

Chapter-III

Quality of Higher Education

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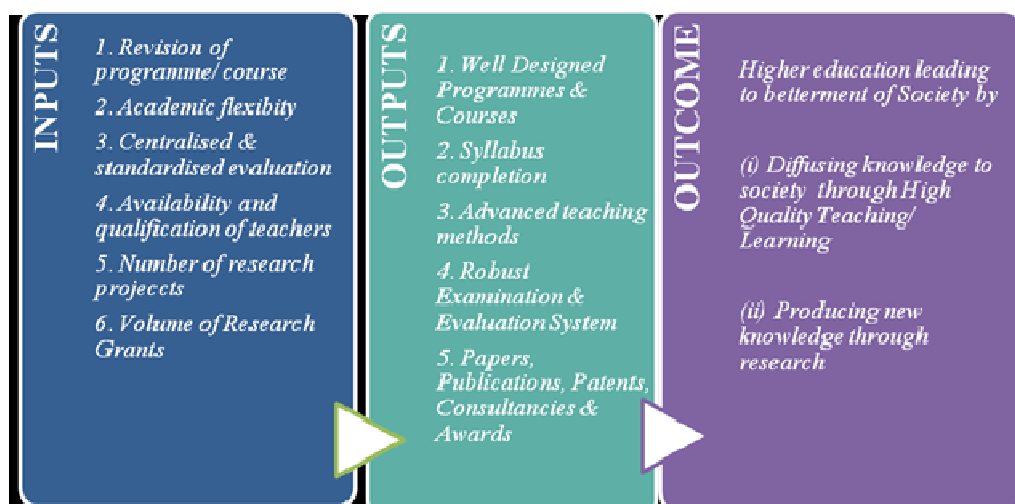
Quality of Higher Education

This chapter discusses societal perspective of higher education outcomes in terms of teaching-learning processes and research capabilities of Higher Education System. Audit assessed the performance of HEIs and GoP in providing high quality higher education with reference to the following audit objective.

Audit objective 2: Whether quality of Higher Education was ensured?

12th FYP states that education in the general stream (Arts, Science and Commerce streams) if properly imparted could be an excellent foundation for knowledge based careers. The India Skills Report¹ 2020 states that at an all India level, BSc, BA and B Com programmes had provided low number of employable graduates during the period 2014-2020. Therefore, the focus should be towards improving the quality of general education.

The quality related outcomes and their relationship with the contributing factors can be understood from the following representation.



Audit analysed the data pertaining to different departments of selected general degree universities, RGNUL, Patiala and selected colleges and the findings are discussed in the succeeding paragraphs:

3.1 Effective curriculum and teaching-learning processes

3.1.1 Effective curriculum

In this section, audit findings and assessment of performance of outcomes through selected four indicators related to curriculum design and development,

¹ BSc, BA and B Com programmes have provided on an average 37.47 per cent, 32.34 per cent and 31.86 per cent employable graduates respectively during the period 2014-2020.

and teaching-learning processes are discussed. These indicators are also used by NAAC during assessment and accreditation process of HEIs.

3.1.1.1 Performance of universities based on outcome indicators

Audit assessed performance of three test checked universities in effective curriculum and learning processes through following four outcomes indicators as given in **Table 3.1** on the basis of NAAC benchmarks (Details of indicators are given at Sl. Nos. 5, 6, 13 and 14 in **Appendices 1.1 & 1.4**). Audit findings in respect of these indicators are discussed in the succeeding paragraphs.

Table 3.1: Performance of test checked universities with respect to indicators

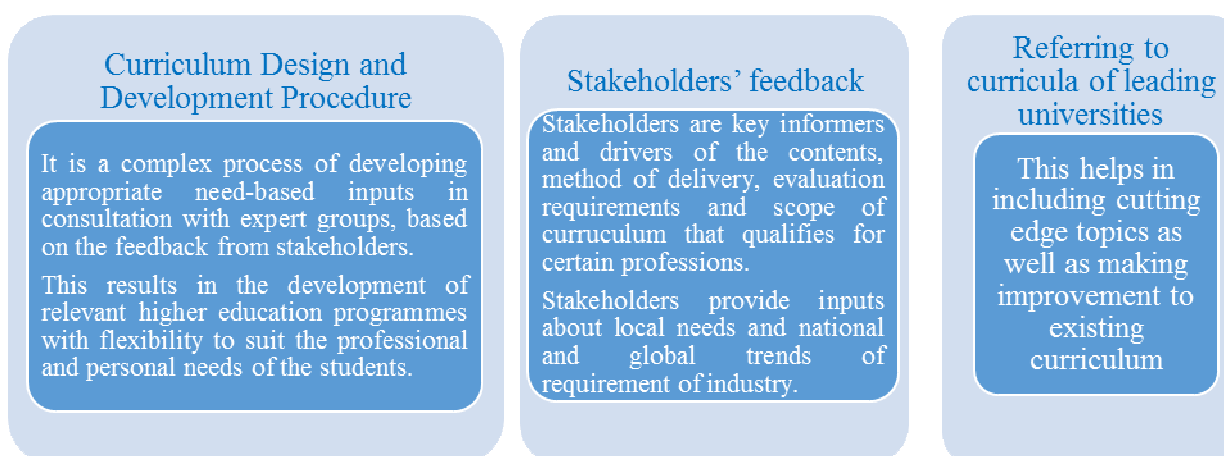
Sl. No.	Outcomes indicators	NAAC benchmark for maximum four marks	Performance of the test checked universities with reference to NAAC benchmarks (marks ² obtained)		
			PU, Patiala	GNDU, Amritsar	RGNUL, Patiala
1.	Percentage of revision of syllabus in programmes during 2015-2020	50 per cent and above	4	4	4
2.	Number of value-added courses offered during 2015-2020	50 and above	0	4	4
3.	Average percentage of students enrolled in value added courses during 2015-2020	10 per cent and above	2	4	4
4.	Percentage of programmes having Choice Based Credit System (CBCS) during 2019-20	50 per cent and above	4	4	4

Source: NAAC manual and Audit analysis

3.1.1.2 Curriculum Design and Development

One of the significant responsibilities of universities and autonomous colleges is curriculum design and development and they are expected to have processes, systems and structures in place to shoulder this responsibility.

Chart 3.1: Procedures and Functionaries involved in curriculum design and development



² Marks have been allotted by Audit as per university’s performance on selected indicators and comparing it with benchmarks derived by analysing scoring pattern of universities accredited by NAAC (**Appendix 1.4**).

Curriculum design and development is a complex process of developing appropriate need-based inputs in consultation with expert groups, based on the feedback from stakeholders. This results in the development of relevant higher education programmes³ with flexibility to suit the professional and personal needs of the students and realisation of core values.

Scrutiny of information provided by test checked universities revealed that:

(i) Curriculum Design and Development Procedure

As per respective Calendars⁴ of both the general degree affiliating universities, Academic Council is competent to approve or to frame the syllabus of courses of studies suggested or recommended by the concerned Board of Study.

- In PU, Patiala and GNDU, Amritsar it was seen that 100 *per cent* syllabus of programmes offered was designed after following the prescribed procedure.
- In RGNUL, Patiala 100 *per cent* syllabus was designed with the approval of Academic Council of the University.

However, as provided in the NAAC Manual of Universities (Para 1.1), stakeholders such as industrialists, entrepreneurs, students were not represented in the Board of Studies in Punjabi University, Patiala. On being pointed out the university stated that matter would be examined and audit would be apprised of the status.

3.1.1.3 Revision of syllabus

As per respective Calendars/Regulations⁵ of selected universities, Academic Council is competent to approve or to frame the syllabus of courses of studies suggested or recommended by the concerned Board of Studies. Further, 12th FYP⁶ mandated that the curricula be revised at least once in every three years and the syllabi be made relevant in tune with job market dynamics and also in tune with advances in research and development.

The details of programmes offered, approved and revised during last five years in selected universities during 2015-2020 is given in **Table 3.2**:

³ As per NAAC manual, programme is a range of learning experiences offered to students in a formal manner over a period of one-to-four years leading to certificates/ diplomas/ degrees i.e., BA (Economics), BSc (Physics), etc.

⁴ Chapter VIII of (Vol.III) of Calendar of Patiala University and Para 3.4 of Calendar of GNDU, Amritsar.

⁵ Chapter VIII of (Vol. III) of Calendar of Patiala University and Para 3.4 of Calendar of GNDU, Amritsar.

⁶ Paragraph 4.3 (d) of Report on 'Inclusive and Qualitative Expansion in Higher Education'.

Table 3.2: Programmes where syllabus revision was carried out

Name of University	Programmes offered in the University during 2015-2020	Programmes in which syllabus was revised during 2015-2020	Programmes approved by Academic Council	Percentage of syllabus revision
1	2	3	4	5
PU, Patiala	1,621	987	987	61
GNDU, Amritsar	1,114	1,114	1,114	100
RGNUL, Patiala	04	03	03	75

Source: Information provided by concerned university

It can be seen from above table that all the selected three universities were eligible for scoring maximum score as per NAAC evaluation indicator.

Good practice: All the selected universities were following the prescribed procedure for designing the courses and revised them periodically so that the course material is relevant/in tune with job market dynamics as well as advances in research and development.

3.1.1.4 Value added courses and students enrolled

Para 1.3 of NAAC Manual provides that the university is expected to have provision for added courses ‘transferable and life skill’ and activities which may not be directly linked with one’s discipline of study but contribute to sensitising students to cross cutting issues such as gender, environment and sustainability, human values and professional ethics.

It was noticed that:

- In PU, Patiala⁷, five value added courses imparting ‘transferable and life skill’ were offered in which 2,363 students (three per cent of total enrolled students (70,923)) were enrolled during 2015-2020.
- In GNDU, Amritsar, 56 value added courses imparting ‘transferable and life skill’ were offered in which 7,792 (15 per cent of total enrolled students(50,841)) students were enrolled during 2015-2020.
- In RGNUL, Patiala 50 value added courses were offered in which 997 (100 per cent) students were enrolled.

The PU, Patiala stated (August 2021) that efforts would be made for offering value added courses. Constructive steps need to be taken by the State Government and the HEIs of Punjab to introduce adequate value added courses at UG and PG level.

3.1.1.5 Academic flexibility

Academic flexibility denotes the choices made available to the students in the curriculum offering and the curriculum transactions. It refers to the freedom in the use of the time-frame of the courses, horizontal mobility, inter-disciplinary options and others facilitated by curricular transactions. There are a number of ways through which academic flexibility can be incorporated. It

⁷ Test checked 21 out of 82 (39 general stream) departments.

includes offering new and relevant courses, introducing Choice Based Credit Systems and semester system, etc.

Audit analysed/examined the data/ records of the selected universities and colleges in this aspect and findings are discussed in succeeding paragraphs:

(A) Implementation of Semester system and Programmes having Choice Based Credit System

UGC communicated (January 2015) the decision of the MHRD to implement Choice Based Credit System (CBCS) from the academic session 2015-2016 in all Indian Universities to enhance academic standards and quality in higher education through innovation and improvements in curriculum, teaching learning process, examination and evaluation systems. UGC reiterated (April 2018) the need to implement CBCS in universities. It was desirable that the HEIs move to CBCS and implement the grading system. The 12th FYP envisaged Semester System to be implemented in universities and colleges.

The position of number of programmes having CBCS in three test checked universities during 2019-20 is given in **Table 3.3**:

Table 3.3: Programmes having CBCS during 2019-20

Name of University	No. of programmes offered during 2019-20	No. of programmes in which CBCS or elective course system introduced	Percentage	Semester system was introduced
PU, Patiala	74	41	55	Yes
GNDU, Amritsar	210	210	100	Yes
RGNUL, Patiala	04	02	50	Yes

Source: Information provided by concerned university

- It was evident from above table that in all the selected universities, CBCS was introduced in more than 50 *per cent* programmes offered during 2019-20 and semester system was introduced in all the programmes.
- In all the selected colleges, semester system was introduced, however CBCS, was not introduced during 2019-20. The colleges stated that CBCS system was not implemented by their affiliating universities concerned.

PU, Patiala and GNDU, Amritsar admitted (August 2021) the facts and assured to implement CBCS in all the affiliated colleges in future. GNDU further added that it being a policy matter, audit would be apprised of the status in due course of time.

- **Student survey result:** In response to student survey question "Is the CBCS in place in the institution? How satisfied are you with it?" 80 *per cent* students out of 385 students of selected Universities were aware about CBCS system and also satisfied with it.

3.1.2 Effective Teaching Processes

In this section, use of Information and Communication Technology (ICT) in teaching, faculty related aspects and robust examination and evaluation

systems of the HEIs have been discussed. Further, results of selected nine indicators related to effective teaching process have also been discussed.

3.1.2.1 Performance of universities based on outcome indicators

Audit assessed performance of three test checked universities in effective teaching process through following nine outcomes indicators as given in **Table 3.4** on the basis of NAAC benchmarks (Details of indicators are given at Sl. Nos. 7 and 15 to 22 in **Appendices 1.1 & 1.4**). Audit findings in respect of these indicators are discussed in the succeeding paragraphs.

Table 3.4: Performance of test checked universities with respect to indicators

Sl. No.	Outcomes indicators	NAAC benchmark for maximum four marks	Performance of the test checked universities with reference to NAAC benchmarks (marks ⁸ obtained)				
			PU, Patiala		GNDU, Amritsar		RGNUL, Patiala
			University level	Selected 21 departments	University level	Selected 11 departments	
1.	Teachers using ICT for teaching during 2019-20	80 per cent and above	3	-	4	-	4
2.	Percentage of ICT- enabled classrooms/ seminar halls during 2019-20	80 per cent and above	3	-	0	-	4
3.	Student Computer ratio during 2019-20	10:1 and below	4	-	4	-	3
4.	The average percentage of full time teachers with Ph.D. during 2015-2020 was used an indicator	70 per cent and above	Data not available	4	Data not available	4	3
5.	Percentage of full time teachers who received awards, recognition, etc., during 2015-2020	15 per cent and above	2	-	4	-	0
6.	Average percentage of teachers provided with financial support to attend conferences/ workshops etc., during 2015-2020	50 per cent and above	Not Available	0	0	-	0
7.	Average percentage of teachers attending professional development programmes during 2015-2020	40 per cent and above	4*	-	1	-	1
8.	Average percentage of applications received for revaluation during 2015-2020	5 per cent and below	3	-	4	-	2
9.	Average percentage of applications for revaluation leading to change in marks during 2015-2020	5 per cent and below	0	-	0	-	0

Source: NAAC manual and Audit analysis

* The score was given on the basis of performance of three years i.e. 2015-2018.

⁸ Marks have been allotted by Audit as per university's performance on selected indicators and comparing it with benchmarks derived by analysing scoring pattern of universities accredited by NAAC (Appendix 1.4).

3.1.2.2 Use of Information and Communication Technology in teaching and availability of ICT related infrastructure

Paragraph 21.265 of 12th FYP puts focus on use of ICT in higher education by providing smart class rooms and setting up classrooms with interactive video-conferencing facilities linking Meta universities⁹ and affiliating universities. State Government also provides grants to government colleges for setting up of smart rooms. Further, NAAC states that technological advancement and innovations in educational transactions have to be undertaken by all HEIs, to make a visible impact on academic development as well as administration. Effective use of ICT in HEIs will be able to provide ICT literacy to the campus community, using ICT for resource sharing and networking, as well as adopting ICT-enabled administrative processes.

The position of number of teachers using ICT, number of ICT enabled classrooms and Student Computer Ratio (SCR) in test checked HEI during 2019-20 is given in *Table 3.5*:

Table 3.5: Teacher using ICT, availability of ICT enabled classrooms and Student Computer Ratio

Name of university	Teachers using ICT			Percentage of ICT enabled classrooms			Student Computer Ratio		
	Total number of teachers	Teachers using ICT	Percentage	Total number of classrooms	No of classrooms with ICT	Percentage	Total number of students enrolled	No of computers in working conditions	Student Computer Ratio
PU, Patiala	748	471	63	258	170	66	13,098	1,386	9:1
GNDU, Amritsar	480	480	100	256	105	41	11,085	1,343	8:1
RGNUL, Patiala	34	34	100	22	18	82	979	80	12:1

Source: Information provided by concerned universities

From the above table it was evident that:

- The percentage of teachers using ICT was ranging between 63 and 100 *per cent* in selected universities.
- In PU, Patiala, GNDU, Amritsar and RGNUL, Patiala 66, 41 and 82 *per cent* classrooms respectively, were ICT enabled
- The SCR, in PU, Patiala, GNDU, Amritsar and RGNUL, Patiala was 9:1, 8:1 and 12:1, respectively.
- Out of 38 selected colleges, in 29 colleges, 3 to 100 *per cent* teachers were using ICT (*Appendix 3.1*). 19 colleges (50 *per cent*) were eligible for scoring maximum marks (four) under this indicator whereas seven colleges were eligible for award of marks ranging between one and three and remaining 12 colleges were not eligible for scoring any marks (*Sl. No. 7 of Appendices 1.1 & 1.4*).

⁹ Meta University allows a student to benefit from access to faculty, library and laboratory of multiple institutes while pursuing a degree.

- Out of 38 selected colleges, 36 colleges were not eligible for scoring any marks as their performance was below 50 *per cent* in respect of ICT enabled classrooms and two colleges were eligible for scoring marks ranging between one and two (*Sl. No. 15 of Appendices 1.1 & 1.4*).
- In 33, out of 38 selected colleges, the SCR was ranging between 3:1 and 79:1; no computer was available in five colleges (*Appendix 3.1*). 13 colleges were eligible for scoring maximum marks (four) whereas 12 colleges were eligible for scoring marks ranging between one and three marks and 13 colleges were not eligible for scoring any marks (*Sl. No. 16 of Appendices 1.1 & 1.4*).

The GNDU, Amritsar replied (September 2021) that almost all the classrooms had access to modern technology though some older classrooms lack these facilities. The PU, Patiala stated (August 2021) that ICT enabled classrooms vary from department to department as Science department had more such classrooms whereas these facilities were not required in humanities departments. The RGNUL stated (December 2020) that due to discarding of old computers the SCR was less. The Department admitted (August 2021) the audit observation and assured to take corrective measures in this regard.

The reply of PU, Patiala was not acceptable as in technology based scenario the use of ICT in teaching and learning process was desirable in all courses as per NAAC indicator. As regards, test checked colleges, substantial, constructive efforts need to be undertaken to provide an ICT enabled learning environment to the students.

- ***Student Survey Result:*** In response to survey question "*How much satisfied with the teachers who were using centric methods/ICT tools?*" 21 *per cent* of the students out of 456 students of selected universities and 14 *per cent* of the students out of 1532 students of selected colleges were not satisfied or were only partially satisfied with the teachers who were using ICT tools.

3.1.2.3 Availability and quality of Faculty

As per NAAC manual, aspects that determine quality of teacher/faculty includes availability of teachers, qualification of teachers, teacher characteristics, professional development and recognition of teaching ability.

(A) Availability of teachers

Objective 4 of RUSA scheme aims to ensure adequate availability of quality faculty in all HEIs. Under RUSA, States can claim funds for additional posts of

faculty to enable them to achieve the Student Teacher Ratio¹⁰ (STR) 20:1, if all the vacant sanctioned posts are filled by the State.

(a) Availability of teaching staff at State level in Government colleges

As per information provided by DPI (Colleges) the position of total sanctioned strength, working strength and vacancy of teachers and total enrolment in government colleges at the state level during 2015-2020 is given in **Table 3.6**:

Table 3.6: Availability of teaching staff in 46 government colleges

Year	Sanctioned strength of teachers	Working strength of teachers			Vacant post of teachers	Percentage	Total enrolment in government colleges	Average Student Teacher Ratio in government colleges with respect to	
		Regular	Contractual	Total				working strength of teachers	sanctioned strength of teachers
2015-16	1,737	675	865(56)	1540	197	11	80,313	52:1	46:1
2016-17	1,769	612	920 (60)	1532	237	13	79,870	52:1	45:1
2017-18	1,763	564	965 (63)	1529	234	13	73,253	48:1	42:1
2018-19	1,786	543	989 (65)	1532	254	14	71,678	47:1	40:1
2019-20	1,788	435	1,046 (70)	1481	307	17	69,931	47:1	39:1

Source: As per information provided by DPI (Colleges)

It can be seen from the above table that the STR in government colleges with respect to sanctioned strength of teachers at state level ranged between 39:1 and 46:1 during 2015-2020 as against the prescribed STR of 20:1.

It was observed that the State Government did not recruit teachers to fill up the vacancies as per the sanctioned strength in Government colleges from the year 2000-01 which had resulted in average 14 *per cent* posts of teachers lying vacant (ranged between 11 *per cent* and 17 *per cent*) during 2015-2020 and consequently resulted in an adverse STR of 49:1 (ranged between 47:1 and 52:1) on average in respect of working strength of teacher at the State level. Further, percentage of contractual teaching staff was relatively high which ranged between 56 *per cent* and 70 *per cent* during the 2015-2020.

The Department admitted the facts and intimated (September 2021) that the process had been initiated to appoint about 931 teachers in regular cadre through the Punjab Public Service Commission (PPSC).

(b) Availability of teaching staff in the selected HEIs

The indicator of STR i.e. 20:1 derived from the RUSA norms in respect of colleges was assessed. The Universities have no norms of STR, however, the assessment of lectures were decided as per work load norms prescribed in UGC Regulations 2010.

¹⁰ Student-teacher ratio is the number of students who enrolled in an institution divided by the number of teachers in the institution.

The position of number of teachers posted and number of students enrolled in selected Universities as well as in selected colleges are given in **Table 3.7**:

Table 3.7: Test checked Universities during 2019-20

Selected university	Total number of students	Sanctioned strength of teachers	Actual Number of teachers	Vacant posts	Student Teacher Ratio
PU, Patiala	13,098	878	501	377	26:1
GNDU, Amritsar	11,085	505	480	25	23:1
RGNUL, Patiala	934	61	34	27	27:1

Source: Selected HEIs data

- It was evident from the above table that the overall STR in PU, Patiala GNDU, Amritsar and RGNUL, Patiala was 26:1, 23:1 and 27:1, respectively, during 2019-20.
- Further, in the selected 38 colleges, against 48,305 students (ranging from 47 to 7,598), 1,583 teachers (ranging from 5 to 192) were available which resulted in the STR in these colleges 31:1 (ranging from 6:1 to 75:1). The STR was as per RUSA norms in 13 colleges (**Appendix 3.2**).

This had also been highlighted in CAG’s Audit Report on Social, General and Economic Sectors (NPSUs) for the year ended 31 March 2015-Government of Punjab in the PA on “Working of GNDU”. The PAC had desired (July 2020) that the GNDU, Amritsar may provide details of vacant posts and make efforts to fill the same.

The Universities and Department while admitting the facts stated (September 2021) that the work load had been reviewed or assessed every year but the student faculty ratio in the University was higher than that prescribed by RUSA and assured (August 2021) to initiate the process to fill up the vacant posts of teachers.

Thus, the selected Universities as well as selected colleges need to bring down the STR. Besides, an unfavourable STR is indicative of higher workload per teacher and impact quality of education imparted.

(B) Availability of teachers with minimum prescribed qualifications

Paragraph 3.3.1 of UGC Regulations, 2010 prescribes that National Eligibility Test (NET)/State Level Eligibility Test (SLET)/State Eligibility Test (SET) shall remain the minimum eligibility¹¹ condition for recruitment and appointment of Assistant Professors in HEIs.

The analysis of data/information of selected universities/colleges for the year 2019-20 revealed the following:

¹¹ Except those candidates, who are or have been awarded a Ph.D. Degree in accordance with the UGC (Minimum Standards and Procedure for Award of Ph.D. Degree) Regulations, 2009.

- It was noticed that all full time teachers posted in PU, Patiala; GNDU, Amritsar and RGNUL, Patiala had prescribed minimum qualification as prescribed in UGC Regulations.
- In respect of 46 Government colleges of State, 509 guest faculties were appointed without having minimum educational qualification prescribed in UGC Regulations. However, out of 509, 95 teachers qualified NET during service which indicated that 414 (81 *per cent*) teachers did not possess the minimum educational qualification.
- In 38 selected colleges, out of 1,583 teaching faculty only 1,015 teachers had the minimum qualification. Thus, 568 teaching faculty (35.88 *per cent*) did not possess minimum qualification. (**Appendix 3.3**).

The Department while admitting (August 2021) the audit observation stated that in absence of NET qualified candidates, such appointments were made to cope with the shortage of staff. However, the Department assured to take necessary action in this regard. The fact, however, is that 81 *per cent* guest faculty of 46 government colleges and 36 *per cent* teachers in selected colleges did not have basic qualification as per UGC norms, thereby compromising on the quality of teaching being imparted in these HEIs.

(C) Under payment of salary to teachers in private colleges

The Department issued (October 2014) notification that Assistant Professor would be appointed on contract basis with the minimum pay of ₹ 21,600 per month.

It was observed that in 14 colleges out of 16 aided/ unaided selected colleges, salary paid to 241 teachers who were appointed as Assistant Professor on contractual basis ranged between ₹ 5,000 and ₹ 21,500 during 2019-20 which was less than the prescribed minimum pay *ibid* (**Appendix 3.4**).

The Department stated (August 2021) that there was no control of the Department on private colleges and suggested that affiliating universities should monitor this aspect during inspection. It was further stated that the affected teachers did not submit any complaint on the issue. The fact, however, is that there was non-compliance of instructions regarding minimum pay and discrimination against the contractual teachers.

(D) Full time teachers with Ph.D.

As per information collected and analysed in respect of selected departments of PU, Patiala; GNDU, Amritsar; and RGNUL, Patiala (university as a whole), the position of full time teachers with Ph.D during 2015-2020 is given in **Table 3.8**:

Table 3.8: Number of full time teachers with Ph.D

Selected universities	No. of full time teachers					No. of full time teachers with Ph.D					Percentage					Average
	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	
Punjabi University, Patiala	173	171	159	135	125	131	127	119	102	92	75.72	74.27	74.84	75.56	73.60	74.80
GNDU, Amritsar	129	127	124	116	118	87	89	82	81	89	67.44	70.08	66.13	69.83	75.42	69.78
RGNUL, Patiala	29	29	38	35	34	19	14	15	15	15	65.52	48.28	39.47	42.86	44.12	48.05

Source: Departmental information and data from IQAR

From the above table it was evident that:

- In the selected Departments of PU, Patiala, on average 74.80 per cent of full time teachers had Ph.D degree in the university during 2015-2020.
- In the selected Departments of GNDU, Amritsar, on average 69.78 per cent of full time teachers had Ph.D degree in the university during 2015-2020.
- In RGNUL, Patiala, on average 48.05 per cent of full time teachers had Ph.D degree in the university during 2015-2020.
- In 38 selected colleges (*Appendix 3.5*), on an average 1574 full time teachers were working during 2015-2020. Out of which in 26 colleges, on an average 199 full time teachers (ranging between 2 per cent and 33 per cent) had Ph.D degree during 2015-2020 and these colleges were not eligible for award of any marks as per NAAC indicator (*Sr. No. 17 of Appendices 1.1 & 1.4*).

(E) Full time teachers who received awards, recognition, fellowships

Recognition of teachers at State, National and International levels is a marker of their teaching quality. The percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during 2015-2020 was used as an indicator for assessing quality of teaching staff in HEIs.

The teachers who received awards, recognition, fellowships during 2015-2020 in the selected universities and colleges were as follows:

Table 3.9: Number of teachers who received awards, recognition, fellowships during 2015-2020

Selected Universities	Average no. of full time teachers during last 5 years	No. of full time teachers receiving awards from state/National/ International levels during last five years	Percentage
PU, Patiala	849	82	10
GNDU, Amritsar	453	277	61
RGNUL, Patiala	33	1	3

Source: Information provided by concerned universities

- In PU, Patiala, GNDU, Amritsar and RGNUL, Patiala, full time teachers who received awards, recognition, fellowships at State, National,

International level from Government and recognised bodies were 10, 61 and 3 *per cent* respectively.

- Out of 38 selected colleges, teachers of only six colleges ranging between 4 and 29 *per cent* received awards, recognition, fellowships at State, National and International level from Government/recognised bodies during 2015-2020 (*Appendix 3.5*). Thus, as per NAAC indicator (*Sr. No. 18 of Appendices 1.1 & 1.4*), out of these six colleges, only two colleges were eligible for award of maximum score (four), one college was eligible for two marks while one college was eligible for award of one mark and two colleges were not eligible for scoring any marks.

RGNUL stated (August 2021) that being single Law Stream University there was less scope of such awards, recognition etc.

Thus, the work of few teachers in HEIs was acknowledged through awards, recognition etc., which indicates that either the standard and quality of teaching was not adequate or the teaching environment was not supporting and motivating for the teachers.

(F) Teachers provided with financial support to attend conferences/workshops

To assess number of teachers who were provided financial support to attend conferences/workshops in the test checked universities and colleges, the average percentage of teachers provided with financial support to attend conferences/ workshops and towards membership fee of professional bodies during 2015-2020 was used as an indicator.

Scrutiny of information provided by three test checked universities and 38 Government/private colleges revealed the following:

- In PU, Patiala (21 test checked departments), only two (1.30 *per cent*) out of 153 average full time teachers were provided financial support during 2015-2020.
- In GNDU, Amritsar on an average 26 teachers (six *per cent*) out of 453 average full time teachers were provided financial support during 2015-20.
- In RGNUL, Patiala on an average two (six *per cent*) out of 33 full time teachers were provided financial support during 2015-2020.

- In 38 test checked colleges, out of 1,574 full time teachers, only 27 teachers of four colleges¹² were provided financial support to attend conferences and workshops and provided membership fee of professional bodies during 2015-2020. As per NAAC indicator (*Sr. No. 19 of Appendices 1.1 and 1.4*), two colleges were eligible for a score of four and one whereas two colleges were not eligible for award of any marks.

RGNUL admitted (August 2021) the facts and stated that financial assistance was given as and when teachers/ non-teaching staff demanded and the university never denied for such assistance. The GNDU, Amritsar stated (August 2021) that UGC used to provide such grant up to 2017 thereafter it was discontinued. However, the university had requested UGC to reinstate such grant. Department stated (August 2021) that in most of the cases such conference / workshops were UGC sponsored, however, Department agreed to have such grant as a financial assistance to the teachers. The PU, Patiala did not furnish any reply.

Thus, it can be concluded that none of the test checked HEIs made efforts towards continuous professional development of teachers by encouraging faculty to attend conference/workshops.

3.1.2.4 Professional Development Training of faculty

Paragraph 7.1.3 of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under 12th FYP states that faculty development initiatives could include areas like entry level orientation, curriculum development, teaching and learning, research and innovation, engagement with social concerns and leadership development. Customised faculty development programmes may also be developed on a large scale. Further, as per NAAC Manual, teachers need to take initiative to learn and keep themselves abreast with the latest development, to improve, continuous improvement in their work and strive for individual and institutional excellence.

(A) State level status:

DPI (Colleges) informed (February 2021) that trainings were organised by Academic Staff Colleges/ Human Resource centers at University level. The schedule was given by UGC to Universities which was shared with teachers through website. The teachers themselves enrolled and complete these courses as per their requirement and time schedule. Thus, the Department did not conduct professional development programmes *viz.* orientation programme, refresher course and short term course for teachers posted in government colleges.

¹² (i) LBS Arya Mahila College, Barnala : one (2.5 per cent), out of 40 teachers ; (ii) RR Bawa DAV College for Girls Batala: four (5.33 per cent), out of 75 teachers; (iii) GGN Khalsa College, Ludhiana: 17 (68 per cent), out of 25 teachers; and (iv) St. Soldier Law College, Jalandhar: five (20 per cent), out of 25 teachers.

(B) Status at test checked universities and colleges level

As per information provided by test checked universities, the position of teachers attending professional development programmes during 2015-2020 is given in **Table 3.10**:

Table 3.10: Teachers attending professional development programmes during 2015-2020

Selected Universities	No. of full time teachers					No. of teachers attending professional development programmes during the year					
	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	Average
PU, Patiala	924	914	854	807	748	576(62)	680(74)	481(56)	NA	NA	579 (64)
GNDU, Amritsar	425	467	479	414	480	65(15)	61(13)	41 (09)	72(17)	51 (11)	58 (13)
RGNUL, Patiala	29	29	38	35	34	4 (14)	1 (3)	1 (3)	12 (34)	7 (21)	5 (15)

Source: Universities data

NA- Not available

Note: Figures in parenthesis indicate percentage.

From the above table, it was seen that:

- In PU, Patiala, on an average 64 *per cent* teachers attended professional development programmes in the university during 2015-2018. The data for the period 2018-2020 was not made available.
- In GNDU, Amritsar and RGNUL, Patiala, on average 13 and 15 *per cent* teachers, respectively, attended professional development programmes in the university during 2015-2020.
- Out of 38 selected colleges, in 20 colleges the average percentage of teachers who attended professional development programmes ranged between 1 and 94. In 14 colleges no such programmes were conducted during 2015-2020 and four colleges were newly opened (**Appendix 3.6**). Evaluation of performance of selected colleges through NAAC indicators (**Sr. No. 20 of Appendices 1.1 and 1.4**) showed that only two colleges were eligible for scoring maximum marks (four) and eight colleges were eligible for scoring marks ranging between one and three. Ten colleges were not eligible for award of any marks.

The GNDU, Amritsar replied (January 2021) that training courses were organised by UGC through Human Resources Development Centre (HRDC) in the University and interested teachers apply to participate in such courses at their own. RGNUL stated (August 2021) that teachers were engaged in teaching work and research work and as and when they become due for promotion they undergo the relevant training and the University did not restrict any teacher for such trainings. PU, Patiala stated (August 2021) that the University had senior faculty who had undergone requisite trainings.

3.1.2.5 Robust examination and evaluation system

Para 2.5 of NAAC Manual provides that the quality of assessment process in a HEIs depends on how well the examination system actually tests the Programme Specific Outcomes and Course Outcomes, quality of questions,

extent of transparency in the system, extent of development inducing feedback system, regularity in conducting of examinations and declaration of results as well as the regulatory mechanism for prompt action on possible errors.

(A) Status of automation of Examination Branch

The 12th FYP¹³ emphasised on the need for automation of administration and e-governance in the UGC and all the Universities/Colleges.

Scrutiny of information provided by three test checked universities in this regard revealed that all work related to examination such as receipt of examination forms, correction in examination forms, declaration of examination results, receipt of application forms for revaluation and declaration of result were fully computerised.

(B) Revaluation process:

Revaluation in an examination system refers to the application submitted by students who believe that the result they obtained is not commensurate with their own expectations. To assess the accuracy of evaluation of examination in the test checked universities, the average percentage of applications for revaluation leading to change in marks during 2015-2020 was used as an indicator.

It was noticed that out of three selected universities in one university¹⁴ centralised evaluation method was not followed. The details regarding revaluation of answer books in selected universities during 2015-2020, is given in **Table 3.11** below:

Table 3.11: Position of revaluation of answer books

Selected university	Position of revaluation of answer books														
	Number of students appeared for examination					No of students applied for revaluation					No. of students whose marks changed after revaluation				
	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20
PU, Patiala	4,42,742	4,83,077	3,45,900	2,27,985	4,50,636	22,412 (5.06)	24,899 (5.15)	22,525 (6.51)	22,115 (9.7)	7,720* (1.71)	13,169 (58.75)	13,096 (52.60)	12,096 (53.70)	12,291 (55.58)	196 (2.54)
GNDU Amritsar	3,66,765	3,76,129	3,53,735	3,66,765	2,85,688	21,493 (5.86)	17,121 (4.55)	13,045 (3.69)	12,474 (3.4)	10,566 (3.7)	5,872 (27.32)	4,416 (25.79)	4,238 (32.49)	5,441 (43.62)	3,475 (32.89)
RGNUL, Patiala	1,618	1,751	1,853	1,998	1,086	114 (7.05)	185 (10.57)	185 (9.98)	256 (12.81)	98 (9.02)	53 (46.49)	82 (44.32)	104 (56.22)	136 (53.13)	46 (46.94)

Source: Information provided by concerned university

* The number of revaluation were less due to online exam and all students promoted in next session.

Note: Figures in parenthesis indicate percentage.

The analysis of data of the selected universities revealed that:

- In PU, Patiala, an average of 5.62 per cent of students applied for revaluation of answer books during 2015-2020. Marks of 44.63 per cent

¹³ Para 7.1.14 'Priority initiative to implement automation of administration and examination to achieve e-governance'.

¹⁴ PU, Patiala.

students on an average were changed after revaluation.

- In GNDU, Amritsar, 4.24 *per cent* of students on an average applied for revaluation of answer books during 2015-2020. Marks of average 32.42 *per cent* students were changed after revaluation
- In RGNUL, Patiala, on an average 9.89 *per cent* of students applied for revaluation of answer books during 2015-2020. Marks of 49.42 *per cent* students on an average were changed after revaluation.

The PU, Patiala admitted (August 2021) the audit observation. The GNDU, Amritsar stated (January 2021) that procedure of revaluation system had been revised (June 2020) to bring improvement in it according to which each script would be revaluated by one examiner instead of two. The RGNUL stated (August 2021) that applying for revaluation was the right of the students. The fact, however, was that high percentage of changes in the answer books during revaluation, especially when it led to change of result from fail to pass, suggested that the evaluation systems followed by three test checked universities were not adequate and effective and needed to be strengthened. Further, the revaluation would also put additional financial burden on students [(PU, Patiala: ₹ 500/-, GNDU, Amritsar: ₹ 1,200/- and RGNUL: ₹ 1,000 (₹ 1,500 from July 2019) per answer book).

- **Student Survey Results:** In response to student satisfaction survey question regarding student satisfaction with the examinations and evaluation process in the selected universities and colleges, 90 per cent (out of 456 students) and 81 per cent (out of 1,529 students) students respectively were dissatisfied/Partially satisfied. In selected universities and colleges 71 per cent (out of 456 students) and 62 per cent (out of 1,529 students) students respectively accepted that the revaluation fee was extra financial burden.

3.2 Contribution to Society by creating new knowledge through effective Research

Research capacities¹⁵ need to be consciously developed in the colleges. Colleges and their teachers should be encouraged and supported in taking up research including generation of innovative teaching-learning material. Multi-disciplinary mission mode research and innovation programmes should be evolved in arts, humanities and social sciences which should directly benefit the society at all levels and contribute to economic development.

¹⁵ As per paragraph 7.1 of Report on 'Inclusive and Qualitative Expansion of Higher Education' issued under 12th FYP.

In this section, audit findings related to research projects and extension activities in the test checked HEIs are discussed. Further, results of selected four indicators (three related to research activities and one related to extension activities) are also discussed. These indicators have been taken from the key indicators used by NAAC during assessment and accreditation process of HEIs.

3.2.1 Issues related to Research activities

3.2.1.1 Performance of universities based on outcome indicators

Audit assessed performance of three test checked universities in effective research activities through three outcome indicators on the basis of NAAC benchmarks. The information is provided in **Table 3.12** (Details of indicators are given at Sl. Nos. 23, 24 and 25 in **Appendices 1.1 & 1.4**), Audit findings in respect of these indicators are discussed in the succeeding paragraphs.

Table 3.12: Performance of test checked universities with respect to indicators

Sl. No.	Outcomes indicators	NAAC benchmark for maximum four marks	Performance of the test checked universities with reference to NAAC benchmarks (marks ¹⁶ obtained)		
			PU, Patiala	GNDU, Amritsar	RGNUL, Patiala
1.	Number of patents awarded to the institution during 2015-2020	20 and above	1	2	0
2.	Number of research papers per teacher in the journals notified on UGC website during 2015-2020	10 and above	2	4	2
3.	Number of teachers awarded international fellowship for advanced studies/research during 2015-2020	40 per cent and above	0	1	0

Source: NAAC manual and Audit analysis

3.2.1.2 Volume of research grant, research projects undertaken and patents awarded to test checked HEIs

Paragraphs 7.1 and 7.1.19 (a) of Report on ‘Inclusive and Qualitative Expansion of Higher Education’ issued under the 12th FYP state that adequate funding and initiatives/schemes need to be developed for research activities in HEIs. Para 3.4 of NAAC Manual provides that quality research outcome is beneficial for the discipline, society, industry, region and nation.

In this context, the grants received for research, its utilisation, completed research, patents and consultancy services in test checked HEIs during 2015-2020 is given in **Table 3.13**:

¹⁶ Marks have been allotted by Audit as per university’s performance on selected indicators and comparing it with benchmarks derived by analysing scoring pattern of universities accredited by NAAC (**Appendices 1.1 & 1.4**).

Table 3.13: Position of receipt and utilisation of grants for research activities in Universities during 2015-2020

(₹ in crore)

Name of University	Approved grant	Grants received from		Utilisation of grants received from		Research projects undertaken	Research projects completed	Outcome of research	
		Govt. sources	Total grants	Govt. sources	Total grants			Patent	Consultancy
PU, Patiala	16.64	11.98	11.98	9.53 (79.54)	9.53 (79.54)	73	39	1	0
GNDU Amritsar	27.93	20.49	20.49	17.30 (84.43)	17.30 (84.43)	106	60	7	11
RGNUL, Patiala	0.10	0.10	0.10	0.10	0.10	1	1	NA	NA

*Source: Information provided by concerned university. NA: Not applicable**Note: Figures in parenthesis indicate percentage.*

From the above table it can be seen that:

- PU, Patiala had undertaken 73 research projects during 2015-2020. For these projects ₹ 16.64 crore were approved by UGC/ State Government/ other central funding agencies, out of which, an amount of ₹ 11.98 crore was actually released. Out of 73 projects, only 39 projects (53.42 per cent) were completed after incurring of ₹ 9.53 crore only. Out of total completed projects, only one patent¹⁷ was awarded and no consultancy services were provided.
- In GNDU, Amritsar, 106 research projects were undertaken for which grants of ₹ 27.93 crore were approved by UGC, State Government and other central funding agencies during 2015-2020 against which ₹ 20.49 crore were released. Out of 106 projects, 60 projects (56.60 per cent) were completed after utilising ₹ 17.30 crore. Out of the total completed projects, only seven patents¹⁸ were awarded and 11 consultancy services were provided during the last five years.
- In RGNUL, Patiala only one project¹⁹ was undertaken and completed timely for which no patent was required.
- Out of 38 test checked colleges, in three²⁰ colleges, three research projects were undertaken and completed. However, neither any patent were awarded nor any consultancy services were provided. Thus, none of the colleges was eligible for scoring any marks with respect to indicator 'Number of patents awarded to the institution during 2015-2020' (Sr. No. 23 of Appendices 1.1 & 1.4).

¹⁷ A bioengineered Aqueous Dispersible Formulation derived from Kinnow (Mandarin) processing wastes as a poultry feed supplement.

¹⁸ (i) AZA-Heterocyclic Based Compounds as Highly effective Anti-inflammatory agents; (ii) Conjugates of N-Benzylpyrole or N-Benzoylpyrole with Indolinone as highly Effective Anti-Cancer Agents; (iii) Sound proofing testing equipment; (iv) Thermal proofing testing equipment; (v) Germination chamber to observe plant growth in laboratory; (vi) Cooling assembly for laboratory use; and (vii) Mordant composition for textile dyeing.

¹⁹ Human rights education in schools in India: A comparative study of syllabus prescribed by State Education Boards

²⁰ (i) Government College, Rupnagar; (ii) Government Bikram College of Commerce, Patiala; and (iii) Multani Mal Modi College, Patiala.

The PU, Patiala stated (August 2021) that revised data in respect of whole university would be furnished for evaluation but did not provide the data. GNDU, Amritsar replied (August 2021) that patents were produced from the research in science discipline. The Department admitted (August 2021) that there were no regular faculty and no such funds were granted.

3.2.1.3 Teachers' contributions to Research in HEIs

(A) Research papers/books and chapters published and granted seed money²¹

The strategic framework of 12th FYP seeks to bring excellence in higher education by building synergies between teaching and research to promote excellence in both. Research acumen in an institution is an evolving feature reflecting various research output with clear rewards such as doctoral, post-doctoral, project inventions and discoveries, number of patents obtained and number of research publications.

Further, the NAAC during accreditation of an institution allots scores for number of research papers per teacher published in UGC notified Journals and number of books and chapters in edited volumes/books published per teacher.

The details of number of research papers published in UGC notified journals and number of books and chapters published in edited volumes in PU, Patiala, GNDU, Amritsar and RGNUL, Patiala during 2015-2020 is detailed in **Table 3.14** (Details of indicator is given at Sl. Nos. 30 of *Appendices 1.1 & 1.4*).

Table 3.14: Number of research papers published in UGC notified journals and number of books and chapters in edited volumes/books published during 2015-2020

Name of university	Average of full time teachers	No. of teachers, who were given seed money for research	Papers published in UGC notified journals during 2015-2020		Books & chapters in edited volumes/published, and papers in national/international conference proceedings	
			Total Papers published	Papers published per teacher	Total published	Published per teacher
1	2	3	4	5 (4/2)	6	7 (6/2)
PU, Patiala	849	0	3,464	4	702	1
GNDU, Amritsar	453	0	4,585	10	945	2
RGNUL, Patiala	33	2	120	4	155	5

Source: Information provided by concerned university

It can be seen from the above table that:

- In PU, Patiala, GNDU, Amritsar and RGNUL, Patiala on an average 4 papers, 10 papers and 4 papers per teacher were published, respectively, in UGC notified journals during 2015-2020.

²¹ Funds provided to a teachers or group of teachers by the institution to get the research initiated to facilitate the preparation of formal research proposal for funding.

- In PU, Patiala, GNDU, Amritsar and RGNUL, Patiala on an average one, two and five books and chapters per teacher were published, respectively, in edited volumes/ books and papers in national/international conference proceedings during 2015-2020.
- The seed money was provided to two teachers only in RGNUL, Patiala during 2015-2020.
- Out of 34²² selected colleges, only in 18 colleges, average 0.05 to 5.72 papers per teacher were published in UGC notified journals during 2015-2020 (**Appendix 3.7**). Out of these, one college was eligible for scoring two marks and seven colleges were eligible for scoring one marks and remaining ten colleges were not eligible for scoring any mark as per NAAC indicator (**Sr. No. 24 of Appendices 1.1 and 1.4**).
- Out of 34 selected colleges, in 18 colleges, per teacher publications of books and chapters in edited volumes/books and papers in National/International conference proceedings was ranging between 0.03 and 3.04 during 2015-2020 (**Appendix 3.7**). Out of these, six colleges were eligible for scoring one marks and remaining 12 colleges were not eligible for award of score as per NAAC indicator (**Sr. No. 30 of Appendices 1.1 and 1.4**).
- Out of 34 colleges, only in two colleges²³ seed money amounting to ₹ 5.40 lakh was provided to teachers.

The GNDU, Amritsar and RGNUL, Patiala stated (March 2021 and November 2020) that the seed money was not demanded by the faculty. PU, Patiala did not submit any reply. The colleges replied (December 2020 to March 2021) that sufficient funds were not provided by the State government to provide seed money. This indicates inadequate contribution to research in enhancing the quality of education in HEIs.

(B) Number of teachers awarded International fellowship

To assess the encouragement and exposure given by test checked HEIs to teachers to undertake research and number of full time²⁴ teachers awarded International fellowship for advanced studies/research during 2015-2020 was used as an indicator.

Analysis of data of test checked universities²⁵ for the period 2015-2020 revealed the following:

- In PU, Patiala, out of total 4,247 full time teachers, only 17 i.e. 0.40 *per cent* were awarded international fellowship for advanced studies/research during 2015-2020.

²² Four colleges were newly opened and did not qualify under this indicator.

²³ (i) Guru Nanak Dev College, Kilianwali, Sri Muksar Sahib (₹ 1.40 lakh); and (ii) GGN Khalsa College, Ludhiana (₹ 4.00 lakh).

²⁴ The year wise total of fulltime teachers during 2015-2020.

²⁵ This indicator was not applicable in respect of colleges.

- In GNDU, Amritsar, out of total 2,265 full time teachers, only 350 i.e. 15.45 *per cent* were awarded international fellowship for advanced studies/research during 2015-2020.
- In RGNUL, Patiala, out of total 165 full time teachers, only three i.e. 1.81 *per cent* were awarded international fellowship for advanced studies/research during 2015-2020.

The PU, Patiala stated (April 2021) that matter would be examined. RGNUL, Patiala stated (April 2021) that the observation was noted for future compliance to encourage the teachers.

3.2.2 Extension activities in collaboration with industry, community etc., and student participation

Learning activities have a visible element for developing sensitivities towards community issues, gender disparities and social inequity and in inculcating values and commitment to society. Affiliation and interaction with groups or individuals who have an interest in the activities of the institution and the ability to influence the actions, decisions, policies, practices or goals of the organisation lead to mutual benefit to both.

In order to assess the extent to which industry has been consulted or has provided sponsorship and funding, in a collaborative environment, the efforts made by test checked universities in conducting extension and outreach programmes conducted in collaboration with industry, community and NGOs (NCC/NSS/Red Cross etc.) and number of students participating in these activities have been scrutinised.

The details of number of extension and outreach activities conducted and participation of students in selected universities during 2015-2020 is given in **Table 3.15:**

Table 3.15: Number of extension and outreach programmes and participation of students during 2015-2020

Name of University	Total number of extension and outreach programmes conducted during 2015-2020	Total students	Students participated	Average percentage of students participated in extension and outreach programmes conducted during 2015-2020
1	2	3	4	5
PU, Patiala	264	70,925	20,235	28.53
GNDU, Amritsar	17	50,800	635	1.25
RGNUL, Patiala	95	934	934	100

Source: Universities data

From the above table it was evident that:

- In PU Patiala, GNDU, Amritsar and RGNUL, Patiala, 264, 17 and 95 extension and outreach programmes were conducted respectively under National Service Scheme (NSS). Further, in these programmes 20,235 (28.53 *per cent*), 635 students (1.25 *per cent*) participated in PU, Patiala and GNDU, Amritsar, respectively, whereas in RGNUL, Patiala 100 *per cent* students participated in these programmes during 2015-2020.

- Out of 38 selected colleges, in 31 colleges, 1,807 extension and outreach programmes (ranging between 1 and 310) were conducted in which 1,25,082 students (ranging between 2 and 100 *per cent*) participated, however, no such programmes was conducted in three colleges and four colleges were newly opened (*Appendix 3.8*).

3.2.2(i) Evaluation through indicators (Sl. No. 8 & 29 of Appendices 1.1 & 1.4):

(A) For the NAAC indicator of conducting extension and outreach programmes PU, Patiala was eligible for award of maximum score (4 marks) whereas RGNUL, Patiala and GNDU, Amritsar were eligible for three and zero marks respectively. Similarly, out of 34 colleges, six colleges were eligible for scoring maximum marks (four) whereas four colleges were eligible for scoring marks ranging between two and three where as 24 colleges were not eligible for scoring any marks.

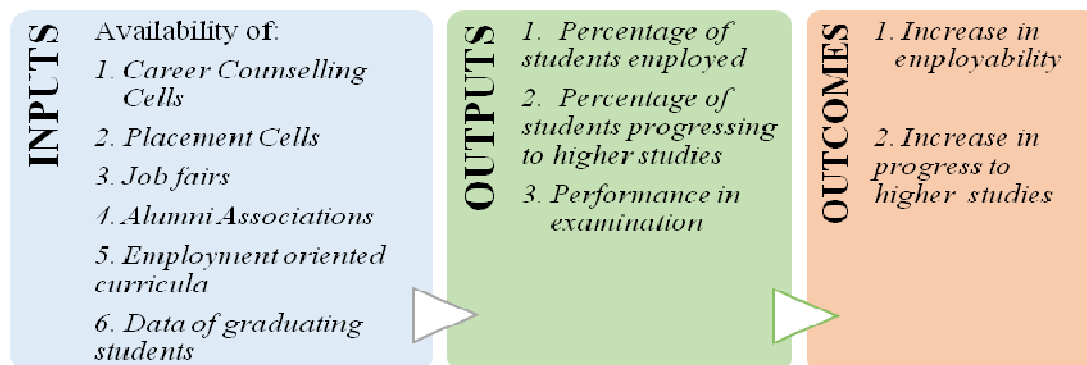
(B) In respect of NAAC indicator of participation of students in extension activities, RGNUL, Patiala was eligible for scoring maximum marks (four), PU, Patiala was eligible for award of three marks and GNDU, Amritsar was eligible for 'Zero' marks. Similarly, out of 34 colleges, 15 colleges were eligible for scoring maximum marks (four) whereas five colleges were eligible for scoring marks ranging between one and three. 14 colleges were eligible for 'Zero' marks.

The GNDU, Amritsar admitted (August 2021/ September 2021) the facts and assured to improve extension activities to qualify/ achieve NAAC benchmark and the process had been initiated. The DPI assured that matter would be taken up with the colleges.

3.3 Student Progression towards Employment and Higher Studies

This section discusses higher education outcome related to students that is, increasing student progression to employment and higher studies. Audit assessed contributing factors and institutional initiatives in increasing student progression to employment and higher studies.

The relationship between student progression and the various factors contributing towards it can be understood through the following representation:



Student progression, besides quality of education imparted, is directly dependent on existence and effective functioning of a number of facilitating mechanisms including career counselling cells, placement cells, alumni associations, job fairs and proper maintenance of data of graduating students. Placement and career counselling cell and alumni association help the students with appropriate guidance to establish linkages with industries and locate career opportunities vis-à-vis the realities and job profiles in the context of highly competitive emerging occupational patterns. Additionally, employability is also enhanced through curricular aspects such as employment focused courses, internships and field projects etc.

3.3.1 Employability

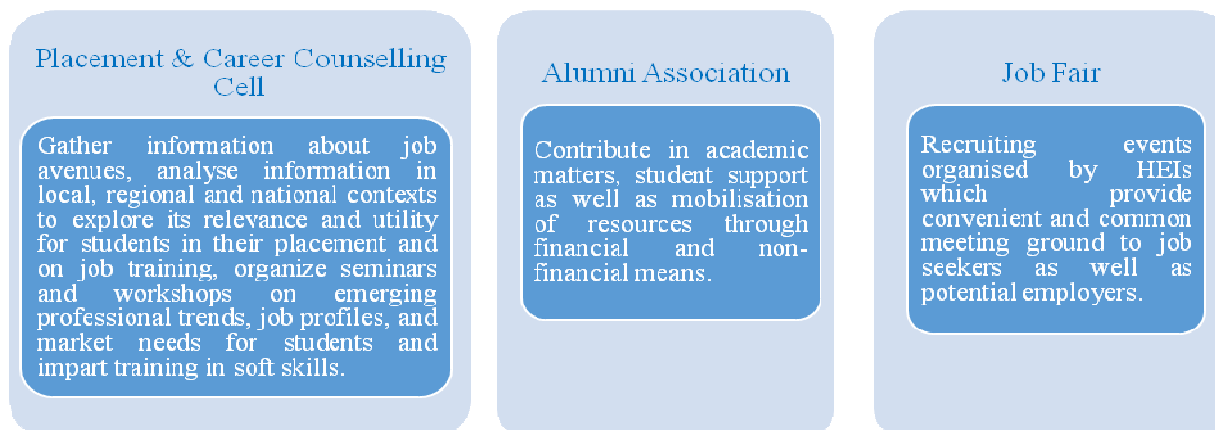
The International Labour Organisation defines employability as the presence of skills, knowledge and competencies that enhance a worker's ability to secure and retain a job, progress at work and cope with change. Individuals are most employable when they have broad-based education and training, basic and portable high-level skills including teamwork, problem solving, Information and Communications Technology (ICT) and communication and language skills.

As per India Skills Report²⁶ 2020, at all India level, B.Sc, B.A and B.Com undergraduate programmes have provided on an average 37.47 *per cent*, 32.34 *per cent* and 31.86 *per cent* of employable graduates respectively during the period 2014-2020. Conversely, more than 60 *per cent* of the general stream graduates were not employable. This makes a strong case for setting up of a well-functioning job facilitation system in all HEIs providing higher education in general streams.

Presence of job oriented facilitators such as placement cell, career counselling cell and alumni association in HEIs is essential in two ways. Firstly, they play an integral role in enhancing the potential of job aspirants in identifying the right areas of employment, honing their skills and getting accepted by recruiters. On the other hand, they also provide a platform to potential employers to access vast pool of trained human resource.

²⁶ India Skills Report is a joint initiative by Wheebox and People Strong in collaboration with the Confederation of Indian Industry (CII) along with partners like UNDP, AICTE, and AIU. This report is a combination of an assessment of 3,00,000 candidates from 3,500 educational institutes across 28 States and 9 Union Territories of India, and more than 150 corporates spread across 9 Industry sectors. This is the seventh edition of the Report with annual editions being released since 2014.

Chart 3.2: Job facilitating mechanism



The gaps in perception about the market demands and individual expectations could be bridged through effective working of such mechanisms.

Audit of test checked HEIs in respect of job facilitating mechanisms brought forth the following observations:

3.3.2 Employability and progress to higher studies

Increase in employability and progress to higher studies were identified as the most important outcomes that students expect from Higher Education. Para 5.2 of NAAC Manual provides that the Institution's concern for student progression to higher studies and/or to employment is a pertinent issue. Sustainable good practices which effectively support the students facilitate optimal progression by establishing Placement Cells, Career Counseling Cells (CCC), alumni associations and proper maintenance of data of graduating students. NAAC also considers these factors as key criteria in its process for assessment and accreditation of HEIs. The audit findings related to these factors affecting employability and progression to higher studies have been discussed in the succeeding paragraphs.

3.3.2.1 Indicators based evaluation of employment oriented curricular aspect

Audit assessed performance of three test checked universities with respect to existence and outcomes of Placement Cells, CCC and alumni associations through five outcomes indicators on the basis of NAAC benchmarks as given in **Table 3.16** (Details of indicators are given at Sl. Nos. 11, 27, 28, 3 and 4 **Appendices 1.1 & 1.4**). Audit findings in respect of these indicators are discussed in the succeeding paragraphs.

Table 3.16: Performance of test checked universities with respect to indicators

Sl. No.	Outcomes indicators	NAAC benchmark for maximum four marks	Performance of the test checked universities with reference to NAAC benchmarks (marks ²⁷ obtained)		
			PU, Patiala	GNDU, Amritsar	RGNUL, Patiala
1.	Average percentage of placement of outgoing students during 2015-2020	20 per cent and above	0	3	3
2.	Average percentage of students benefited by guidance for competitive examinations and career counseling offered by the institution during the last five years	40 per cent and above	0	0	0
3.	Number of alumni associations/ chapters meetings held during last five years.	10 and above meetings	1	2	2
4.	Percentage of student progression to higher education during 2019-20	20 per cent and above	NA	1	NA
5.	Average percentage of students qualifying in State/National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)	30 per cent and above	NA	NA	NA

Source: NAAC manual and Audit analysis

NA: Information not available since the concerned universities did not maintain the data.

3.3.2.2 Constitution of Placement Cell

During audit of the three selected universities and 38 government/private colleges affiliated with the respective universities, it was observed:

The Placement Cells existed in all the selected universities and out of 38 colleges, it was found in ten colleges only (*Appendix 3.9*). In three²⁸ colleges, there was no pass out batch and in 25 colleges the placement cell was not formed.

The colleges attributed (February- March 2021) non-constitution of placement cells to shortage of funds, running of traditional/non-professional courses & non-vocational courses and less skill based programmes etc. The responses of the colleges show their reluctance in constitution of placement cells as an institutionalised mechanism as per spirit of NAAC.

²⁷ Marks have been allotted by Audit as per university's performance on selected indicators and comparing it with benchmarks derived by analysing scoring pattern of universities accredited by NAAC (*Appendix 1.4*).

²⁸ (i) Government College (Girls), Jamalpur, Ludhiana; (ii) Rayat Bahra College of Law, Bohan; and (iii) Government College, Jadla, SBS Nagar.

3.3.2.2(i) Outcome of Placement Cell:

Job placement of students refers to a student getting employment through various efforts i.e. job fair made by the institution before the students complete their study. The number of students got placement through Placement Cell are given in **Table 3.17** below:

Table 3.17: Students got placement

Figures in number

Name of University	Average outgoing students ²⁹	Average Student participated	Average Student got placement	Percentage out of	
				Participated	Outgoing
PU, Patiala	59,706	710	382	54	0.64
GNDU, Amritsar	3,544	1,555	648	42	18
RGNUL, Patiala	169	127	28	22	17

Source: Departmental data

- From the above table, it was evident that students ranging between 22 and 54 *per cent* of participated students got placement through Placement Cell.
- Further, in 10 out of 38 selected colleges, Placement Cell was constituted and outgoing students, got placement in various jobs, on an average ranging between 0.14 and 75.71 *per cent* during 2015-2020 (**Appendix 3.9**). As per NAAC indicator (**Sl. No. 11 of Appendices 1.1 and 1.4**), one college was eligible for scoring maximum marks (four) and one college was eligible for two marks whereas remaining eight colleges got 'Zero' marks.

The GNDU, Amritsar assured (September 2021) to maintain the data. RGNUL, Patiala stated (August 2021) that it ran professional courses where placement did not mean only getting the employment. The Department admitted (August 2021) the facts in respect of colleges and assured to improve in the matter.

Thus, despite the fact that Placement Cell played a crucial role in achieving the desired outcome of employability, the assessment of their functioning revealed that either these were not performing in respect of majority of colleges or, if they were in existence, they were able to place only a small number of registered students in job.

3.3.2.3 Career Counseling Cell

National Assessment and Accreditation Council provides that effective facilitating mechanism like CCC should be in place at the HEIs to support students in the development of soft skills and communication ability to meet the rigors of competitive tests. The importance of CCC was also addressed in UGC guidelines.

²⁹ NAAC formula= Total students passed in five years/5.

It was observed that in selected universities the CCC was constituted and the average students enrolled with CCC vis-à-vis placement during 2015-2020 is given in **Table 3.18** below:

Table 3.18: Students enrolled with CCC and qualified exams

Figures in number

Name of University	Total students 2015-2020	Average students 2015-2020	Total benefitted 2015-2020	Average benefitted 2015-2020	Average percentage benefitted 2015-2020
PU, Patiala	70,923	14,185	2,076	415	3
GNDU, Amritsar	50,841	10,168	355	71	0.70
RGNUL, Patiala	4,122	824	99	20	2

Source: Universities data

- It is evident from the above table that out of total students enrolled with CCC for guidance, students ranging between 0.70 and 3 per cent were benefitted during 2015-2020.
- It was further observed that in GNDU, Amritsar the number of students enrolled for preparation of Civil Services Exam (Union or State) declined from 123 in 2015-16 to 32 in 2019-20.
- Out of 38 selected colleges, during 2015-2020, CCC existed in fourteen colleges only. Out of which, one³⁰ college was not maintaining the data regarding CCC (**Appendix 3.10**). As per NAAC indicator (**Sl. No. 27 of Appendices 1.1 and 1.4**), one college was eligible for award of maximum score (four) and five colleges were eligible for award of score ranging between one and three whereas remaining seven colleges were not eligible for award of any marks

GNDU, Amritsar attributed (December 2020) the reason for low enrolment in the CCC to fluctuation of timing of targeted examination. RGNUL, Patiala stated that it being a professional university less students preferred to enroll with CCC. The college authorities where CCC was not constituted admitted the facts and stated (December 2020 to February 2021) that the counseling was being done in regular classes/seminars/external lectures. The PU, Patiala did not submit any reply.

Thus, keeping in view the non-existence/inadequate functioning of CCC and lack of monitoring by the educational institutions, the objective of the functioning of CCCs to provide crucial guidance to students could not be achieved.

³⁰ Shree Atam Vallabh Jain College, Ludhiana.

3.3.2.4 Alumni Association

Para 5.4 of NAAC Manual provides that the Alumni are a strong support to the institution. An active Alumni Association can contribute in academic matters, student support as well as mobilisation of resources.

Audit analysed the data of selected universities as well as selected colleges and observed the followings:

- In PU Patiala, only two meetings of Alumni Association were conducted during 2015-2020 and a meagre financial contribution³¹ was received from alumni association during 2018-19 only.
- In GNDU, Amritsar, alumni association organised six meetings and got lectures delivered by some highly placed alumni members to its students, however, no financial help was received during 2015-2020.
- In RGNUL, Patiala alumni association organised four meetings during 2015-2020 and received financial contribution ranging from ₹ 5.35 to ₹ 10.95 lakh.
- Out of selected 38 colleges, in 17 colleges Alumni Association existed. In these colleges, meetings ranging between three and 33 were held during 2015-2020 in which financial contribution ranging from ₹ 0.15 lakh to ₹ 32.28 lakh was received (**Appendix 3.11**). Thus, as per NAAC indicator (**Sl. No. 28 of Appendices 1.1 and 1.4**), one college was eligible for award of maximum score (four) and 16 colleges were eligible for scoring marks ranging between one and three.

The authorities of GNDU, Amritsar, RGNUL, Patiala and Department admitted (August 2021) the facts and assured to take care of it in future. However, PU, Patiala did not submit any reply.

- **Student survey result:** In response to student satisfaction survey's question, "How satisfied are you with the initiatives for employability taken up by the institution by Placement Cell, Career Counseling etc.?" students ranging between 9 per cent and 29 per cent of selected universities and colleges expressed dissatisfaction/partial satisfaction.

Thus, HEIs should focus more on institutional mechanisms for increasing employment opportunities and undertaking initiatives to improve job prospects so that more students may avail these basic facilities to widen their professional horizon and enhance their chances of securing meaningful careers.

³¹ Rupees Ten thousand only.

3.3.2.5 Progress to higher studies

In order to assess how well test checked universities and colleges did in sending their students for higher studies, the outcome indicator ‘Increase in percentage of students progressing to Higher Education during 2019-20 (current year)’ was evaluated.

It was observed that RGNUL, Patiala was not maintaining such data. Data analysis of selected Department of PU, Patiala and GNDU, Amritsar (whole university) and colleges revealed the following:

- In PU, Patiala, 17 out of 21 test checked departments, students who progressed to higher studies ranged from 3.37 *per cent* to 88.65 *per cent* during 2019-20.
- In GNDU, Amritsar, 172 (six *per cent*) out of 3040 students who appeared in final examinations progressed to higher studies during 2019-20 as per Annual Quality Assurance Report for 2019-20.
- Out of 38³² test checked colleges, in 11 colleges the students who progressed to higher education were ranging between 2.08 and 69.44 *per cent*. In 24 colleges, data related to the indicator was not maintained (*Appendix 3.12*). As per NAAC indicator (*Sl. No. 3 of Appendices 1.1 and 1.4*), seven colleges were eligible for scoring maximum marks (four) and three colleges were eligible for scoring marks ranging between one and three, whereas one college got ‘Zero’ marks.

The Universities and the Department admitted (August 2021) the facts and stated that the students after completion of the course were under no obligation for providing information regarding their progress to Higher Education. Further, the Department also assured that the colleges would be directed to get such data and needful would be done in future.

Thus, GNDU, Amritsar did not match the NAAC benchmark. However, due to non-maintenance of relevant data by other institutions, the Audit could not evaluate the performance of all institutions on NAAC indicator.

3.3.2.6 Qualifying in Competitive Examinations

Competitive examinations held at the national and state levels provide immense opportunities for student progression. A number of competitive examinations are held for graduating students to qualify for employment or for progressing to higher studies. Audit observed that the three test checked universities did not maintain data of students who qualified in state/national/international level examination during 2015-2020 in their campus as well as selected colleges.

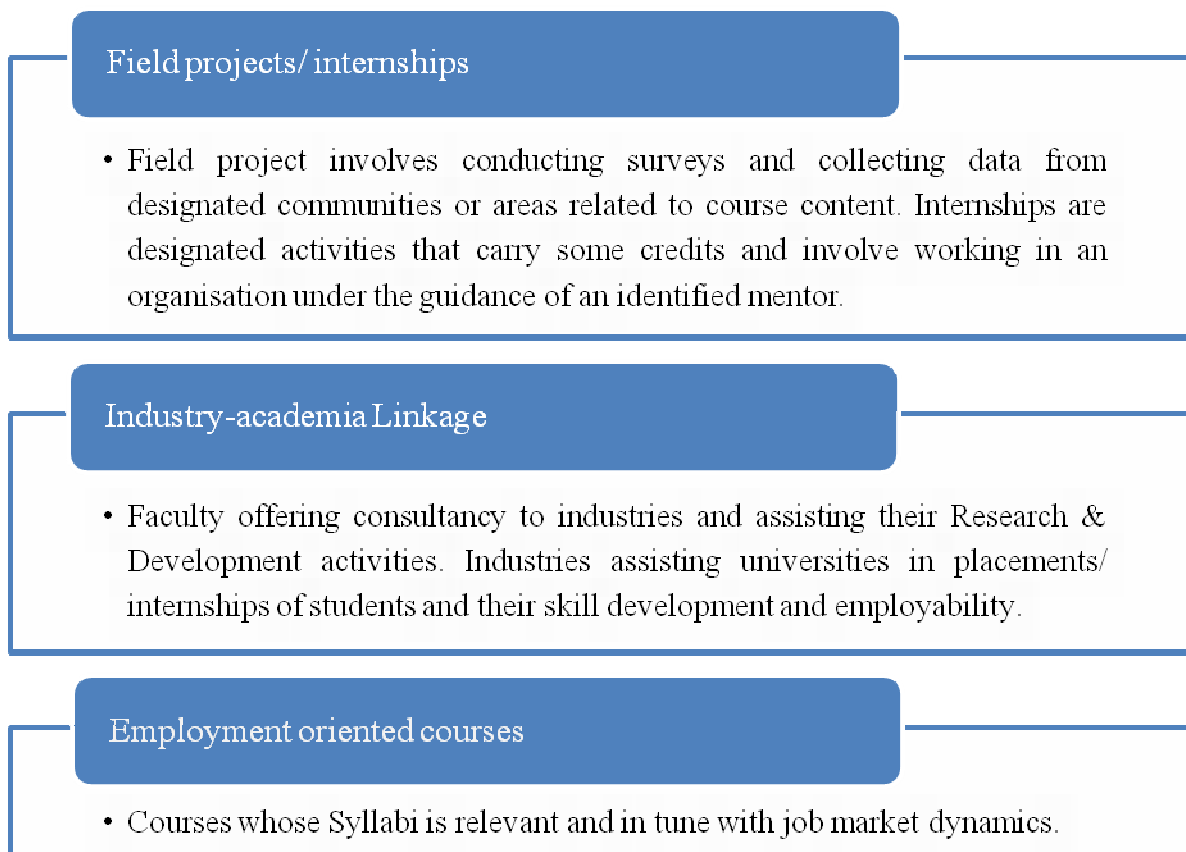
³² Three colleges were newly opened and have no pass out batch.

Thus, due to non-maintenance of required data, Audit could not measure and comment on the performance of all the test checked universities and colleges with respect to indicator 'Average percentage of students qualifying in State/National/ International level examinations during the last five years (e.g: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/ State Government examinations).

3.4 Enhancement of employability

The India Skills Report states that employers preferred positive attitude, adaptability, learning ability and interpersonal skills in a job seeker. Also, employability of HEI students is enhanced if they are given the opportunity to take part in job oriented activities such as employability enhancement programmes and field projects/internships. Employment prospects are further improved if curricular aspects such as employment focused courses are offered to students. Another important aspect is Industry-academia engagement³³. It carries the idea of mutuality and sharing of knowledge and expertise. **Chart 3.3** depicts the various aspects involved in employment enhancement.

Chart 3.3: Employment enhancement oriented aspects



³³ As per UGC guidelines for establishment of University-Industry inter linkage centres.

3.4.1 Indicators based evaluation of employment oriented curricular aspect

Audit assessed performance of three test checked universities on number of courses/new courses focused on employability, students undertaking field projects and number of functional MoU through three outcomes indicators on the basis of NAAC benchmarks. The information is provided in **Table 3.19** below (Details of indicators are given at Sl. Nos. 1, 2, and 10 in **Appendices 1.1 and 1.4**), Audit findings in respect of these indicators are discussed in the succeeding paragraphs.

Table 3.19: Performance of test checked universities with respect to indicators

Sl. No.	Outcomes indicators	NAAC benchmark for maximum four marks	Performance of the test checked universities with reference to NAAC benchmarks (marks ³⁴ obtained)		
			PU, Patiala	GNDU, Amritsar	RGNUL, Patiala
1.	Average percentage of courses having focus on Employability etc., during 2014-2019	50 per cent and above	4	4	4
2.	Number of MoUs executed with industry and national/ international institutions	30 per cent and above	3	4	4
3.	Percentage of students undertaking field projects/ internships during 2018-19	10 per cent and above	4	3	4

Source: NAAC manual and Audit analysis

3.4.2 Courses having focus on Employability/ Entrepreneurship/Skill development

As per paragraph 4.3 of Report on ‘Inclusive and Qualitative Expansion in Higher Education’ issued under 12th FYP, syllabi should be made relevant in tune with job market dynamics. Since the specific parameters that underscore employability focus in a course are not clear and HEIs also did not inform about the parameters they chose in this regard, the actual status of the parameter/indicator could not be assessed in audit.

It was observed that on average 324 courses, 223 courses and four courses were offered by PU, Patiala, GNDU, Amritsar and RGNUL, Patiala respectively during 2015-2020. As per information provided by the selected universities 100 per cent of courses were having focus on employability/ entrepreneurship/skill development during 2015-2020. The universities also added that after completing the courses from the universities, all the students become eligible for appearing in competitive examination which provides employment.

³⁴ Marks have been allotted by Audit as per university’s performance on selected indicators and comparing it with benchmarks derived by analysing scoring pattern of universities accredited by NAAC (**Appendix 1.4**).

3.4.3 Industry-academia connect

Academia produces graduates who are absorbed by industry. Industry-academia engagement between universities and industries carry the idea of mutuality and sharing of knowledge and expertise. In order to assess the performance of test checked universities in collaborative activities, the key outcome indicators related to extent of industry-academia connect were evaluated.

Scrutiny of records of test checked universities and 38 colleges revealed the following:

- The PU, Patiala; GNDU, Amritsar; and RGNUL, Patiala executed 26, 37 and 46 MoU respectively, for *Collaborative Activities* under University Industry Linkage Programme with other educational institutions and industries.
- None of the test checked colleges could collaborate with other institution/ industries during 2015-2020 to derive benefits from this collaboration, such as, revision of course curriculum, funding for relevant research work, assistance towards student internships and placements etc. Thus, as per NAAC indicator (*Sl. No. 2 of Appendices 1.1 and 1.4*), all the selected colleges were not eligible for scoring any marks.

The PU, Patiala assured (August 2021) to enhance the number of MoUs in near future. The Department admitted the facts and assured that in future the research work would be improved.

Thus, lack of collaborative activities with academia or industries deprived colleges of benefits expected from such collaboration and MOUs like, funding for relevant research work, assistance towards students internship, placements and training, etc.

3.4.4 Students undertaking field projects/internships

The NAAC Manual defines field projects that students need to undertake, these projects involve conducting surveys outside the college/university premises and collection of data from designated communities or natural places in current academic year and last five years by University and College, respectively.

Audit analysed data of the three selected universities and 38 selected colleges for the current academic year which revealed that:

- In PU, Patiala, out of total 13,098 students, 2,750 (21 per cent) students undertook field project/ internship.

- In GNDU, Amritsar out of 11,085 students, 1,015 (9.16 *per cent*) students undertook field project/ internship.
- In RGNUL, Patiala out of 944 students, 397 (42.46 *per cent*) students undertook field projects/internship during 2019-20.
- Out of 38 selected colleges, in 14 colleges on average students ranging between 1 and 85 *per cent* undertook field projects/internship during 2019-20 (*Appendix 3.13*). As per NAAC indicator (*Sl. No. 10 of Appendices 1.1 and 1.4*), only four colleges were eligible for award of maximum score (four), nine colleges were eligible for scoring marks ranging between two and three whereas one college was not eligible for award of any score.

The Department admitted the facts and suggested (August 2021) that the universities should design the curriculum for which field projects/ internship may be compulsory.

Thus, the fact that 63 *per cent* colleges (24 colleges) had not opted for imparting practical learning to their students through field projects and in 26 *per cent* (10 colleges) the percentage of students who undertook field projects/internship was minimal thereby resulted in none of them were eligible to meet NAAC benchmark.

3.4.5 Discontinuance of vocational courses

The UGC had launched (February 2014) a scheme for skill development based higher education as part of college/university education leading to Bachelor of Vocational Courses (BVoC) degree with multiple entry and exit points. Under the scheme, HEI can operate any four BVoC for which UGC would provide financial assistance upto ₹ 2.20 crore. Being skill development courses, the HEIs were required to interact with industries and respective Sector Skill Council so that they remain updated on the requirement of the workforce for the local economy.

It was noticed that in one college,³⁵ UGC approved (August 2018) four BVoC³⁶ from the year 2018-19 and released ₹ 0.93 crore³⁷ (February 2019) out of ₹ 2.19 crore³⁸. Out of which only ₹ 37.35 lakh was spent by the college. In these courses, the college enrolled 85 students³⁹ during 2018-19.

³⁵ GGN Khalsa College, Ludhiana.

³⁶ (i) Web Technology and Multimedia; (ii) E-Commerce and Digital Marketing; (iii) Banking and Financial Services; and (iv) Retail Management.

³⁷ Start up assistance ₹ 25.00 lakh, Faculty and Staff ₹ 27.60 lakh and Operative/ Training Cost ₹ 40.00 lakh.

³⁸ Transportation, field visit, industrial visits, organising seminars/workshop/ faculty training programme.

³⁹ Retail Management: 26; Banking and Financial Services: 23; Web Technology and Multimedia: 20; and E-Commerce and Digital Marketing: 16.

Out of the four courses, the college discontinued (2019-20 session) two courses⁴⁰ after one session due to which the enrolled 49 students could not complete their graduation and got diploma only as UGC facilitated the students for multiple exit. Thus, the college failed to incur available grant and also to avail the balance grant of ₹ 1.26 crore as a result of which the benefit of skilled and employability of the scheme could not be availed by the students which could have been achieved if the courses were continued.

The College stated (February 2021) that this was due to insufficient enrolment of the students (UGC condition: minimum 20 students for each course) in the 2019-20 and 2020-21. The reply is not based on facts as another course⁴¹ with enrolment of less than 20 students was allowed to continue.

3.5 Performance of students in examinations

The NAAC Manual⁴² states that the real test of the extent to which teaching learning has been effective in a HEI is reflected in the student performance in the examinations. In this scenario, performance of students in examinations could also serve as a basic indicator because performing well in examinations is a necessary precursor for getting employment of choice and to exercise the option of higher studies.

In this context, test checked HEIs have been evaluated on the basis of examination results using as indicator, 'average pass percentage of students during 2019-20⁴³ (*Sl. No. 12 of Appendices 1.1 & 1.4*) in the absence of having any mechanism to keep the data related to employability and student progression to watch the performance of students in the examination at every stage from the entry level till the successful completion of a course/programme.

The results of data analysis relating to average pass percentage of all students who appeared in final year examinations in under-graduate and post-graduate programmes during 2019-20 in test checked HEIs is given in **Table 3.20**:

Table 3.20: Performance of students in final examinations during 2019-20

	PU Patiala	GNDU Amritsar	RGNUL, Patiala
Students appeared	76,630	3,040	218
Student passed	72,281 (94)	3,040 (100)	215 (99)

Source: Universities data

Note: Figures in parenthesis indicate percentage.

It could be seen from the table above that during 2019-20:

- Average pass percentage was highest in GNDU, Amritsar (100 per cent)

⁴⁰ (i) Banking and Financial Services; and (ii) Retail Management.

⁴¹ E-commerce and Digital Marketing: 16 students.

⁴² Para 2.6.

⁴³ Current academic year.

while it was 99 *per cent* in RGNUL, Patiala and PU, Patiala (including regional campuses and constituent/neighbourhood colleges), it was 94 *per cent*.

- Out of 38 selected colleges, in 23 colleges the pass percentage was more than 90 *per cent* and in 12 colleges it was ranging between 18.37 and 84.91 *per cent*. Three colleges were newly opened (*Appendix 3.14*).

3.5 (i) Evaluation through indicators (Sl. No 12 of Appendices 1.1& 1.4):

All the three selected universities were eligible for award of maximum score of 4 marks during 2019-20. Further, in respect of selected 38 colleges, 23 colleges were eligible for award of maximum score (four) and five college were eligible for award of marks ranging between one and three whereas seven colleges were not eligible for award of any score. Three colleges were newly opened.

The Department admitted the facts and assured (August 2021) to review the status of colleges where low pass percentage was observed to take further action. The reply of the Department was not convincing as no extra efforts were made by them to enhance the interest of the students towards Higher Education and also to increase the pass percentage of students in the examinations as per benchmark of NAAC.

3.6 Conclusions

- All selected universities revised syllabus of their programmes as per the prescribed procedure and were eligible for award of maximum score as per NAAC benchmark.
- In the selected universities, the percentage of teachers using ICT was ranging between 63 and 100 *per cent* whereas the Student Computer Ratio was ranging between 8:1 and 12:1. In the selected colleges, the Student computer ratio was ranging between 3:1 to 79:1 whereas the percentage of teacher using ICT was ranging between 3 and 100 *per cent*.
- Availability of teaching faculty was insufficient as GoP did not recruit the required number of regular teachers in Government colleges since 2000-01 which resulted in Student Teacher Ratio being as high as average 49:1, more than two times than its prescribed limit of 20:1. Percentage of contractual teaching staff was relatively high which ranged between 56 *per cent* and 70 *per cent* during 2015-2020. 35.88 *per cent* of the guest faculty did not possess the prescribed NET qualification in 38 test checked affiliated colleges.

- The centralised evaluation system was in place in Guru Nanak Dev University, Amritsar and Rajiv Gandhi National University of Law, Patiala. However, in selected universities, the students ranging between 32 per cent and 49 per cent got their marks modified upon revaluation during 2015-2020.
- Punjabi University, Patiala and GNDU Amritsar could complete only 53 per cent and 56 per cent research projects respectively during 2015-2020 whereas only three research projects were undertaken and completed in three selected colleges. Further, only eight patents could be awarded despite completion of 99 research projects in selected universities.
- The system of maintenance of data related to students' employment, students' progression to higher studies and students' performance in competitive examinations was almost non-existent at all levels of the higher education system in the state. Even in test checked colleges, such data was not being consistently maintained. Thus the main student outcome of 'employability and progression to higher studies' could not be adequately evaluated.
- Further, dysfunctional or non-existent job facilitating mechanism and lack of employment enhancement programmes meant that the students were deprived of the necessary assistance and facilitation needed for getting good jobs and exercising career choices which resulted in none of the selected universities was eligible for scoring maximum score under NAAC indicator.

3.7 Recommendations

- (i) *To keep pace with technological advancement and innovations in delivery of education, the HEIs should encourage teachers to use ICT teaching tools and make efforts to improve the student-computer ratio.*
- (ii) *In order to maintain prescribed Student Teacher Ratio and to provide quality education to the students in Government colleges, the State Government should expedite recruitment of regular teachers with qualification as prescribed in the UGC Regulations.*
- (iii) *The Universities should strengthen the system of evaluation to avoid/minimise the high percentage of alteration of marks/result during revaluation.*
- (iv) *Universities should ensure that all research projects are completed timely with due quality to extend gains to the society.*
- (v) *The State Government and universities should conduct relevant professional development programmes for the teachers regularly and*

should ensure that all the eligible teachers are provided training in these programmes.

- (vi) *Every HEI should constitute well-functioning placement cell, career counselling cell, and encourage a vibrant alumni association to facilitate graduating students in getting employment or to progress to higher studies.*