

Internal Quality Assurance Cell (IQAC)
Submission of
Annual Quality Assurance Report (AQAR)
(2017-18)



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

NAAC

VISION

To make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives.

MISSION

- ☞ To arrange for periodic assessment and accreditation of institutions of higher education or units thereof, or specific academic programmes or projects;*
- ☞ To stimulate the academic environment for promotion of quality of teaching-learning and research in higher education institutions;*
- ☞ To encourage self-evaluation, accountability, autonomy and innovations in higher education;*
- ☞ To undertake quality-related research studies, consultancy and training programmes, and*
- ☞ To collaborate with other stakeholders of higher education for quality evaluation, promotion and sustenance.*

Value Framework

To promote the following core values among the HEIs of the country:

- Contributing to National Development*
- Fostering Global Competencies among Students*
- Inculcating a Value System among Students*
- Promoting the Use of Technology*
- Quest for Excellence*

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(2017-18)

Introduction

In pursuance of its Action Plan for performance evaluation, assessment and accreditation and quality up-gradation of institutions of higher education, the National Assessment and Accreditation Council (NAAC), Bangalore proposes that every accredited institution should establish an Internal Quality Assurance Cell (IQAC) as a post-accreditation quality sustenance measure. Since quality enhancement is a continuous process, the IQAC will become a part of the institution's system and work towards realisation of the goals of quality enhancement and sustenance. The prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of institutions. For this, during the post-accreditation period, it will channelize all efforts and measures of the institution towards promoting its holistic academic excellence.

The guidelines provided in the following pages will guide and facilitate the institution in the creation and operation of the Internal Quality Assurance Cell (IQAC). The work of the IQAC is the first step towards internalization and institutionalization of quality enhancement initiatives. Its success depends upon the sense of belongingness and participation it can inculcate in all the constituents of the institution. It will not be yet another hierarchical structure or a record-keeping exercise in the institution. It will be a facilitative and participative voluntary system/unit/organ of the institution. It has the potential to become a vehicle for ushering in quality enhancement by working out planned interventionist strategies to remove deficiencies and enhance quality like the "Quality Circles" in industries.

Objective

The primary aim of IQAC is

- To develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the institution.
- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.

Strategies

IQAC shall evolve mechanisms and procedures for

- a) Ensuring timely, efficient and progressive performance of academic, administrative and financial tasks;
- b) The relevance and quality of academic and research programmes;

- c) Equitable access to and affordability of academic programmes for various sections of society;
- d) Optimization and integration of modern methods of teaching and learning;
- e) The credibility of evaluation procedures;
- f) Ensuring the adequacy, maintenance and proper allocation of support structure and services;
- g) Sharing of research findings and networking with other institutions in India and abroad.

Functions

Some of the functions expected of the IQAC are:

- a) Development and application of quality benchmarks/parameters for various academic and administrative activities of the institution;
- b) Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;
- c) Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes;
- d) Dissemination of information on various quality parameters of higher education;
- e) Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles;
- f) Documentation of the various programmes/activities leading to quality improvement;
- g) Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices;
- h) Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;
- i) Development of Quality Culture in the institution;
- j) Preparation of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC, to be submitted to NAAC.

Benefits

IQAC will facilitate / contribute

- a) Ensure heightened level of clarity and focus in institutional functioning towards quality enhancement;
- b) Ensure internalization of the quality culture;
- b) Ensure enhancement and coordination among various activities of the institution and institutionalize all good practices;
- c) Provide a sound basis for decision-making to improve institutional functioning;
- d) Act as a dynamic system for quality changes in HEIs;

- e) Build an organised methodology of documentation and internal communication.

Composition of the IQAC

IQAC may be constituted in every institution under the Chairmanship of the Head of the institution with heads of important academic and administrative units and a few teachers and a few distinguished educationists and representatives of local management and stakeholders.

The composition of the IQAC may be as follows:

1. Chairperson: Head of the Institution
2. A few senior administrative officers
3. Three to eight teachers
4. One member from the Management
5. One/two nominees from local society, Students and Alumni
6. One/two nominees from Employers /Industrialists/stakeholders
7. One of the senior teachers as the coordinator/Director of the IQAC

The composition of the IQAC will depend on the size and complexity of the institution. It helps the institutions in planning and monitoring. IQAC also gives stakeholders or beneficiaries a cross-sectional participation in the institution's quality enhancement activities. The guidelines given here are only indicative and will help the institutions for quality sustenance activities.

The membership of such nominated members shall be for a period of two years. The IQAC should meet at least once in every quarter. The quorum for the meeting shall be two-third of the total number of members. The agenda, minutes and Action Taken Reports are to be documented with official signatures and maintained electronically in a retrievable format.

It is necessary for the members of the IQAC to shoulder the responsibilities of generating and promoting awareness in the institution and to devote time for working out the procedural details. While selecting these members several precautions need to be taken. A few of them are listed below:

- ♦ It is advisable to choose persons from various backgrounds who have earned respect for integrity and excellence in their teaching and research. Moreover, they should be aware of the ground realities of the institutional environment. They should be known for their commitment to improving the quality of teaching and learning.
- ♦ It would be appropriate to choose as senior administrators, persons in charge of institutional services such as library, computer center, estate, student welfare, administration, academic tasks, examination and planning and development.
- ♦ The management representative should be a person who is aware of the institution's objectives, limitations and strengths and is committed to its improvement. The local

society representatives should be of high social standing and should have made significant contributions to society and in particular to education.

The role of coordinator

The role of the coordinator of the IQAC is crucial in ensuring the effective functioning of all the members. The coordinator of the IQAC may be a senior person with expertise in quality aspects. She/he may be a full-time functionary or, to start with, she/he may be a senior academic /administrator entrusted with the IQAC as an additional responsibility. Secretarial assistance may be facilitated by the administration. It is preferable that the coordinator may have sound knowledge about the computer, its various functions and usage for effective communication.

Operational Features of the IQAC

Quality assurance is a by-product of ongoing efforts to define the objectives of an institution, to have a work plan to achieve them and to specify the checks and balances to evaluate the degree to which each of the tasks is fulfilled. Hence devotion and commitment to improvement rather than mere institutional control is the basis for devising procedures and instruments for assuring quality. The right balance between the health and growth of an institution needs to be struck. The IQAC has to ensure that whatever is done in the institution for “education” is done efficiently and effectively with high standards. In order to do this, the IQAC will have to first establish procedures and modalities to collect data and information on various aspects of institutional functioning.

The coordinator of the IQAC and the secretary will have a major role in implementing these functions. The IQAC may derive major support from the already existing units and mechanisms that contribute to the functions listed above. The operational features and functions discussed so far are broad-based to facilitate institutions towards academic excellence and institutions may adapt them to their specific needs.

Monitoring Mechanism

The institutions need to submit yearly the Annual Quality Assurance Report (AQAR) to NAAC. A functional Internal Quality Assurance Cell (IQAC) and timely submission of Annual Quality Assurance Reports (AQARs) are the Minimum Institutional Requirements (MIR) to volunteer for second, third or subsequent cycle’s accreditation. During the institutional visit the NAAC peer teams will interact with the IQACs to know the progress, functioning as well quality sustenance initiatives undertaken by them.

The Annual Quality Assurance Reports (AQAR) may be the part of the Annual Report. The AQAR shall be approved by the statutory bodies of the HEIs (such as Syndicate, Governing Council/Board) for the follow up action for necessary quality enhancement measures.

The Higher Education Institutions (HEI) shall submit the AQAR regularly to NAAC. The IQACs may create its exclusive window on its institutional website and regularly upload/ report on its activities, as well as for hosting the AQAR.

The NAAC Accredited institutions need to submit only the soft copy as word file (.doc/.docx) through e-mail (capuaqar@gmail.com). The file name needs to be submitted with Track ID of the institution and College Name. For example MHCOGN16601-Samudra Arts and Science College, Taliamegu-Maharashtra.doc or EC_32_A&A_143 dated 3-5-2004-Samudra Arts and Science College, Taliamegu-Maharashtra.doc. The Higher Education Institutions need not submit the printed/hard copy to NAAC. The acknowledgements would be sent to the institutions through e-mail.

Mandatory Submission of AQAR by IQAC

So far submission of AQARs was not a Mandatory requirement for Institutions applying to NAAC 2nd and subsequent cycles of Assessment and Accreditation (A&A). It has now been decided by the Executive committee of NAAC that **regular submission of AQARs should be made mandatory for 2nd and subsequent cycles of accreditation.**

In view of the decision of **Executive Committee of NAAC** the following will be the pre-requisites for submission of LOI for all Higher Education Institutions (HEIs) opting for 2nd and subsequent cycles of A& A **with effect from 16th September 2016:**

- Having a functional IQAC.
- The minutes of IQAC meeting and compliance to the decisions should be uploaded on the institutional website.
- Mandatory submission of AQARs on a regular basis for institutions undergoing the second and subsequent cycles of Assessment and Accreditation by NAAC.
- Upload the AQAR's on institutional website for access to all stakeholders.

The Annual Quality Assurance Report (AQAR) of the IQAC

All NAAC accredited institutions will submit an annual self-reviewed progress report to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the institutional IQAC at the beginning of the academic year. The AQAR will detail the results of the perspective plan worked out by the IQAC. *(Note: The AQAR period would be the Academic Year. For example, July 1, 2012 to June 30, 2013)*

Part – A

1. Details of the Institution

1.1 Name of the Institution	Punjab Engineering College (Deemed to be University)
1.2 Address Line	Sector 12
City/Town	Chandigarh
State	Chandigarh (U.T)
Pin Code	160012
Institution e-mail address	Director@pec.ac.in
Contact Nos.	0172-2753051, 3055, 3053
Name of the Head of the Institution:	Prof.Manoj. K. Arora
Tel. No. with STD Code:	0172-2753051
Mobile:	9872577544
Name of the IQAC Co-ordinator:	Dr. Sucheta
Mobile:	9814528121
IQAC e-mail address:	iqac@pec.ac.in

1.3 NAAC Track ID (For ex. MHCOGN 18879)

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

1.5 Website address:

Web-link of the AQAR:

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

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	-Not Applicable-			
2	2 nd Cycle				
3	3 rd Cycle				
4	4 th Cycle				

1.7 Date of Establishment of IQAC : DD/MM/YYYY

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

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

- i. AQAR _____ -NA- _____ (DD/MM/YYYY)4
- ii. AQAR _____ -NA- _____ (DD/MM/YYYY)
- iii. AQAR _____ -NA- _____ (DD/MM/YYYY)
- iv. AQAR _____ -NA- _____ (DD/MM/YYYY)

1.10 Institutional Status

University State Central Deemed Private

Affiliated College Yes No

Constituent College Yes No

Autonomous college of UGC Yes No

Regulatory Agency approved Institution Yes No

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

Type of Institution Co-education Men Women

Urban Rural Tribal

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

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

1.11 Type of Faculty/Programme

Arts Science Commerce Law PEI (Phys Edu)

TEI (Edu) Engineering Health Science Management

Others (Specify)

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

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

Autonomy by State/Central Govt. / University

University with Potential for Excellence UGC-CPE

DST Star Scheme UGC-CE

UGC-Special Assistance Programme DST-FIST

UGC-Innovative PG programmes Any other (*Specify*)

UGC-COP Programmes

2. IQAC Composition and Activities

2.1 No. of Teachers	<input type="text" value="11 *"/>
2.2 No. of Administrative/Technical staff	<input type="text" value="2"/>
2.3 No. of students	<input type="text" value="1"/>
2.4 No. of Management representatives	<input type="text" value="2"/>
2.5 No. of Alumni	<input type="text" value="--"/>
2.6 No. of any other stakeholder and Community representatives	<input type="text" value="--"/>
2.7 No. of Employers/ Industrialists	<input type="text" value="1"/>
2.8 No. of other External Experts	<input type="text" value="--"/>
2.9 Total No. of members	<input type="text" value="14"/>

(Notification of constitution of IQAC committee attached as Annexure-I)

- 2.10 No. of IQAC meetings held :- Nil
- 2.11 No. of meetings with various stakeholders: No. Faculty
Non-Teaching Staff Students Alumni Others
- 2.12 Has IQAC received any funding from UGC during the year? Yes No
If yes, mention the amount
- 2.13 Seminars and Conferences (only quality related)
- (i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC
- Total Nos. International National State Institution Level
- (ii) Themes

2.14 Significant Activities and contributions made by IQAC

- To develop a quality system for conscious, consistent and catalytic programmed action to improve the academic and administrative performance of the PEC.
- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.
- To develop a system for conscious and consistent improvement in the performance of the institution.
- To channelize the efforts and measures of the institution towards academic excellence.

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	Achievements
Admission •Increase the admission	90 % seats filled during the academic year 2017-18
Academic • Conduction of short courses • Arranging Industrial Guest Lectures • Encouraging students to do Industry Projects Faculty Publication • Utilization of Budget Allocation	Reached maximum target as per action plan.

* *Academic Calendar of the year attached as “Annexure II”.*

2.15 Whether the AQAR was placed in statutory body Yes No

Management Syndicate Any other body IAPC

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	11	Nil	Nil	Nil
PG	14	Nil	3	Nil
UG	8	Nil	Nil	Nil
PG Diploma	Nil	Nil	Nil	Nil
Advanced Diploma	Nil	Nil	Nil	Nil
Diploma	Nil	Nil	Nil	Nil
Certificate	Nil	Nil	Nil	Nil
Others	Nil	Nil	Nil	Nil
Total	32	Nil	3	Nil
Interdisciplinary	03		03	
Innovative				

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options

(Copy of the Scheme attached as Annexure - III)

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	8 UG, 14 PG and 11 Ph.D in Engineering Sciences & Management
Trimester	--
Annual	--

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

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

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

Yes, UG scheme revised 2014, need based changes were made during 2017-18

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

Cyber Security Research Center Established in March 3, 2018

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty	Total	Asst. Professors	Associate Professors	Professors	Others
	120	50	39	31	02SFS + 1 (Re-employed) + 31 (Contractual Faculty)

2.2 No. of permanent faculty with Ph.D.

86

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
11	02	02	---	--	01	13	12	26	15

2.4 No. of Guest and Visiting faculty and Temporary faculty

46 (Guest) | 03 (visiting) | 09 (Adj. Faculty)

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	20	22	--
Presented papers	19	17	--
Resource Persons	--	--	--

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

Institute follows student centric and innovative practices for teaching. Some of these practices followed by faculty are:

- Interactive lectures using various audio-visual aids like computer presentation, Visualize, etc., in addition to Black/White board
- Small group tutorials and assignments
- Laboratories
- Project based learning through mini, minor and major Projects
- Industrial internship
- Collaborative Teaching and Learning
- Report writing and Seminars
- Participation in Conference, Guest lectures, and industry conducted
 - Use of online educational resources as supplements
- Simulation studies
- Interactive brainstorming sessions Debates and Discussions
 - Case analysis and discussion
- Presentations
- Review and reinforcement
- Use of NPTEL resources The impact of all these practices have been positive as evidenced from students feedback and acceptance with enthusiasm. Learning attainments in all these methods have been above average.
- Running MOOCS courses in blended mode.
- Transfer of credit policy.

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

140 Days

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

The Instructor-in-charge, assisted by the team of tutors and other instructors, is responsible for making the question paper, conducting the examination in his/her course, getting the answer scripts evaluated by the team of tutors, and awarding the grades. The end term question paper for UG examinations are moderated by department committee under Chairmanship of Head of the department. The grades for all courses are moderated as per institute guidelines by duly constituted moderation committee. The grades are forwarded through the Head of the Department who will ensure that proper standards have been followed.

The complete transparency is maintained in evaluation system. The graded scripts of quizzes, tests, and mid-semester examinations are returned to the students within a reasonable time. The answer scripts of the final examinations are shown to the students after marking. All instructors will notify a time for such access within three days of the examination. A student may point out errors or omissions, if any, in marking in writing on the cover sheet of the answer script. The instructor takes these into account before submission of grades.

The final grades earned by all students registered in a course are submitted by the Instructor-in-charge to the Academic Section through the Head of the Department within the prescribed time limit.

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

44

2.10 Average percentage of attendance of students

88%

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Total no. of students appeared/Passed	Division				
		Distinction %	I %	II %	III %	Pass %
UG	521/511	-	---	--	--	98.08%
PG	213/192	-	--	--	--	90.14%
Ph.D	34	--	--	--	--	100%

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

1. IQAC ensure time table uploading on website by all the departments.
2. The record of number of classes held and scheduled by each faculty member is submitted to IQAC twice in a semester in prescribed performa.
3. The performas are verified and compiled as per the time table.
4. Mass cut and class reschedule register from all the departments are maintained by IQAC.
5. Random monitoring and checking of classes done during the semester.

2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	--
UGC – Faculty Improvement Programme	--
HRD programmes	--
Orientation programmes	--
Faculty exchange programme	--
Staff training conducted by the university	--
Staff training conducted by other institutions	
Summer / Winter schools, Workshops, etc.	11 Workshops
Others	--

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	45	43	Nil	37
Technical Staff	88	78	Nil	32

Criterion – III

3. Research, Consultancy and Extension

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

- As per our core research focus, University develops R& D competencies in the specific domain areas of sciences & engineering with focus on inter-disciplinary research providing solutions to important issues facing society with emphasis on local problems.
- Identification of new research areas and deployment of internal resources to implement through PhD research.
- Facilitations of faculty members to explore new research areas, to generate initial results, and to submit proposals to funding agencies.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	04	33	06	22
Outlay in Rs. Lakhs	99.27	1184.56	176.69	567.07

Details are attached as “Annexure – III”.

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	01	02	01	01
Outlay in Rs. Lakhs	1.0	1.35	0.45	0.53

3.4 Details on research publications

	International	National	Others
Peer Review Journals	166	06	-
Non-Peer Review Journals	--	--	--
e-Journals	--	--	--
Conference proceedings	60	11	-

Brief details on research publications are attached as “Annexure – IV”.

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				
1	3 Years	(ER&IPR),DRDO,New Delhi	48.35	35.86
2	3 Years	SERB,DST,New Delhi	77.39	63.13
3	1 Years	TBRL,Chandigarh	19.80	10.00
4	2 Years	Department of Science & Technology & Renewable Energy ,Chnadigarh Administration	8.0	8.00
5	3 Years	SERB DST, New Delhi	22.70	5.28
Minor Projects				
1	3 ears	UGC – DAE Consortium for Scientific Research	0.45	0.45
Total			176.69	122.72

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

ii) Without ISBN No.

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

3.11 No. of conferences

Organized by the Institution

Level	International	National	State	University	College
Number	--	--	2	19	--
Sponsoring agencies	--	--	--	--	--

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

3.13 No. of collaborations International National Any other

3.14 No. of linkages created during this year

3.15 Total budget for research for current year in lakhs :

From funding agency From Management of University/College

Total

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	13+04*
	Granted	NIL
International	Applied	NIL
	Granted	NIL
Commercialised	Applied	NIL
	Granted	NIL

***Published and under examination**

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
04	02	01	01	-	--	--

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

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

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

JRF SRF Project Fellows Any other

3.21 No. of students Participated in NSS events:

University level State level

National level International level

3.22 No. of students participated in NCC events:

University level State level

National level International level

3.23 No. of Awards won in NSS:

University level State level

National level International level

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

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

Details of extension activities and Institutional Social Responsibility are attached as “**Annexure – V**”.

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	131.87Acre	--	--	131.87
Class rooms	53	--	--	59
Laboratories	89	--	--	89
Seminar Halls	17	--	--	20
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	--	--	--	--
Value of the equipment purchased during the year (Rs. in Lakhs)	--	--	--	--
Others	--	--	--	--

4.2 Computerization of administration and library

Library: - The Library is fully computerized using the Libsys software package which is an integrated multi user library management system. The data base of books available is being updated on day to day basis with details of recently acquired books. Library has implemented REFID enabled automation surveillance system for the library under TEQIP-II.

4.3 Library services:

	Existing (2017)		Newly added		Total (2018)	
	No.	Value	No.	Value	No.	Value
Text Books	1,15,928	--	1748		1,17,676	--
Reference Books						--
e-Books	2426		1021		3447	--
Journals		--	--			--
e-Journals (Subscribed)	2232	--	1057	--	3289	--
Digital Database	3	--	3		6	--
CD & Video	2251	--	237	--	2488	--
Others (specify)	--	--		--	--	-

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	179	11	11 labs	labs	01	Desktop	--	--
Added	31	1	--	--	--	--	--	--
Total	210	12	11 labs	--	01	--	--	--

4.5 Computer, Internet access, training to teachers and students and any other programme for technology

Computer Centre is the central place for campus wide networking and internet connectivity. Backbone connectivity initiates from this Centre and caters to more than 2000 nodes across the campus. The campus is now equipped with latest controller based wireless network with more than 200 wireless access point across the academic area provides smooth internet access throughout the campus. A Data Centre in the Centre provides the students access to software and computing power from any location with internet access and virtualization of servers. The Centre is equipped with web server , Academia Server, E-mail server, Security wall, Bandwidth Management Tools and Data Servers. The computer centre has network infrastructure consisting of routers, firewall, and Unified threat Management (UTM),manageable layer 2,layer 3 switches. It also houses cluster of Windows and Linux based servers for mailing and web application hosting. A 100 terminal Cluster lab is available for students for their project work, programming assignments, M.Tech & Ph.D thesis work and conducting online placement test. Internet access for all students is available with 100 Mbps to 1Gbps speed.

Infrastructure upgraded during 2017-18.

- **Setup of Digital Notice Boards for various Departments**

A network of electronic displays that are centrally managed and individually addressable has been implemented and is being used for display of text, animated or video messages, information and updated to the students, faculty, staff and visitors to various departments.

- **Setup of Swayam Prabha DTH Channels**

The Computer Centre has facilitated the setup for viewing the Swayam Prabha DTH Channels at various locations at the institute. The Swayam Prabha is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 satellite. The channels are uplinked from BISAG Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS.

- **Online Application for UG/PG/PhD Admissions**

This year the Computer Centre team developed various modules for the Online Admission Portal to the complete admission process from registration of the candidate to the counselling and allotment of seat. It allows students to register for admission in various UG/PG/Ph.D Courses and stay updated during the admission process. It has a responsive design so that it can easily be viewed on any device.

4.6 Amount spent on maintenance in lakhs:

i) ICT	3.17
ii) Campus Infrastructure and facilities	674.80
iii) Equipments	3879140.0
iv) Others	11.13
Total:	824.57

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

Contribution of IQAC in enhancing awareness about Student Support Services is as follows:

- The institute facilitates Orientation sessions for the students to acquaint them with the Vision and Mission of the University and the facilities available in the campus.
- Various cells (Placement Cell & Counselling Cell) were established for the students by the institute.

5.2 Efforts made by the institution for tracking the progression

Efforts made by the institution for tracking the progression is attached as Annexure – V

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
2377	463	203	Nil

(b) No. of students outside the state

321

(c) No. of international students

137

Men	No	%	Women	No	%
	2377	78.11%		666	21.89%

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
1603	301	49	--	28	1981	2533	411	65	0	34	3,043

Demand ratio

Dropout %

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

- Students routinely interact with faculty for informal discussions & problem solving. A formal student support mechanism has been initiated. .

No. of students beneficiaries

Nil

5.5 No. of students qualified in these examinations

NET SET/SLET GATE CAT
IAS/IPS etc State PSC UPSC Others

5.6 Details of student counselling and career guidance

1. Individual Counselling
2. Group Counselling
3. Testing & guidance
4. Psychotherapy

No. of students benefitted

All

5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
180	453	320	04

5.8 Details of gender sensitization programmes

NIL

5.9 Students Activities

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

State/ University level

162

National level

04

International level

Nil

No. of students participated in cultural events

State/ University level National level International level

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

Sports: State/ University level National level International level

Cultural: State/ University level National level International level

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	542	Rs. 3,65,25,500/-
Financial support from government	49	Rs. 45,94,000/-
Financial support from other sources	--	--
Number of students who received International/ National recognitions	--	--

5.11 Student organised / initiatives

Fairs : State/ University level National level International level

Exhibition: State/ University level National level International level

5.12 No. of social initiatives undertaken by the students

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

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

VISION

“To become a centre of excellence in technical education and research and to occupy a place amongst the most eminent institutions of the nation”.

MISSION

- To build across the institute a culture of excellence in teaching and learning with needed performance and accountability from all support activities.
- To enhance the institute standing as the institute of choice for students across the country; and to augment the presence of international students to at least ten percent of student body.
- To cultivate a field in which new ideas, research and scholarship flourish leading to emergence of creators, innovators, leaders, and entrepreneurs.
- To design the education through a continuous process so that the students qualifying from the institute have the top rating in placement.
- To achieve excellence in application-oriented research in selected areas of technology to contribute to the development of the region and the nation.
- To promote co-and extra-curricular activities for over-all personality development of the students.
- To develop responsible citizenship through awareness and acceptance of ethical values.
- To build a family of alumni and friends to create a network of allegiance and support for the institute.

6.2 Does the Institution has a management Information System

Yes, PEC Information System.

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

6.3.1 Curriculum Development

The Senate of the institute is the highest academic body, which has complete freedom to change the curriculum at short intervals. The Senate has two external members (typically one from academic institution of excellence such as IITs and the other from the industry). The Senate is guided by the Institute Academic Programme Committee and the Department/Center Academic Programme Committees. These committees have student representatives as members. Both, top-down and bottom-up approaches are prevalent in designing and development of the curricula. The committees take frequent inputs from the various stakeholders (i.e., industry, alumni and students) while proposing any changes in the curricula. The last UG curricula revision happened in 2014-15, with enormous flexibility given to the departments and students to form baskets of electives in different disciplines. The courses such as communication skills, technical communication, ethics and self awareness, engineering analysis and design, computer programming, full semester internship, industrial tours, as common core for all programmes, and suitable baskets of electives of basic sciences, engineering sciences, humanities and management for all programmes, are the hallmark of this curricula. The concepts of minor and specializations and Honors programmes have also been introduced. The next cycle of revision of UG curriculum is also due now.

The departments also have freedom to change the content of the courses or add new courses in the baskets of electives, whenever they so desire, with the approval of the Senate or the Chairman Senate.

However, the PG curriculum has been revised in 2018-19.

The salient feature of PG structure is as follow:-

1. Fractal credit system: - In fractal system, a semester is divided into six segments. Each segment is of 7 contact hours and 0.5 credits.
2. Compulsory course on Machine Learning, soft skill & Management(with fractal credits for Communication Skill, Management & Entrepreneurship and professional Ethics) and Engineering Mathematics (with fractal credits for three elective courses from Engineering Mathematics basket).
3. 20% courses per semester can be offered in blended mode with MOOCs/industry.

6.3.2 Teaching and Learning

The faculty members have been trained to use technology in their teaching learning processes. They use the e-content available on different online platforms. For the last three years, many of the QEEE courses are being taught to the students, wherein local faculty is also involved. From the last semester, the institute has started a few MOOCS courses on SWAYAM platform, a local faculty is assigned who also registers for the course, and these courses are taught in a blended mode. Facilities are also created where in faculty can generate their own digital content.

1.3.3 Examination and Evaluation

The end semester examination and the mid-semester examinations will be held within the periods allocated in the Academic Calendar. In exceptional circumstances, the Dean, Academic Affairs may permit holding the examinations outside these periods.

The evaluation of the students is a continuous process and is based on their performance in mid-semester examination, end semester examination, quizzes/short tests, tutorials, assignments, laboratory work (if any), make-up examinations (if applicable), etc. In general, there is no choice in test/examination papers.

The Instructor-in-charge, assisted by the team of tutors and other instructors, is responsible for making the question paper, conducting the examination in his/her course, getting the answer scripts evaluated by the team of tutors, and awarding the grades. The end term question paper for UG examinations are moderated by department committee under Chairmanship of Head of the department. The grades for all courses are moderated as per institute guidelines by duly constituted moderation committee. The grades are forwarded through the Head of the Department who ensures that proper standards have been followed.

The complete transparency is maintained in evaluation system. The graded scripts of quizzes, tests, and mid-semester examinations are returned to the students within a reasonable time. The answer scripts of the final examinations are shown to the students after marking. All instructors notify a time for such access within three days of the examination. A student may point out errors or omissions, if any, in marking in writing on the cover sheet of the answer script. The instructor takes these into account before submission of grades.

6.3.4 Research and Development

Punjab Engineering College (Deemed to be University) imparts quality and socially relevant education in engineering at undergraduate, postgraduate and doctorate levels. Faculty and students of its department are involved in research activities of interest to society and industry. Our curricula derive its strength from the design and project contents.

We strive to strengthen further our research programs as well our relationship with industry by supporting our faculty and students to work on sponsored research and industrial projects and consultancy. We encourage collaborative programs, which enhance interaction of our faculty and students with industry.

Sponsored projects, In-house projects, consultancy and collaborations with industry and academia are important modes through which our faculty and students contribute towards knowledge and technology. Our institute provides financial assistance to its faculty and students to present the outcome of their research projects in national and international conferences in India and abroad. Our faculty engaged in helping society offers short term courses as well training programs for industry, institutes and organizations. Office of Dean Sponsored Research & Industrial Consultancy provides administrative and managerial support for the operation of Sponsored research, In-house Projects, Consultancy and other activities of the institute. It promotes and manages Institute-Industry interaction and provides helping hand in establishing collaborative programmes of interest to Institute and Industry. Faculty and students are encouraged to take up hands on industrial problems as consultancy projects to enrich their problem solving skills.

6.3.5 Library, ICT and physical infrastructure / instrumentation

The institute campus extends over an area of 146 acres of land situated close to the beautiful Shivalik Hills. The campus is divided into various functional zones like hostels, main institute building, administrative block, residential complex for faculty and staff and a shopping centre. In addition to lecture theatres, tutorial rooms and drawing halls, the institute has auditorium, library, computer centre, reading rooms, workshops and well equipped laboratories. The institute has spacious playgrounds, tennis courts, squash courts, swimming pool, gymnasium and a student centre. Banking facilities with nationally connected ATMs along with a computerized post office are available. Adequate hostel facilities for both boys and girls are available on the institute campus.

Library:

Central Library, Punjab Engineering College. (Deemed to be University) is a well-organized library housed in an area of about 27000 sq. feet. It is organized into various sections, which are manned by professionally qualified staff. Having centrally air-conditioned facility with 350 seats, library works with open access system to maximize the use of library resources. All students, faculty, staff and alumni are entitled to make use of the library facilities provided they enrol themselves as members of the library. Library Reading Halls remain open from Monday to Friday from 9 am to 8 pm and on Saturday from 9 am to 5 pm. The working hours of Circulation Section and Reference Section are from Monday to Friday from 9 am to 5 pm. During Exam Days (Mid-term & End-semester), the library remains open on all seven days of the week from 9 am to 12 midnight.

Central Library has a collection of **1,15,452** volumes (as on 31.3.17), comprising of books, standards, theses, bound volume of journals pertaining to physical sciences, engineering and technology, computer and information technology, social sciences and management. The library has an active collection of 30,267 books under Book Bank Scheme to support SC/ST as well as General categories students. The reference collection in the library is maintained separately and is categorized into Atlases, Bibliographies, Handbooks, Directories, Dictionaries, Encyclopaedic as and Technical data.

To keep its readers abreast with the latest developments in Engineering & Technology, the library provide access to over **2800 full-text e-journals** in addition to e-standards, bibliographic databases etc. from a number of publishers and aggregators through [E-ShodhSindhu](#) (outcome of merging of three consortia initiatives, namely UGC-INFONET Digital Library Consortium, NLIST and INDEST-AICTE Consortium). Full text e-journals are accessible from various commercial publishers/aggregators/learning societies such as IEL (IEEE), ASME, ASCE, Science Direct, Springer Link, Emerald Engg. Collection, ACM, Taylor and Francis, APS and AIP. All these resources are available through campus LAN. Library has also acquired more than **2400 e-books** from EBSCO, Pearson, Springer, Wiley, CRC and McGraw-Hill to let users experience the advantages such as text searching, hyperlinks, embedded hypermedia etc. over the conventional printed books. The library hosts a comprehensive Home Page as a part of the institute's web site. The Library Home page, <http://pec.ac.in/library/Library.asp>, serves as an integrated interface for all computer and web-based services available from the library.

Central Library is also having Multimedia Resource Centre (MMRC) to make use of most popular mode of education i.e. Electronic Media with the help of ICT Technology. Library has a collection of 1064 CDs, 143 Floppies, 25 DVDs and 581 video cassettes on various disciplines of engineering and technology. The library has also procured and installed NPTEL video and web courses on LAN of the institute for the benefit of the students.

Activities in the Library including Acquisition, Cataloguing, Circulation and Serials Control are fully computerized using LibSys Software Package. The Online Public Access Catalogue (OPAC) of the Library is operational and accessible on the intranet at <http://172.31.50.30:8380/opac/>. It can be accessed online to search more than 97,910 bibliographic records, available in the Library database through a web-based search interface or with a window client of the LibSys on intranet. The editing and updating activities are done on the regular basis. Recently, in 2014, Library implemented **RFID enabled Automation and Surveillance Project** under TEQIP-II. Every document in the Library is being tagged with RFID tags and users are being issued smart cards. One self-service station is installed to facilitate the users with self issue/return of documents. Two security gates, i.e. theft detection pedestals, have been installed at the entrance and exit gates of the library to check the movement of unissued books outside the library.

6.3.6 Human Resource Management

Ratio of teaching to non-teaching staff (institution-wise)
 1:1.98 (Permanent)
 1:2.71(Permanent/Temporary /Contractual)

6.3.7 Faculty and Staff recruitment

Total 26 nos. Of faculty (regular+Contract) have been recruited during the year 2017-18(July to June)

6.3.8 Industry Interaction / Collaboration

Sr. No.	MoU with Industry/ Government/Institute	MoU Signing Date	MoU Validity (in years)
1.	Defence Information Assurance and Research Agency, Headquarters Integrated Defence Staff, Ministry of Defence, Government of India	20.04.2018	20.04.2028
2.	For enhancing employability of students: Workshops for students, Faculty Development Programmes for teachers, Student Awards, Internship Training Opportunities for students etc.	18.04.2018	31.03.2021
3.	Collaboration & Co-incubation	12.001.2018	-
4.	Adedt students and faculty with latest Geospatial technology and tools	06.12.2017	06.12.2019
5.	R&D in areas of engineering and technology	15.09.2017	15.09.2020
6.	Oniosome Healthcare Pvt.Ltd.	29.04.2018	--

7.	Semi-conductor laboratory ,Department of space,GOL,Mohali	04.08.2017	04.08.2022
8.	UICET and Department of Biochemistry,Panjab University Chandigarh	-	3 Years
9.	Diara (HQ IDS),Ministry of Defence,Gol-projects and PAN India training of tri services.	20.04.2018	10 years
10.	TCS	01.04.2018	31.03.2021
11.	Infosys	September 2017	September2019

6.3.9 Admission of Students

- The entire application process for admission is online. Admission to the B.Tech. programmes is based on merit list of JEE Mains conducted on an all India basis.
- The admission to M.Tech programmes is regulated through Centralized Counselling of M.Tech. with valid GATE score.
- Admission to the Ph.D programme is made on the basis of entrance test at institute level/ GATE examination and/or performance in the personal interview.

6.4 Welfare schemes for

Teaching	NIL
Non teaching	NIL
Students	NIL

6.5 Total corpus fund generated

760.15 Lacs

6.6 Whether annual financial audit has been done

Yes No

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

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	--	No	--
Administrative	No	--	No	--

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

For UG Programmes Yes No

For PG Programmes Yes No

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

Periodic meeting are conducted by the institute to look into grievances / suggestions.

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

PECOSA (Punjab Engineering College Old Students Association) holds two main functions in the institute namely, Global Alumni Meet in the month of February every year and Jaspal Bhatti Cultural Evening during September every year. On both these occasions , PECOSA gives away several awards and scholarships to different students of the institute.

6.12 Activities and support from the Parent – Teacher Association

NIL

6.13 Development programmes for support staff

NIL

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

NIL

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.

1. Women Grievance Cell.
2. Feedback Mechanism
3. Use of ICT in teaching.
4. Organizing seminar or talk on emerging topic.
5. Preparing newsletter for the department activities.

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

As per the plan of Action institute has made sincere efforts to improve overall performance of the institute. All academic/ co curricular activities were carried out as per Senate approved Academic Calendar

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

1. Remedial classes to slow learner.
2. Preparing newsletter for the department activities

7.4 Contribution to environmental awareness / protection

Nil

7.5 Whether environmental audit was conducted? Yes No

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

1. Blood Donation camp (27th September 2017)
2. PECFEST 2017 (27th to 29th October 2017)
3. 47th Annual Convocation (14th October 2017)

8. Plans of institution for next year

- To sustain and improve the overall performance of the institute on National and International level.
- To adopt best practices at the institute for teaching and research.
- To improve communication skills, entrepreneurship skills and innovative skills etc. by way of encouraging the students to perform and to take part in national and international events.
- Take initiatives to fill vacant faculty posts.
- Take initiatives to rationalize the staff strength by increasing at certain levels and outsourcing at other levels.
- Increase sponsored research and consulting projects.
- To increase the number of students being admitted to PhD programme.
- To encourage faculty members to publish more number of research papers in refereed journals and national and international conferences.
- Encourage students to undergo overseas exchange programme.
- Organize interaction with industry and alumni through annual meets in each department.
- Organize short courses and workshops/seminars/conferences by various departments.
- Undertake city initiatives every year and offer solutions for urban problems.
- Undertake department level or NSS level initiatives or affirmative action for helping the underprivileged through skill development /knowledge development.
- To upgrade the infrastructural facilities in the various departments of the institute and ensure optimum utilization of them.

Name: Dr. Sucheta

Name: Dr. Manoj K Arora

Signature of the Coordinator, IQAC

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
