport.
- To know about the history of highway development, surveys and classification of roads.
- To study about the geometric design of highways.
- To study about traffic characteristics and design of intersections.
- To know about the pavement materials and design.

Course Learning Outcomes

On completion of course, student will be able to:

- Carry out surveys involved in planning and highway alignment.
- Design cross section elements, sight distance, horizontal and vertical alignment.
- Implement Traffic studies, traffic regulations and control and intersection design.
- Determine the characteristics of pavement material.
- Design flexible and rigid pavements as per IRC.

2. Textbooks

TB1: Khanna, S.K. & Justo, C.E.G., Highway Engineering, Nem Chand and Bros.

TB2: Kadiyali, L.R, Traffic Engineering and Transport Planning, Khanna Publishers, New Delhi

3. Reference Books

RB1: Kadiyali, Principles of Highway Engineering, Khanna Publishers.

RB2: Traffic Engg. By Matson, T.M., Smith, W.S. and Hurd, P.W. McGraw Hill Book Co., New York.

RB3: Bindra, SP; "A Course on Highway Engineering" New Delhi, Dhanpat Rai and Sons

4. Other Readings And Relevant Websites

S.No.	Link of Journals, Magazines, websites and Research Papers
1.	http://en.wikipedia.org/wiki/Transport_engineering
2.	http://www.icivilengineer.com/Transportation_Engineering/
3.	http://books.google.co.in/books/about/Principles_of_Transportation_Engineering.html?id=HProD_2wLYgC&redir_esc=y
4.	http://bestundertaking.com/transport_engineering.asp

5. Course Plan

Lecture Number	Topics	Web Links for video lectures	Text Book(s) referred	Page Numbers of Text Book(s)
1-3	Road Development and Planning: Transportation and its importance. Different modes of transportation. Scope of highway engineering, road cross-section, Objectives of highway planning,	https://www.youtube.com/watch?v=umjY6ihvl7M	TB1 RB1 RB3 http://en.wikipedia.org/wiki/Transport_engineering	1-34
TUT-1	Tutorial-1, Tutorial sheet 1			
4-6	Classification of roads, Road patterns, Planning surveys. Saturation system of planning.		http://bestundertaking.com/transport_engineering.asp	
TUT-2	Tutorial-2, Tutorial sheet 2			
7-10	Highway Location and Alignment: Ideal alignment and factors controlling, engineering survey for highway location.	https://www.youtube.com/watch?v=GuElcdfymu0&index=23&list=PL911998B0A90DFC88	TB1 RB1 RB3 http://bestundertaking.com/transport_engineering.asp	49-71
ASSIGNMENT – 1				
TUT-3	Tutorial-3, Tutorial sheet 3			
11-12	Drawings and Report, Highway projects.	https://www.youtube.com/watch?v=KNd0duH7aSg		
TUT-4	Tutorial-4, Tutorial sheet 4			
13-16	Highway Geometric Design:- Introduction, Highway Cross Section Elements, Sight Distance	https://www.youtube.com/watch?v=Y8rB-wmQqQ&list=PL911998B0A90DFC88&index=14	TB1 RB1 RB3 http://en.wikipedia.org/wiki/Transport_engineering	72-166
TUT-5	Tutorial-5, Tutorial sheet 5			
17-21	Design of Horizontal Alignment, Design of Vertical Alignment	https://www.youtube.com/watch?v=936Rv57vzQ8		
TUT-6	Tutorial-6, Tutorial sheet 6			
ST-I (Syllabus covered from 1-21 lectures)				
22-26	Traffic Engineering: Traffic characteristics, Traffic studies and their uses, Traffic flow characteristics,	https://www.youtube.com/watch?v=YJY2JXk00c&index=2&list=PL911998B0A90DFC88	TB1 TB2 RB1 RB2 http://bestundertaking.com/transport_engineering.asp	167-308
ASSIGNMENT – 2				
TUT-7	Tutorial-7, Tutorial sheet 7			
27-33	Traffic Regulation and control, Traffic Signs, Road markings and parking facilities.	https://www.youtube.com/watch?v=0yzzgMc110po&list=PL911998B0A90DFC88&index=4		

TUT-8	Tutorial-8, Tutorial sheet 8			
34-39	Design of Highway Pavements: Design factors, types & component parts of pavements, Design of flexible pavement by CBR method	https://www.youtube.com/watch?v=3oNa9Z94Hiw&index=27&list=PL911998B0A90DFC88	TB1 RB1 RB3 http://en.wikipedia.org/wiki/Transport_engineering	388-495
ASSIGNMENT – 3				
TUT-9	Tutorial-9, Tutorial sheet 9			
40-43	Group Index and Burmister methods, Design of rigid pavements.	https://www.youtube.com/watch?v=uJntLOgEHD4&list=PL911998B0A90DFC88&index=36		
TUT-10	Tutorial-10, Tutorial sheet 10			
ST-II (Syllabus covered from 22-43 lectures)				
44-46	Construction of Roads: Construction of water bound macadam roads, bituminous pavements, cement concrete roads, construction of joints in cement concrete pavements.	https://www.youtube.com/watch?v=exctAga2KXY&list=PL911998B0A90DFC88&index=24	TB1 RB1 RB3 http://www.icivilengineer.com/Transportation_Engineering/	496-588
TUT-11	Tutorial-11, Tutorial sheet 11			
47-48	Highway maintenance: Pavement Deterioration, maintenance techniques, evaluation and strengthening of existing pavements.	https://www.youtube.com/watch?v=vVIM1Xz4Q	TB1 RB1 RB3 http://books.google.co.in/books/about/Principles_of_Transportation_Engineering.html?id=HProD_2wLYgC&redir_esc=y	617-689
TUT-12	Tutorial-12, Tutorial sheet 12			
ST-III (Syllabus covered from 1-48 lectures)				

6. Evaluation Scheme:

Component 1*	Sessional Tests (STs)*	30
Component 2	Assignment Evaluation	10
Component 3**	End Term Examination**	60
	Total	100

* There are three Sessional Tests (STs) for all theory papers. Average of best two will be considered.

** The End Term Comprehensive examination will be held at the end of semester. The mandatory requirement of 75% attendance in all theory classes is to be met for being eligible to appear in this component.

SYLLABUS

Topics	No of lectures	Weight age
Road Development and Planning: Transportation and its importance. Different modes of transportation. Scope of highway engineering.	7	12%

Road cross-section, Objectives of highway planning, Classification of roads, Road patterns, Planning surveys. Saturation system of planning.		
Highway Location and Alignment: Ideal alignment and factors controlling, engineering survey for highway location, drawing and reports, highway projects.	4	8%
Highway Geometric Design:- Introduction, Highway Cross Section Elements, Sight Distance, Design of Horizontal Alignment, Design of Vertical Alignment	7	20%
Traffic Engineering: Traffic characteristics, Traffic studies and their uses, Traffic flow characteristics, Traffic data collection, Intersections & Rotaries, Signaling, Road markings and parking facilities.	10	20%
Design of Highway Pavements: Design factors, types & component parts of pavements, Design of flexible pavement by CBR method, Group Index and Burmister methods, Design of rigid pavements.	7	20%
Construction of Roads: Construction of water bound macadam roads, bituminous pavements, cement concrete roads, construction of joints in cement concrete pavements.	4	10%
Highway maintenance: Pavement failures, maintenance techniques, evaluation and strengthening of existing pavements.	4	10%

The Document is approved by:

Designation	Name
Course Coordinator	
H.O.D	
Dean	
Date	

Evaluation and Examination Blue Print

Internal assessment is done through quiz tests, presentations, assignments and project work. Two sets of question papers are asked from each faculty and out of these two, without the knowledge of faculty, one question paper is chosen for the concerned examination. Examination rules and regulations are uploaded on the student's portal. Evaluation is a very transparent process and the answer sheets of sessional tests, internal assessment assignments are returned back to the students.

The components of evaluations alongwith their weightage followed by the University is given below

Sessional Test 1	15%
Sessional Test 2	15%
Sessional Test 3	15%
Assignments/Quiz Tests/Seminars	10%
End term examination	60%