The Annual Quality Assurance Report (AQAR) of the IQAC

Part - A

1. Details of the Institution

1.1 Name of the Institution: Guru Nanak Dev University

1.2 Address Line 1: G. T. Road

City/Town: Amritsar

State: Punjab

Pin Code: 143005

Institution e-mail address: vcgndu@gmail.com

Contact Nos.: 0183 - 2258811

Name of the Head of the Institution: Prof. Jaspal Singh Sandhu

Tel. No. with STD code: 0183 - 2258811

Mobile: 9958840701

Name of the IQAC Co-ordinator: Prof. Renu Bhardwaj

Mobile: 9876214176

IQAC e-mail address: iqacgndu@gmail.com

1.3 NAAC Track ID: PBUNGN10009

1.4 NAAC Executive Committee No. & Date: EC(SC)/04/RAR/87 dated 10-12-2014

1.5 Website address: http://online.gndu.ac.in

1.6 Accreditation Details

| S. No. | Cycle | Grade | CGPA | Year of Accreditation | Validity Period |
|--------|-----------------------|-----------|------|--------------------------|--------------------|
| 1 | 1 st Cycle | Five Star | N.A | 2000 | 2005 |
| 2 | 2 nd Cycle | A | 3.50 | 2007 | 2012 |
| 3 | 3 rd Cycle | A++ | 3.51 | 2014 | 2021 |

1.7 Date of Establishment of IQAC: 25/11/2002

1.8 AQAR for the year: 2017-18(1st July 2017 to 30th June 2018)

1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC

This AQAR (2017-18) is the fourth report after the Assessment and Accreditation by NAAC Peer Team in November, 2014. AQAR (2016-2017) was submitted on 14th June, 2018.

1.10 Institutional Status

| University | State |
|--|----------------------------------|
| Affiliated College | No |
| Constituent College | No |
| Autonomous College of UGC | No |
| Regulatory Agency approved Institution | Yes |
| Type of Institution | Co- education & Urban |
| Financial Status | Grant-in-aid, UGC 2(f) & UGC 12B |

1.11 Type of Faculty/Programme

| Agriculture & Forestry | Yes |
|----------------------------------|-----|
| Arts & Social Sciences | Yes |
| Economics & Business | Yes |
| Education | Yes |
| Engineering & Technology | Yes |
| Humanities & Religious Studies | Yes |
| Languages | Yes |
| Laws | Yes |
| Life Sciences | Yes |
| Physical Education | Yes |
| Physical Planning & Architecture | Yes |
| Sciences | Yes |
| Sports Medicine & Physiotherapy | Yes |
| Visual Arts & Performing Arts | Yes |

1.12 Name of the Affiliating University (for colleges): N.A.

1.13 Special status conferred by Central/State Government

| Autonomy by State/Central Govt./University | Yes |
|--|----------------------|
| University with Potential for Excellence | Yes |
| DST Star Scheme | No |
| UGC-Special Assistance Programme | Yes |
| UGC-Innovative PG programmes | No |
| UGC-COP Programmes | No |
| UGC-CPE | No |
| UGC-CE | No |
| DST-FIST | Yes |
| Any other (Specify) | CPEPA- Life Sciences |

2. IQAC Composition and Activities

2.1 Chairperson (Head of Institute): 01

1. Prof. (Dr.) Jaspal Singh Sandhu, (Vice Chancellor)

2.2 Administrative Officers: 02

- 1. Prof. (Dr.) Kamaljit Singh, (Dean Academic Affairs)
- 2. Prof. (Dr.) Karanjeet Singh Kahlon, (Registrar)

2.3 Faculty Members: 08

- 1. Prof. Sarbjot Singh Behl, Department of Architecture
- 2. Prof. Hardeep Singh, Department of Computer Science
- 3. Prof. Jatinder Singh, Department of Molecular Biology & Biochemistry
- 4. Prof. Bikramjit Singh Bajwa, Department of Physics
- 5. Prof. Manoj Kumar, Department of Chemistry
- 6. Prof. Preet Mohinder Singh Bedi, Department of Pharmaceutical Sciences
- 7. Prof. Paramjit Kaur, Department of Chemistry
- 8. Prof. Shweta Shenoy, Department of MYAS Sports Science and Medicine

2.4 Management Member: 01

1. Prof.(Dr.) Gurpreet Bal, Department of Sociology(Syndicate Member)

2.5 Nominees from local Society/ Students/Alumni: 03

- 1. Dr. Inderjit Kaur, Chairperson, All India Pingalwara Society, Amritasr. (Nominees from local Society)
- 2. Ms. Palak Bakshi, Ph.D Scholar, Department of Botanical & Environmental Sciences. (Nominees from Student)
- 3. Dr. Manwinder Singh, Joint Director, Irrigation & Power Research Institute, Amritsar. (Nominees from Alumni)

2.6 Nominees from Employers/Industrialists/Stakeholders: 03

- 1. Prof. (Dr.) Narpinder Singh, Department of Food Science & Technology (Nominee from Employers)
- 2. Mr. Amit Gupta, Vice President, TCS Consultancy, Gurugram (Nominee from Industrialists)
- 3. Mr. Namit Juneja, Advocate, Amritsar (Nominee from Stakeholders/Parents)

2.7 Director IQAC (Member Secretary): 01

1. Prof. (Dr.) Renu Bhardwaj, Department of Botanical & Environmental Sciences.

2.8 Assistant Directors(IQAC): 02

- 1. Dr. Swati Mehta
- 2. Dr. Gagandeep Kaur Gahlay
- **2.9 No. of other External Experts:** Nil
- 2.10 Total No. of members: 21
- 2.10 No. of IQAC meetings held: 01
- 2.11 No. of meetings with stakeholders: 25
- 2.12 Has IQAC received any funding from UGC during the year? No

1.13 Seminars and Conferences (only quality related):

UGC – Human Resource Development Centre of the Guru Nanak Dev University, Amritsar organised following courses:

| Short | Term | Course | for | Non-Teaching | 23.1.2018 to 24.1.2018 |
|-------|---------|-----------|--------|--------------|------------------------|
| Emplo | yees of | the Unive | ersity | | |

2.14 Significant activities and contributions made by IQAC:

- The IQAC Advisory Committee was constituted for the current year (2018-2019).
- The IQAC participated in the in THE WEEK-Hansa Research Survey 2018-India's Best Universities and obtained 20th Rank among All India Top Multidisciplinary Universities and 7th Rank (among North-Zone Top Multidisciplinary Universities).
- All India Survey on Higher Education (AISHE) 2018 was submitted to MHRD, Department of Higher Education, and New Delhi.
- The IQAC also participated in the India Today- MDRA Best Universities Ranking 2018. The University was 20th ranked.
- Participated in Association of Commonwealth Universities (ACU) Survey.
- Annual Quality Assurance Report (AQAR) 2016-17 was prepared and submitted to NAAC.
- A proposal for Financial Assistance to organise National workshop on "Dynamism in Educational Aspirations: Role of IQAC in Institutions of Higher Education" was submitted to NAAC.
- A Two days Workshop for Academic Administrators was organised at HRDC, GNDU on 21-22 February, 2018 in which more than 30 participants participated.

- IQAC participated in one day Regional Workshop on "All India Survey on Higher Education (AISHE) 2017-18 for Northern States of India" on 8th June at Punjab University, Chandigarh.
- The MHRD "Study in India program has been initiated to attract International Hostel has been made available and Tuition fee waivers for this have been offered (25%, 50%, 100%).
- Under the MHRD *Unnat Bharat Abiyan* program, for transformational changes in Rural Development Processes by Academic Institutions, a Nodal Officer has been appointed.
- A MHRD Swatch Bharat Summer Internship Program has been initiated in University.
- A UGC-NAD (National Academic Depository) Program has been initiated at University for online store house of Academic Awards in a digital format.
- The office of IQAC participated in Alumni meet organised by the University on March 16, 2018.
- A Portal for collection of information from Teaching Departments of the University for the Annual Report has been prepared by IQAC.
- Component 4, 10, 12 and 13 submitted to the office of DSW for onward submission to Rashriya Uchchatar Shiksha Abhiyan (RUSA), Department of MHRD, and New Delhi.

2.15 Plan of action by IQAC/Outcome:

Some of the important plans of action and their achievements by IQAC are as follows:

Academic Calendar of the year is attached as Annexure II.

2.16 Whether the AQAR was placed in statutory body: The report will be placed in the Advisory Committee of IQAC and in University Senate Meeting.

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 | 37 | - | - | - |
| PG | 59 | - | - | - |
| UG | 22 | - | - | - |
| PG Diploma | 06 | - | - | - |
| Advanced Diploma | 05 | - | - | - |
| Diploma | 09 | - | - | - |
| Certificate | 06 | - | - | - |
| Others | 43 | - | - | - |
| Total | 187 | - | - | - |

| Interdisciplinary | 53 | |
|-------------------|----|--|
| Innovative | - | |

1.2 (i) Flexibility of the Curriculum:

| Flexibility of the Curriculum | Yes |
|-------------------------------|-----|
| Choice Based Credit System | Yes |
| Core | Yes |
| Elective Option | Yes |
| Open Options | Yes |

Credit-Based continuous Evaluation grading system (CBCEGS) has been adopted by the University, which includes Core courses, Elective/optional courses & Interdisciplinary (ID)/ Outside Department courses. Students can opt courses over and above the prescribed credits in order to allow enrichment.

(ii) Pattern of programmes:

| Pattern | Number of programmes |
|-----------|----------------------|
| Semester | 145 |
| Trimester | - |
| Annual | 05 |

1.3 Feedback from stakeholders (on all aspects):

| Alumni | Yes |
|-----------|-----|
| Parents | Yes |
| Employers | Yes |
| Students | Yes |

Mode of feedback:

| Online | Yes |
|--------------------------------|------|
| Manual | Yes |
| Co-operating schools (for PEI) | N.A. |

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

Yes, major revisions are made annually in the syllabi of every department.

Salient aspects:

All syllabi have been revised, reviewed and updated keeping in view the following:

- UGC guidelines and University norms.
- Syllabi of various National level competitive examinations.
- Current and prospective needs of industry and society.

1.5 Any new Department/Centre introduced during the year. If yes, give details: Yes MYAS-GNDU Department of Sports Sciences & Medicine

This department has been established in collaboration with the Ministry of Youth Affairs and Sports (MYAS), Government of India (GOI) in order to generate human resource specialized in the field of Sports Sciences in December 2017. Guru Nanak Dev University (GNDU) has been sanctioned a grant of 25 corers to establish and optimise the functioning of this department.

Criterion - II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty:

| Total | Assistant Professors | Associate Professors | Professors | Others |
|-------|----------------------|----------------------|------------|--------|
| 296 | 180 | 27 | 89 | - |

2.2 No. of permanent faculty with Ph.D: 223

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

| Assistant Professors | | | ociate fessors | Professors | | Others | | Total | |
|-------------------------|-----|---|-------------------|------------|----|--------|---|-------|-----|
| R | V | R | V | R | V | R | V | R | V |
| - | 230 | - | 126 | - | 74 | - | - | - | 430 |

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

| Guest and Visiting faculty | 6 |
|----------------------------|--------------|
| Temporary faculty | 407 (approx) |

2.5 Faculty participation in conferences and symposia:

| No. of Faculty | International level | National level | State level |
|------------------------------|---------------------|----------------|-------------|
| Attended Seminars/ Workshops | 03 | 78 | 61 |
| Presented papers | 08 | 110 | 78 |
| Resource Persons | 0 | 130 | 90 |

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

The University keeps on adopting various innovative/processes in order to attract enhance and groom the students learning capability and personality. Smart classes, hands on practical training across training across disciplines are emphasised in the university. To meet the challenges of the world, the curriculum is regularly updated while making the students important contributors. ICT has become an integral part of the University system for online depositing of fees, declaration of results to the conducting of day to day classes. The University has also initiated the processes to develop "Smart Classes" on the campus.

2.7 Total No. of actual teaching days during this academic year: 186

2.8 Examination/ Evaluation Reforms initiated by the Institution:

- ➤ Online Web Portal (punjabcollegeadmissions.org) for admission process.
- ➤ The system will create healthy effect on college admissions process and will facilitate in making their pre-admission and post-admission related process simple.
- > Automatic Assignment of registration number, roll numbers and automation of different pre-examination processes.
- ➤ Availability of DMC's on the University web site for Re-evaluation & other purposes. Instant revaluation applications can be filled by the candidates as per DMC's available on the website.
- > Synchronization with the OMR system and unique codification of different courses and subject files.
- Fast processing and timely declaration of results has been achieved and Number of withheld results has been reduced.
- The student's return and University fees submitted online by colleges, through different online payment modes (credit card, debit card, internet banking) available. This will help in managing various resources efficiently.
- > SMS facility launched to facilitate teachers from different colleges to get information regarding duty assigned and location of evaluation centres on their mobile.
- ➤ Migration Certificate process is computerized. It helped students to avoid long queues and delays in getting migration certificate.
- ➤ Under RTS Act photo copy of marked Answer book is provided to concerned student on demand. This has brought more transparency into the evaluation system.
- ➤ Online student verification system launched for the benefit of faculty, students, and embassies and for companies hiring placements.
- Minimum 3 years' experience has been set mandatory for ad hoc teachers to evaluate answer books.
- ➤ Evaluation work is continuously monitored to overcome any delay in result declaration.
- ➤ Regular and Private students are submitting forms for first semester only in the University
- ➤ E-governance in Examination system has been achieved towards communications with various campus departments, RCs, UCs, affiliated colleges & associate institutes

Major Reforms Initiated under CBES System

- ➤ Only one mid-term examination of 20% weight age may be held, while the major end semester examination may be given 80% weight age.
- ➤ There will be no practical examination during mid-term. For final practical examinations, the external examiners from nearby places may be appointed. The evaluation of the examination shall be done both by external and internal examiners jointly.
- ➤ For at least 50 % papers of credit-based courses offered in different programs across the disciplines, the question papers will be set by external examiners appointed by the competent authority.
- ➤ In all the courses, the answer- sheets will be assessed by internal examiners through table marking.
- ➤ The answer-sheets may not be shown to the students after examinations. The students may be asked to go for re-evaluation of their answer-sheets, if they have any doubt.

- ➤ The project reports of master degree course will be evaluated by internal examiners, where the evaluation as only "satisfactory/unsatisfactory "is required. However, the master degree thesis with marks will be evaluated by external examiners.
- ➤ The percentage of marks will be calculated by multiplying CGPA with 10.

2.9 No. of faculty members involved in curriculum restructuring/revision/syllabus development as member of Board of Study/Faculty/Curriculum Development workshop: 98

| Members of | Board of Studies | Board of Studies | Common Board | Board of Control |
|---------------|------------------|------------------|--------------|------------------|
| All Faculties | (UG) | (PG) | (UG & PG) | |
| 197 | 136 | 108 | 52 | 172 |

A systematic and institutionalised process is followed to ensure that the students are competitive and employable. Efforts are oriented towards the development of knowledge, skill and aptitude among the students. As a part of this process, the Meeting Branch of the University formally requests all the HODs to initiate the process. The HODs fix meetings among the members of the faculty well in advance so that adequate preparations are made. Prior to the meeting of the Board of Control (BOC) / Board of Studies (BOS), the HOD's of each department initiate the process by meeting with the faculty and obtain their inputs for curriculum restructuring /revision/syllabus development. These inputs are considered in the meetings of the BOC / BOS. College teachers are given a fair representation in the constitution of the BOS (UG boards are constituted of up to 70% of college teachers and 30-50% for PG boards).

2.10 Average percentage of attendance of students: 75%

2.11 Course/Programme wise distribution of pass percentage:

The requisite information is provided in the Annexure III.

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

Various student centric policies are continuously made for the betterment of the students IQAC plays an important and constructive role in planning and implementation of such policies .IQAC also plays a suggestive role in planning and organising the academic calendar for the welfare of all the stakeholders.

2.13 Initiatives undertaken towards faculty development:

| Faculty / Staff Development Programmes | Number of faculty benefitted |
|--|------------------------------|
| Refresher courses | 233 |
| UGC – Faculty Improvement Programme | - |
| HRD programmes | - |
| Orientation programmes | 173 |
| Faculty exchange programme | - |
| Staff training conducted by the university | - |
| Staff training conducted by other institutions | - |
| Summer / Winter schools, Workshops, etc. | 176 |
| Others | - |
| Principals Meet | 61 |
| Induction Training Programme under FDC | 30 |
| Workshops/Conferences under FDC | 64 |

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 |
|--|-------------------------------------|----------------------------------|--|--|
| 'A' Class Non-teaching Administrative Staff | 130 | 59 | 72 | 05 |
| B- Class-Clerical Cadre | 371 | 202 | 17 | - |
| 'C' Class Non-teaching Administrative Staff | 294 | 335 | - | 73 |
| Technical staff | 309 | 442 | - | 61 |

Criterion -III

3. Research, Consultancy and Extension

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

The office of IQAC is primary engaged in making continuous efforts for prompting the learning atmosphere in the university. It is striving to make the proper dissemination of knowledge in the institution. The faculty and students of the university are encouraged to enhance their knowledge. They participate and organize national and international conferences. Lectures by prominent scientists and academicians are also a normal feature of the university. Various workshops and training programmes are also regularly held in the university for the benefit of not only its own research scholars and students, but also for those who are from other universities. Centre for Data Analytics Research (CDAR) on regular basis working is promoting research amongst faculty members & researchers. IQAC is giving regular feedback to CDAR to conduct programmes on demand.

3.2 Details regarding major projects:

Major Projects (UGC)

| | Completed | Ongoing | Sanctioned | Submitted |
|---------------------|-----------|---------|------------|-----------|
| Number | 16 | 0 | 0 | 0 |
| Outlay in Rs. Lakhs | 144.33 | 0 | 0 | 0 |

Major Projects (DST)

| | Completed | Ongoing | Sanctioned | Submitted |
|---------------------|-----------|---------|------------|-----------|
| Number | 1 | 19 | 3 | 1 |
| Outlay in Rs. Lakhs | 22.98 | 631.53 | 96.62 | 9.57 |

Major Projects (DBT)

| | Completed | Ongoing | Sanctioned | Submitted |
|---------------------|-----------|---------|------------|-----------|
| Number | 2 | 5 | 1 | 0 |
| Outlay in Rs. Lakhs | 14.75 | 50.30 | 57.64 | 0 |

Major Projects (CSIR & other agencies)

| | Completed | Ongoing | Sanctioned | Submitted |
|---------------------|-----------|---------|------------|-----------|
| Number | 6 | 7 | 6 | 0 |
| Outlay in Rs. Lakhs | 38.53 | 31.94 | 68.03 | 0 |

3.3 Details regarding minor projects: Nil

3.4 Details on research publications:

| | International | National | Others |
|--------------------------|---------------|----------|--------|
| Peer Review Journals | 150 | 631 | 50 |
| Non-Peer Review Journals | - | - | - |
| e-Journals | - | - | - |
| Conference proceedings | 04 | 55 | 07 |

3.5 Details of Impact Factor of publications: (2017-18)

| Range | 0.06-21.695 |
|----------------|-------------|
| Average | 5.50 |
| h-index | 18 |
| Nos. in Scopus | 1098 |

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 (Rs.) | Received (Rs.) |
|--|------------------|----------------------------|---------------------------------|-------------------|
| | 2017-18 | UGC | 3509830 | 2294646 |
| | 2017-18 | DST | 27776573 | 19851627 |
| Major projects | 2017-18 | DBT | 11023974 | 11023974 |
| | 2017-18 | CSIR | 7430841 | 7430841 |
| Minor Projects | | | - | |
| Interdisciplinary Projects | | | - | |
| Industry sponsored | - | | | |
| Projects sponsored by the University / College | | | - | |
| Students research projects (other than compulsory by the University) | | | - | |
| Any other (Specify) | | | - | |
| Total | - | - | 49741218 | 40601088 |

3.7 No. of books published:

| With ISBN No. | 17 |
|--------------------------|----|
| Without ISBN No. | 0 |
| Chapters in Edited Books | 78 |

3.8 No. of University Departments receiving funds from:

| UGC-SAP | 15 |
|------------------|----|
| CAS | 01 |
| DST-FIST | 04 |
| UPE | - |
| DBT Scheme/funds | 01 |

3.9 For colleges: N.A.

3.10 Revenue generated through consultancy: Rs.1,65,65,394

3.11 No. of conferences organized by the Institution:

| Level | International | National | State | University |
|--------|---------------|----------|-------|------------|
| Number | 03 | 10 | 03 | 20 |

3.12 No. of faculty served as experts, chairpersons or resource person's: 296

3.13 No. of collaborations:

| Level | International | National | Any other |
|--------|---------------|----------|-----------|
| Number | 01 | 15 | 03 |

3.14 No. of linkages created during this year: 16 (Industry Linkage)

3.15 Total budget for research for current year in lakhs:

| From Funding agency | 6,04,02,829 |
|---------------------------------------|--------------|
| From Management of University/College | 7,53,00,000 |
| Total | 13,57,02,829 |

3.16 No. of patents received this year:

| Type of Patent | | Number |
|----------------|---------|--------|
| National | Applied | - |
| National | Granted | 7 |
| International | Applied | - |
| International | Granted | - |
| Commercialised | Applied | - |
| Commerciansed | Granted | - |

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 |
|-------|---------------|----------|-------|------------|------|---------|
| 89 | 05 | 56 | 07 | - | 21 | - |

3.18 No. of faculty from the Institution:

| Who are Ph.D Guides | 108 |
|--------------------------------|-----|
| Students registered under them | 227 |

3.19 No. of Ph.D. awarded by faculty from the Institution: 183

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones) (CSIR, UGC, CSSGGS, DBT, DST)

| JRF | SRF | Project Fellows | Any other |
|-----|-----|-----------------|-----------|
| 80 | 22 | 31 | 7 |

3.21 No. of students Participated in NSS events:

| University level | State level | National level | International level |
|------------------|-------------|----------------|---------------------|
| 600 | - | - | - |

3.22 No. of students participated in NCC events:

| University level | State level | National level | International level |
|------------------|-------------|----------------|---------------------|
| 150 | - | - | - |

3.23 No. of Awards won in NSS: Nil

3.24 No. of Awards won in NCC: Nil

3.25 No. of Extension activities organized

| University forum | NCC | NSS |
|------------------|-----|-----|
| - | 10 | 17 |

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

National Cadets Corps

| Date | Event Name | Cadet Involve | Event Occur At | Event Level |
|---|--|--------------------|---|---------------------|
| 10 th August 2017 | Conduct of Seminar at BBK DAV College For Women | SD – 10 SW – 10 | BBK DAV BBK DAV College For Women, Amritsar | State Level |
| 15 th August 2017 | Independence Day Prade Tree Plantation | All Cadets | Guru Nanak Dev University, Amritsar | University Level |
| 1-10 th September 2017 | Camp at Hosiharnagar, Amritsar | SD – 10 | Hosiharnagar, Amritsar | State Level |
| 8-17 th October 2017 | Camp CATC at Hosiharnagar, Amritsar | SD – 20 SW – 05 | Hosiharnagar, Amritsar | State Level |
| 9-10 th October 2017 | Best Cadet Competition at 1PB BN NCC, Amritsar | SD/SW - 04 | 1PB BN NCC, Amritsar | State Level |
| 31 st October 2017 | Conduct of Marathon - Nation Unity Day | SD/SW - 10 | Amritsar | State Level |
| 1-10 th November 2017 | BLC Camp at Malout | SD – 12 | Malout | State Level |
| 2017 26 th January 2018 | Republic Day Prade | All Cadets | Guru Nanak Dev University, Amritsar | University Level |
| February 2018 | Swachh Bharat Abhiyan at University Campus, Amritsar | All Cadets | Guru Nanak Dev University, Amritsar | University Level |
| 27 th February 2018 | Guard of Honour at NCC Group Head Quarter | SW – 02 | NCC Group Head Quarter Amritsar | State Level |

Lifelong Learning

• Skill Development Course/Diplomas

During Academic Year 2017-18, 565 (359 through Main Streams & 206 through 06 Short Term/Crash Courses) students have been enrolled and are being trained through various skill development courses at G.N.D.U campus, Amritsar and Central Jail, Amritsar (For Female Inmates).

- ➤ One Year Certificate Course/Diploma
 - 1. Dress Designing Cutting & Tailoring
 - 2. Fashion & Textile Designing
 - 3. Fashion Technology
 - 4. Computer Applications
 - 5. Cosmetology

➤ Six Month Certificate Courses

- 1. Cutting & Tailoring
- 2. Cosmetology

• Short Term/Crash Courses Conducted:

- ➤ 20 Days Short Term/Crash Course on: "Photoshop" was conducted from dated. 13-09-2017.
- ➤ 20 Days Short Term/Crash Course on: "Basic Hair Dressing & Makeup" was conducted from dated. 13-09-2017.
- ➤ 20 Days Short Term/Crash Course on: "Boutique Training" was conducted from dated. 25 January 2018
- ➤ 20 Days Short Term/Crash Course on: "Hair & Skin Care" was conducted from dated. 25 January 2018
- ➤ 20 Days Short Term/Crash Course on: "Coral Draw" was conducted from dated. 15 March 2018
- ➤ 20 Days Short Term/Crash Course on: "Professional Makeup Artistry" was conducted from dated. 20 April 2018

• Annual Exhibition & Creativity Shows:

To showcase the creative designing by the Young & Budding Artists, the Department organized special Show and exhibition at a large scale.

- ➤ Designing Show "Skill & Thrills" Four Days "Talent Hunt" program including variety of items such as Mehndi & Nail Art (03/10/2017), Candle, Diya & Pot Decoration (04-10-2017), Best out of waste (06-10-2017) & Rangoli (09/10/2017) was organized.
- ➤ Two days annual exhibition 'Sirjana' was organized from 01 to 02 November 2017.

• Best Practices

Social Responsibilities through training to Female Jail Inmates at Central Jail, Amritsar by conducting Six Months Certificate Course in Cutting & Tailoring (Twice in a year) being financed by the department.

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 | 275538 sqmt | 3116 sqmt (Common Food Court/ Hotel Management, Girls Food Court) | University's own source | 2,78,654 sqmt |
| Class rooms | 273 | - | - | 273 |
| Laboratories | 245 | - | - | 245 |
| Seminar Halls | 11 | - | - | 11 |
| No. of important equipments purchased (> 1.0 lakhs) during the current year. | Annexure IV | | | |
| Value of the equipments purchased during the year (Rs. in Lakhs) | - | Rs. 37013806 | UGC, University Budget, DST, CSIR, DBT, TEQIP, AICTE, ICAR. | Rs. 37013806 |
| Others | - | - | - | - |

4.2 Computerization of administration and library

Partial computerized (Circulation, Periodical, OPAC, Technical Section and Reference)

4.3 Library services

| | Exi | sting | Newly | added | Т | otal | | |
|---------------------|---|-----------|-------------------|------------------------|-------|------------------------|--|--|
| | No. | Value | No. | Value | No. | Value | | |
| Text Books | 38080 | - | 31049 | 10,16,907 | 69129 | - | | |
| Reference Books | 8208 | - | 98 | | 8306 | | | |
| e-Books | - | - | - | - | - | - | | |
| Journals | 189 | 59,39,374 | - | - | 189 | 59,39,374 | | |
| e-Journals | IEEE 208 Journals & 3856 Conferences Proceedings | 7,61,092 | 2196 | 1,46,80,739 approx. | 2404 | 1,54,41,831 approx. | | |
| Digital Database | 01 (Scopus) | 15,99,534 | 01 (SciFinder) | 12,90,420 | - | 28,89,954 | | |
| CD & Video | 2323 (CDs with Books) 2389 (CDs with Ph.D Thesis/M.Phil Dissertations) | - | - | - | - | - | | |
| Other (specify) | Apart from above subscribed resources 7040 e- journals of various publishers and some database are also available through e- shodhsindhu. | | | | | | | |

4.4 Technology up gradation (overall)

| | Total Computers | Computer Labs | Internet | Browsing Centres | Computer Centres | Office | Departments | Others |
|----------------|--------------------|------------------|----------|-----------------------------|---------------------|-----------|--------------|--------|
| Existing Added | 2826 | | _ | s, offices and the internet | | brary are | well equippe | d with |
| Total | 2826 | | | | | | | |

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

4.6 Amount spent on maintenance in lakhs:

| ICT Campus Infrastructure and facilities | 8262.67 (Total expenditure of the University excluding salary) |
|--|--|
| Equipments | |
| Others | |
| Total | 8262.67 |

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

To increase the student's awareness about the Student Support Services IQAC tries to by ensure that different departments of the university allocate a Teacher mentors. The students are encouraged to contact their respective mentor for any kind of guidance and help. The office of the Dean, Students' Welfare also looks after the well-being of the students of the university. The career counselling and requisite guidance to students is provided by the Placement department. They organise special lectures as well as the visits of various corporate/industrial houses for campus placement. To make the system more transparent and accessible to all stakeholders, the University uploads important information on its website from time to time. Similar support systems also exist for the regional campuses. IQAC monitors all such activities for the larger benefit of the students and for the development of the university.

5.2 Efforts made by the institution for tracking the progression

The Guru Nanak Dev University Alumni Association is making keen efforts to register all alumni as its members. In this regards, it has been made mandatory for all the final year students to obtain no due from the associations' office. A portion for the Achievers Alumni has also been kept on the website, which provides brief profile of the renowned Alumni. A new portal is also launched for the alumni that give them an easy access to get associated with the university.

5.3 (a) Total Number of students

| UG | PG | Ph.D. | Others |
|------|------|-------|--------|
| 6437 | 4194 | 227 | 278 |

(b) No. of students outside the state: 642

(c) No. of international students: 07

 Men
 No
 %
 No
 %
 Women

 4868
 44%
 6268
 56%

Total = 11136

| | Last Year (2016-17) | | | | | | Tl | is Yea | r (2017-18) | | |
|---------|---------------------|----|-----|--------------------------|-------|---------|------|--------|-------------|--------------------------|-------|
| General | SC | ST | OBC | Physically Challenged | Total | General | SC | ST | OBC | Physically Challenged | Total |
| 9040 | 2069 | 73 | 696 | 45 | 11923 | 8010 | 1828 | 2 | 632 | 23 | 10495 |

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

• Library

• Reading Room

• Computer Lab.

• Employment Information Cell

No. of students beneficiaries: 249

5.5 No. of students qualified in these examinations

| NET | SET/SLET | GATE | CAT | IAS/IPS etc | State PCS | UPSC | Others |
|-----|----------|------|-----|-------------|-----------|------|--------|
| 07 | - | - | - | 01 | 01 | - | 22 |

5.6 Details of student counselling and career guidance

The teachers from various faculties in the University, who are attached with the All India Services Pre-Examination Training Centre and Centre of Preparation for Competitive Examinations for coaching and other services, are always available for the counselling and guidance of the students.

No. of students benefitted: 22

5.7 Details of campus placement

| | Off Campus | | |
|---------------------------------------|------------------------------------|------------------------------|------------------------------|
| Number of Organizations Visited | Number of Students Participated | Number of Students Placed | Number of Students Placed |
| 44 | 1655 | 727 | 82 |

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

| University level | National level | International level |
|------------------|----------------|---------------------|
| 351 | 63 | 08 |

No. of students participated in cultural events

| University level | National level | International level |
|------------------|----------------|---------------------|
| 72 | 02 | - |

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

| Sports | University level | National level | International level |
|--------|------------------|----------------|---------------------|
| Sports | 196 | 37 | - |

| Cultural | University level | National level | International level |
|----------|------------------|----------------|---------------------|
| Cultulai | 38 | - | - |

5.10 Scholarships and Financial Support

| | Number of students | Amount (Rs.) |
|---|--------------------|--------------|
| Financial support from institution | 1704 | 4,66,55,830 |
| Financial support from government | - | - |
| Financial support from other sources | - | - |
| Number of students who received International/ National recognitions | - | - |

5.11 organised / initiatives Student

| Fairs | University level | National level | International level |
|-------|------------------|----------------|---------------------|
| rans | - | - | - |

| Exhibitions | University level | National level | International level |
|--------------|------------------|----------------|---------------------|
| Exilibitions | 03 | - | - |

5.12 No. of social initiatives undertaken by the students: 17

5.13 Major grievances of students (if any) redressed:

- The non-issue of the DMC.
- Delay in declaration of results.
- Delay in the payment of Ph. D scholarships.

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the Institution

Mission:

The University exists on the universal principles of academic excellence and is providing continuous service to the country by imparting skills, knowledge and aptitude that are congruent with our cherished goals and needs. This can be done by introducing certain changes, bringing modifications in the existing structures and strengthening healthy practices. There have been four components of the mission of the University as stated in the Act. These are:

- Dissemination and production of knowledge in science and technology and other disciplines.
- Teaching and research on the philosophy of Guru Nanak Dev Ji.
- Promotion of research in Punjabi language and literature.
- Supporting and spreading education among the educationally backward communities.

Vision: The University aspires to be an important institution of learning and research, both at the national as well as international levels. It aims to achieve these goals through the following actions:

- Providing state of the art infrastructure, research facilities, qualified faculty and good ambience in the University campus.
- Integrating teaching and research programmes to promote holistic development of the students.
- Providing better access to education to underprivileged sections of the society through the development and expansion of the University through regional campuses and constituent colleges.
- To constantly engage the students in various activities to help them develop communication skills and leadership qualities and to make them understand public responsibilities, and the ability to work as a team for nation-building. This will lead to their overall development and growth.
- Building strong research infrastructure through the development of world-class laboratories and enriching the University library and the departmental libraries.

Following areas have been identified for the future research of the University:

- Focus Area: Materials Science: (a) Materials for Energy Conversion and Storage; and (b) Electronic and Optoelectronic materials.
- Holistic Area: Health Care, Drug Development and Sports Medicine
- Holistic Area: Environmental Management (in respect of Punjab)
- Holistic Area: Comparative Literature, Languages and Cultural Formations
- Holistic Area: Development and Nation-Building
- Genetic basis of cancer and type 2 Diabetes mellitus in Punjab

6.2 Does the Institution has a management Information System

Digital Initiatives:

- Increased the Internet Bandwidth Scheme of GNDU Campus from 10 MbPS to 1GbPS through National Knowledge Network (NKN), Ministry of Electronics and Information Technology, Government of India. Increased Bandwidth will ensure fast and high quality internet connectivity for the students of GNDU.
- Research Portal, e-Transcript portal, Online Leave Portal, College Development Council Portal and Faculty Profile Portal has been launched.
- Publishing a regular e-Magazine "Pixels" on University Website.
- A new website for Alumni Association has been launched to reach out more and more Alumni of the university throughout the Country and also outside India. Also FCRA registration is being done to streamline the funding offered by Foreign Alumni for the support and well being of the students in GNDU. Anyone can donate to GND University in the related filed of his/her interest.
- GNDU has made its appearance on Social Media. A Face book page, Instagram and Twitter handle have been launched and are being constantly monitored and updated.
- An SMS system has been introduced to keep parents of the campus students updated about their Attendance.
- Computer Centre of GNDU has been renamed as "Centre for IT Solutions" and is providing IT solutions to General Public also on payment basis.
- Mobile network boosters have been installed in the Campus to ensure uninterrupted mobile signals.
- File tracking system launched for speed up the process of moving file along with tracking the status/delay of files online at any stage.
- National Academic Depositary (NAD) has been initialized.

Management Information System (MIS) is being used in Examination Branch, Accounts Branch, General Branch, Establishment, and Library various other branches in the university. They are using their own in-house developed and customised software's.

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

6.3.1 Curriculum Development:

- The University adopts a systematic approach for the design and development of curriculum by various bodies i.e. Board of Control (B.O.C.)/ Board of Studies (B.O.S.), Faculty meeting and Academic Council.
- Various Expert Committees are also constituted for the design of new courses.
- Inputs are also taken from various National Curricular Resources like UGC, AICTE, DST, DBT etc as well as from industry for the start of new courses in order to ensure employability, innovation, and to promote research.
- Introduction of new study programmes as per the current and upcoming need is encouraged.

6.3.2 Teaching and Learning:

- Academic calendar is prepared by the University to plan teaching, learning and evaluation schedule each year.
- Course outlines and recommended readings are uploaded on the University website.
- The learning techniques are constantly improved and changed as per the inputs of the faculty members, students and stakeholders this practice is made part of the curricular design.
- Proactive policy of inviting experts and people of eminence to give lectures is followed. Eminent scholars deliver public lectures to students throughout the academic year.
- The University organises seminars/conferences in which the students participate.
- Blended learning is encouraged by using e-learning resources. The use of multimedia in many courses has become part of the teaching-learning process.
- Students are encouraged to write assignments, make presentations and have practical exposure to ground realities outside of the University set up.
- Under the CBCS, the evaluation of the teachers by the students has been introduced for improving the teaching process in the University.

6.3.3 Examination and Evaluation:

The Examination system operates in the seven districts of Punjab state which include Amritsar, TarnTaran, Jalandhar, Kapurthala, Gurdaspur, Pathankot & SBS Nagar. It covers GNDU Campus, 4 Regional Campuses, 11 University Colleges, 161 Affiliated Colleges and 53 Associate Colleges under Capacity Enhancement Programme. The centre deals with the examination system according to Choice Based Credit System, Semester System and Annual System.

Different wings under the office of Controller of Examination are actively involved in this process. It takes care of registration of the students admitted in current academic session, conducting fair and timely examinations (as per the academic calendar of the University), issuing of roll numbers and examinations centre (online) for private students, appointing examiners for setting of question papers and evaluation of theory courses, timely declaration of results, issue of DMC, approving award of degree to the qualified candidates during convocation every year. In addition, the office takes care of the formulation and adherence to guidelines for examination system and amendments from time to time. Guidelines are issued from time to time from COE Office for further enhancement in the examination. The process is underlined below:



Computer Section:

- Computer section is the centralized hub for exams related activities like processing
 of student's database, preparation of result sheets, declaration and uploading of
 results on University website, notification, and declaration, uploading, and printing
 of DMC/Degrees/Certificates/Notifications.
- The prime mission is to facilitate IT related activities regarding examination system in the University and its affiliated colleges. Evaluation and grade preparation of the students studying in University Campus and Regional Campuses is being done by the respective departments through the software prepared by Computer Centre
- Online portal for regular student admission in colleges has been launched in June 2017. Student's return and fees will be submitted online through different modes (credit card, debit card, internet banking). It will help colleges immensely in managing their resources in efficient manner.
- Assisting e-Governance Initiatives in the University regarding examinations and other related activities.

Quality improvement strategies adopted by the institution for Examination System:

- Launching of "Online Web Portal (punjabcollegeadmissions.org)" for regular student admissions in colleges. The new system is fully web-enabled having Service Oriented Architecture. It will provide interactive validation of data entry by users and user oriented self-service capabilities as per rules and regulations related to admissions.
- The system will create healthy effect on college admissions process and will facilitate in making their pre-admission and post-admission related process simple and efficient as all the required information about the students is available online, whenever and wherever required. Only authorized users will have access to the system. The colleges and students are provided with individual login access till result declaration, e-governance in Examination system has been achieved towards

communications with various campus departments, Regional Campuses, University Colleges, affiliated colleges & associate institutes.

Key objectives of the system are:

- To reduce the number of physical visits that students and their parents need to make to colleges as the admissions process gets underway.
- Digitization and ease of access to students to get admission in college of his/ her choice while selecting different courses available in different colleges at same portal.
- To keep the admission process transparent with different validations checks and eligibility check through system only.
- Applications get validated in the system as per rules and regulations.
- Standardized forms and workflow across institutions
- Dedicated helpline and complaint system to facilitate different stake holders and to address their enquiries in short span of time

Different Services delivered by the New System:

- 24/7 Access. Apply from any place with Internet access no more queues & hassles.
- Track admissions application status via single platform.
- Individual logins provided for students and colleges.
- Dedicated helpline and complaint system to answer queries of students.
- Based upon reliable, scalable, secure, and internationally proven technology platform
- Student will get SMS and email on his/her registered mobile and email regarding the submission and processing of his/her application in the opted college. There will be no need to go to college to check the status of application.
- Students can opt for any course in any college through this portal without even going to college. This will save enormous amount of travel time and expense during the admissions process.
- Better monitoring and evaluation through online generated reports.

The System will be able to support a spectrum of users, namely the following with a personalized access:

- D. H. E (Department of Higher Education, Punjab) (Administrator)
- University (Operations and Support) (Super users)
- college Management/Principals (Informational and Analytical) (users)
- End-users (Students)

Key Benefits and Steps for Students

- The student will first have to create login and password to interact with this system.
- Candidates can apply to a number of colleges /various courses through a simple online form. The students will select college as per their choice and then proceed to select different courses available as per the eligibility criteria.
- Applications get validated in the system as per rules and regulations.

- If admission approved or disapproved for the course he/she will be informed by the colleges via registered email and SMS.
- After approval the students shall proceed towards depositing fee to concerned college and will be informed of confirmation.
- The candidates will directly access the system and can post any query/problem via email at the helpdesk (helpdesk@gndu.ac.in)

Key Benefits and Steps Involved for Colleges for Interaction with the System:

- The colleges affiliated with University are provided with individual login access through login name and password provided by the University.
- The colleges will be able to schedule admission as per University guidelines.
- The colleges will approve the admission initiated by the student.
- Student will be informed by email and SMS for his approval or disapproval of course for the selected course.
- Confirmation of admission will be informed through SMS on students' registered mobile number or by email.
- The system will Facilitate the query and reporting on archived data.
- The System will reduce the application submission time.
- Automatic Assignment of registration number, roll numbers and automation of different pre-examination processes.
- The return of students and payment of University fees will be submitted online by colleges, through different online payment modes (credit card, debit card, internet banking) available. This will help in managing various resources efficiently.

Key benefits for University:

- Data being populated through the system will be at the disposal of University, which can be easily processed as per database requirements.
- To provide accurate and fast access of different types of information to higher authorities
- The required data can be retraced and system can be monitored from single portal.
- System will help University immensely in the pre-examination process.
- The higher authorities and other stake holders with the intention to extend operability or scope of the system, may give suitable guidelines, clarifications, not amounting to change in regulation itself as per University guidelines
- Student's lectures attendance/shortage will also be submitted online by college teachers on monthly basis. The student and parents will be informed of any shortage of lectures through SMS.
- The data about college's faculty and other achievements is available to University on single portal. It will help in better communication with teachers regarding assigning duties for exams and other academic purposes.
- ➤ Migration Certificate process has been computerized. This helps the students to avoid long queues and delays in getting migration certificate.
- ➤ Online Application for Award Absentee has been launched by the University to bring in more transparency and to speed up the result declaration process.

- ➤ Online Application for Practical Award Entry has been launched by the University to bring in more transparency in the system and to speed up the result declaration process. Unique IDs have been provided to different teachers and manual work if any has been discontinued with the introduction of an automated system.
- ➤ Online Application for Re-evaluation has been launched by the University to speed up the result declaration process. Students are not required to come to University to submit forms. Students can apply for re-evaluation through online DMC.
- Launching of Online Transcript System (e-Transcript). Students will access the online portal after verification through OTP on mobile. The student will proceed to fill the form and to upload the scanned copies of the documents.
 - The student can track status of his/her application online.
 - The fee payment can be done online through different payments modes available.
- Online Application for "Private Admission has been launched.
 - New portal for private admission has been launched by the University. This
 process has simplified the private admission process with more facilities
 and online tools.
 - The student will first have to create login and password to interact with this system. The student id and password will be sent via SMS on his/her registered mobile and also on email.
 - After login, the candidate shall proceed to fill form and fee payment can be done online through different payments modes (credit card, debit card, internet banking) available.
 - Applications validation is done in the system as per rules and regulations.
 - Dedicated helpline and complaint system to facilitate students and to address their enquiries in short span of time.

Evaluation System

The evaluation system involves the following people:

• Appointment of Head/Sub/Single Examiner

For the appointment of Head/Sub/Single Examiner every year university seeks data of various teachers who are working in the affiliated colleges of this university. Subject wise seniority lists are prepared from this data. Board of Studies of various subjects also suggests names of teachers from seniority list who can evaluate answer sheets of particular subject based on their teaching experience and Subject Expertise. These lists are further approved by the Revising Committee.

• Sub/Single Examiner

For selection as a Sub/Single Examiner the teacher must have at least three years teaching experience for evaluation of answer books and he/she must have taught that subject at least within previous two years.

• Head Examiner

For selection as a Head Examiner, a teacher must have ten years of teaching experience for appointment as head examiner and the person having knowledge of both Punjabi and Hindi shall be given preference for appointment.

• Table Marking System

For evaluation of answer books different evaluation centres are established at (Amritsar, Jalandhar, Gurdaspur, Batala, and Pathankot) and each evaluation centre is supervised by an Officer In-charge. Copy of examiner lists approved by Revising Committee is given to each Evaluation Centre (Superintendent), Evaluation Centre

(Superintendent) send invitation letters to appointed examiners and head examiners. Evaluation of answer books carried out as table marking system. Each head examiner checks 30% of answer books evaluated by sub examiners to ensure quality of evaluation.

Quality improvement strategies adopted by the institution for Evaluation

- Online application launched to keep track of evaluation in different centres.
 Various kind of online reports are generated and payments are also processed through this module.
- Conferencing facility has been set up in all evaluations centres for monitoring and surveillance in addition to following:
- Timely opening and closing of evaluation Centres is ensured in various cities.
- Distribution of answer sheets of various subjects to different places as per availability of evaluators.
- SMS facility launched to facilitate teachers from different colleges to obtain information regarding duty assigned and location of evaluation centres on their mobile.
- Problem solving process has been improved. Guidelines are issued regularly by Controller Office and routine meetings are held through video conferencing between Professor In charges (Examinations) and principals, co-coordinators of centres and superintendents of various evaluation centres to bring more efficiency, discipline and timely evaluations of answer books.
- Various subjects are re-allocated during evaluation at different evaluation centres depending upon the availability of examiners to speed up the evaluation work.
- College teachers have been instructed to evaluate minimum 250 Answer books.

6.3.4 Research and Development:

- The University has a Research Committee responsible for the promotion and development of research. The composition of the committee is as follows:
 - i. Vice-Chancellor (Chairman)
 - ii. Dean, Academic Affairs
 - iii. Director Research
 - iv. Dean, Faculty of Life Sciences
 - v. Dean, Faculty of Sciences
 - vi. Dean, Faculty of Arts & Social Sciences
 - vii. Dean, Faculty of Languages
- The University encourages research by facilitating the implementation of Research Schemes/Projects positive and pro-active manner.
- Interdepartmental research collaborations are also promoted.
- The University has a strong culture of inviting eminent researchers to enable interaction with their researchers.
- The University also facilitated the form of Project Board to help Research & Development.

6.3.5 Library, ICT and physical infrastructure / instrumentation:

Library

- The University Library has a fully air conditioned reading hall for the students which is open 24 hours throughout year.
- Regular alerts are sent to the faculty members and research scholars regarding latest arrivals of books e- journals, new additions and free trial access from different publishers.
- Every year an exhibition of Manuscripts, Rare books, Rare Documents and photographs is also organized.

ICT

- Web Site: University Library has its own web page. The address of this website is http:library.gndu.ac.in. This website can also be accessed from the Guru Nanak Dev University www.gndu.ac.in under the option "Centre/ Facilities".
- Web OPAC: Web OPAC is available at: // library.gndu.ac.in. Access to the books, Ph.D. thesis and manuscripts is available on this site.
- OPAC: Library has prepared Databases of books in English, Hindi and Punjabi
 Languages. The database is continuously updated when new purchase is done.
 The library has four Terminals for the readers to use OPAC for their
 search of books on its first and second Floor. In addition, this facility is
 also available on INTERNET with University Campus to benefit the
 students/ faculty members by giving access to catalogue in their
 respective departments.
- **Digital Section**: CDs of MPhil. Dissertations and Ph.D. thesis, CDs of books, census reports, and gazette are available in this section. Students, researchers and faculty members can have access to these CDs, e- journal and databases in this section.
- **DELNET**: University Library is a member of DELNET (Developing Library Network, New Delhi). It helps the faculty members and researchers to procure those books, articles and documents from other educational institutions which are not available in our University Library.
- Library has also member of INFLIBENT which is providing 15000 E-Journals & Six Database.
- The Library has also an established Electronic Thesis and Dissertations Lab (ETD Lab.) which has uploaded more than 900 Ph.D thesis on Shodhganga.

Physical infrastructure /instrumentation:

• Bhai Gurdas Library has an area of (1,50,000sq. ft. + 36800 sq. ft.) Area and seating capacity of (500+300).

6.3.6 Human Resource Management:

• The University has an institutionalised process of managing human resources. Teachers are encouraged to academically recharge and rejuvenate through participation in orientation courses, refresher courses, workshops, seminars and conferences.

- As and when required, teachers are given appropriate leave such as study leave, duty leave, sabbatical leave, special casual leave for various academic purposes.
- There is also a provision in the calendar of the University that under certain circumstances the teachers could transform their medical leave into academic leave.
- The University has also provision to give travel grants to teachers so as to enable them to attend national and international seminars/conferences.

6.3.7 Faculty and Staff recruitment:

All the Departments are asked well in advance about their faculty requirements for the next academic session. Based on their requirements, new faculty is appointed by following the UGC guidelines for appointments. Special cognisance is taken to recruit faculty in emerging areas of research in social sciences, sciences and engineering courses.

6.3.8 Industry Interaction / Collaboration:

For industrial interaction/collaboration is enduring network and relationship based on mutual trust between the parties needs to be established. This will highlight the importance of collaboration with industry and society and Document the measurable deliverables as part of the academic qualification system. For this the university supports innovation activities and has developed an efficient support system for recourse- efficient utilisation of results, so that researchers can continue to focus on their research activities. This helps both the research activities as well as the education in the university.

6.3.9 Admission of Students:

For admission in the various courses offered by the university, admission notices are published in both regional and national newspapers. The University Prospectus is made available on the website of the University with comprehensive information regarding the criteria of admission to various courses, number of seats, dates of filling the admission forms and the deadline for depositing the admission fee. All applications for admission along with admission fee are submitted online.

6.4 Welfare schemes for:

> Teaching and Non teaching:

- The University has initiated various welfare schemes, like the group insurance scheme under which a very small amount of money is deducted from the salary, but at the time of illness of the employee lump sum money is given to him/her.
- The University's Medical Committee periodically diagnoses the employees who suffer from chronic illnesses such as diabetes, hypertension, etc. and provide

reimbursement of their expenses on medicines.

- In addition, provision of various kinds of loans exists in the University; for example, house construction loan, loan for purchase of vehicle, and class IV employees are given loan to buy food grains after *Rabi* crops are harvested.
- The University also provides the interest free loan from the Provident Fund of the concerned employee in cases of emergencies.

> Students:

- In the office of the Director, Youth Welfare regular cultural programmes are organised in the campus and Director Youth welfare looks after the cultural activities in coordination with the office of Dean Students' Welfare.
- An Inter-departmental cultural festival *Jashan* is organised every year. The
 University boasts of the availability of the best sports facilities for the students.
 Twenty four hours services of Health Centre are available to the students for any
 medical issues.
- Various types of Scholarships are also offered to the University students: Grant of Full Fee/Half Fee Concession, Grant of Facilities to physically handicapped students, Sports incentives, Employee ward Concession, Brother-Sister Concession, Riots affected/terrorist affected Concession, Full Fee and Funds Concession to very poor students, Fee Concession to Children of Gallantry Award Winner and Poor Aid Fund.

6.5 Total corpus fund generated: Rs.4, 65, 94,539

6.6 Whether annual financial audit has been done: Yes

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

| Audit Type | External | | Audit Type External | | In | ternal |
|----------------|----------|--------|---------------------|-----------|----|--------|
| | Yes/No | Agency | Yes/No | Authority | | |
| Academic | Yes | NAAC | Yes | - | | |
| Administrative | Yes | NAAC | Yes | - | | |

6.8 Does the University declare results within 30 days?

| For UG Programmes | Yes |
|-------------------|-----|
| For PG Programmes | Yes |

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

Evaluation system has been made more transparent by incorporative the following initiatives:

- SMS facility launched.
- Automatic Assignment of registration number, roll numbers.
- Online Application for Award Absentee.

- Online Application for Practical Award Entry.
- Online Application for Re-evaluation.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

- In order to promote autonomy to affiliated /constituent colleges, appropriate support and encouragement is provided both at the academic as well as administrative end.
- The University interacts with the affiliated colleges through the mediation of the College Development Council which is headed by the Dean. Meetings of the Council are held periodically.
- The University remains in constant touch with its affiliated colleges and informs and encourages them to apply for various grants.
- For the development of the curriculum for these colleges, the participation of the college faculty is ensured.
- The University has been encouraging the colleges to apply for the autonomous status.

6.11 Activities and support from the Alumni Association

Currently, the Alumni Association is managed by Dr. Bikramjit Singh Bajwa, Professor, Department of Physics. After its setup in 2007, the university has launched new website to strengthen the relationship with its alumni settled in India and abroad. The alumni can register themselves free of any charges online on this portal (http://alumni.gndu.ac.in), registration the alumni are provided with unique ID/password to edit/update their information. The website is also updated with the achievements of the Alumni and the University from time to time. A portion for the Achievers Alumni has also been kept on the website, which provides brief profile of the renowned Alumni. The alumni can also put their views about the University on this website. Thus, the website has become a platform for the Alumni to stay together through Alumni Association. This year, the office has again started collecting details of alumni from the various departments on the GNDU Campus & Regional Campuses and reconciles the list to strengthen the database. It helps in approaching the alumni in an early manner. The office has now also contacted all the colleges affiliated with the University to register the GNDU-Alumni with Alumni Association. The regular meeting of the Executive Council of AAGNDU takes place. In the meet, the alumni emphasized to increase the activities of the association and appealed the alumni to generate funds for the University.

6.12 Activities and support from the Parent – Teacher Association

Parents are routinely informed regarding their wards. Sometimes they are also requested to visit the University as and when need arises.

6.13 Development programmes for support staff: Nil

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

For the conservation of environment in the University various initiatives taken over a period of time are indicated below:

- To plant more tress in the vacant spaces in the university Campus.
- Proper disposal of the house hold wastage in the university campus.
- To regulate the unnecessary four wheelers traffic in the university campus, especially in the academic area.
- To improve land scraping in the campus by preparing beds for flowers in all seasons.
- Ban on use of tobacco in any form.
- Sensitization programme on ban on the use of plastics.

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.

Following innovations have been introduced over a period of time which created a positive impact on the functioning of the university:

- The IQAC participated in the in the week-Hansa Research Survey 2018-India's Best Universities and obtained 20th Rank among All India Top Multidisciplinary Universities and 7th Rank (among North-Zone Top Multidisciplinary Universities).
- All India Survey on Higher Education (AISHE) 2018 was submitted to MHRD, Department of Higher Education, and New Delhi.
- The IQAC also participated in the India Today- MDRA Best Universities Ranking 2018. The University was 20th ranked.
- Participated in Association of Commonwealth Universities (ACU) Survey.
- Annual Quality Assurance Report (AQAR) 2016-17 was prepared and submitted to NAAC.
- A proposal for Financial Assistance to organise National workshop on "Dynamism in Educational Aspirations: Role of IQAC in Institutions of Higher Education" was submitted to NAAC.
- A Two days Workshop for Academic Administrators was organised at HRDC, GNDU on 21-22 February, 2018 in which more than 30 participants participated.
- Director IQAC participated in one day Regional Workshop on "All India Survey on Higher Education (AISHE) 2017-18 for Northern States of India" on 8th June at Punjab University, Chandigarh.
- The MHRD "Study in India program has been initiated to attract International Hostel has been made available and Tuition fee waivers for this have been offered (25%, 50%, 100%).
- Under the MHRD Unnat Bharat Abiyan, program, for transformational changes in Rural Development Processes by Academic Institutions, a nodal officer has been appointed.
- A MHRD Swatch Bharat Summer Internship Program has been initiated in University.
- A UGC-NAD (National Academic Depository) Program has been initiated at University for online store house of Academic Awards in a digital format.
- An Alumni meet was organized by the office of IQAC along with University Alumni department, on March 16, 2018.Feedback of alumni was recorded.
- A Portal for collection of information from Teaching Departments of the University for the Annual Report has been prepared by IQAC.

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

Steps for Propriety and Honesty:

- A Standing Committee of Vigilance with Sh. Ashok Thakur, IAS (Retd.), former Educational Secretary, Govt. of India, Sh. Dilsher Singh Kalha, IAS (Retd.), former Secretary, Govt. of India, and Sh. Anil Kaushik, IPS (Retd.), former DGP as members of the Committee to bring propriety and honesty in the system.
- Sh. Chaman Lal, former SP (Vigilance) has been appointed as Consultant (Vigilance).
- Constituted a Centralized Purchase committee to make all purchase beyond 5 Lac from Vendors registered on Government E-Market Portal.

Steps to Promote Research:

- GNDU has established the Directorate of Open and Distance Learning on its campus from the current academic session.
- Establishment of Centre for Data Analytics and Research (CDAR): To provide necessary support to the researchers and academicians to enable them to submit the proposal to Federal Funding Agencies and for sending research papers to high impact journals.
- To give suggestions for the improvement of the functioning of the University the "Innovation and Development Board" has been constituted which consists of two Professors, three Associate Professors, 12 Assistant Professors, 15 students along with 2 foreign/out of state students.
- Signed many Memorandum of Understanding with various institutes/bodies to promote Research, Innovation, Teaching and students exchange as well as collaborative training/ internship.
- Link on University website for Conferences/ Seminars attended by various faculty members in last five Years.
- To provide impetus to meaningful research the Research Degree Boards have been reintroduced with scholars predominantly from institutes of National repute and eminent universities.

Students Centric Activities:

- Facilitation Centre for students, a one point remedy centre for all student issues.
- Introduced Identity Cum Debit Cards for students in university campus for cashless transactions. POS machines installed for deposition of fees and for user charges in the Health Centre. This will help the students in carrying out the cashless transactions which will go in line with Govt. of India's initiative of Digital India.
- For improving the facilities for students, 70 Water Coolers with R.O. purchased and have been installed which will ensure clean and purified drinking water for the students/ faculty.
- Following Student-Run clubs have been constituted in the university to promote students' social and cultural activities: Dance Club, Drama Club, Photography Club, Food & Fitness club, Nature and wildlife club, Literary club, Social Service

- club, Music club, Science club, Movie Making club, Fine Arts club and Go Green club.
- Small videos have been made by the Department of Mass Communication and Journalism, Regional Campus Jalandhar to prepare students for the interview / business etiquettes and the same have been circulated to all students via email/ Whatsapp.
- Activities without any charges.
- Students Wall in each department so that the students can present their issues.
- Induction courses for the students have been introduced.
- Setup of Organ gram for addressing the grievances of the students relating to mess issues, cleanliness issues and medical issues for students in hostels.
- Involvement of students in the newly constituted Research Development Board to advise the administration regarding the various activities to improve the academic and research environment of the university.
- Declaration of result of Youth Festival Competitions immediately after the culmination of the events by the Judges and team of observers has been deputed.
- Constituted a committee for Rationalization of Space in the Teaching Departments.
- Constituted a committee for Rationalization of Teaching Days keeping in view the
 judgment of the Hon'ble Supreme Court of India to ensure minimum 180 days of
 teaching per annum and 90 days of teaching per semester. Committee would
 suggest clubbing of vacations with Festivals etc. so that minimum teaching days
 are maintained.
- Initiative for Pre-Board of Studies has been introduced where senior students of the department have been involved in respective Board of Studies keeping in view the student's perspective while preparing syllabus and other student related decisions.
- Non-domicile students of the Punjab have been allowed to chose "Punjab History and Culture" instead of Compulsory Punjabi Subject.
- An Incubation Centre will be established in Guru Nanak Dev University Campus shortly to cater to the needs of New Start-up Companies.
- Swimming pool is renovated with best of facilities.
- Up gradation of state of the art Gymnasium: with world class facilities.
- Up gradation of Dining Halls in all the boys and girls hostels, to provide better facility to students.
- Proposal for Digital library and upgraded reading room with a dedicated computer centre in the library for the students has been provided to students.
- Proposal for construction of one Boys and Girls hostel under OBC scheme of Govt. of India.

Guest Lectures:

The Guru Nanak Dev University celebrated its 48th Foundation Day on 24th November, 2017 (Friday) with great enthusiasm at the various venues in University Campus. The celebrations started with Bhog Sri Akhand Path followed by Shabad Kirtan & Ardas. Prof. Virander S. Chauhan, Chairman, University Grants Commission, New Delhi delivered Academic Lecture on New Challenges in

Higher Education in India while Prof. R.N.K. Bamezai, former Vice Chancellor, SMVDU, Katra, Jammu delivered lecture on Higher Education Quality and Governance – What could be the right path? and Mr. Chiranjiv Singh, IAS (Retd.), President of the Alliance Française, Bangalore and former Ambassador of India at UNESCO, Paris delivered academic lecture on Nanak Panth – 21st Century.

- 44th Annual Convocation of GNDU held on 31st May, 2018 (Thursday) in which Hon'ble Minister Human Resource Development, Government of India Sh. Prakash Javadekar and Vice-Chancellor, Professor Jaspal Singh Sandhu honored Justice (Retd.) Jagdish Singh Khehar, Former Chief Justice of India and General (Retd.) Bikram Singh, Former Chief of Indian Army with Honoris Causa degrees on behalf of Guru Nanak Dev University in recognition of their contribution in their respective fields at Dasmesh Auditorium.
- An Award Lecture by Padam Shree Dr. Sunita Narain, a noted Indian Environmentalist and Activist, was conducted by Department of Botanical and Environmental Sciences.

Faculty Centric:

- Appointment of 20 new faculty members in various departments to strengthen the education quality for students.
- Increase in H-Index of the university from last one year shows the improvement in research activities. Also the Field Weighted Citation impact of the university is much higher than Panjab University, Chandigarh; Punjabi University Patiala and ISSER, Mohali, however it is still to catch up with Central University of Punjab, Bathinda.
- Several teachers from various Faculties have been promoted under CAS from Stage I to II and Stage II to III as per University Grants Commission's norms. To handle anomalies, an Anomaly/ Modality Committee has been constituted under the chairmanship of Prof. S.S. Chahal, former Vice Chancellor of Maharana Pratap University of Agriculture and Technology, Udaipur.
- Induction courses for the teachers have been introduced.
- Operational zed the Faculty Club in GNDU campus.
- Empanelment of University Health Centre in Central Government Health Scheme (CGHS).
- Eminent Writer and Poet Prof. Surjit Patar has written lyrics of "Kulgeet" of Guru Nanak Dev University. A link to the same has been placed on the university website.
- Establishment of Movie Club for the entertainment of students at a nominal amount. International fame company SPIC MACAY offered to perform cultural.

7.3 Give two Best Practices of the institution.

I. Title of the Practice: MYAS-GNDU Department of Sports Sciences & Medicine

This department has been established in collaboration with the Ministry of Youth Affairs and Sports (MYAS), Government of India (GOI) in order to generate human resource specialized in the field of Sports Sciences in December 2017. Guru Nanak Dev University (GNDU) has been sanctioned a grant of 25 corers to establish and optimise the functioning of this department. In order to achieve this, the department will run dedicated courses in Sports Sciences including Sports Nutrition, Sports Psychology, Exercise and Sports Physiology, Sports Biochemistry and Sports Physiotherapy. Students will receive on field training and attachments to teams to enable them to apply theory to practice. The department also has a memorandum of understanding (MoU) with following Universities abroad for research and faculty exchange: Post Graduate Institute of Medicine, University of Colombo, Bloomsburg University, Pennsylvania, USA, Human Performance Lab, University of Graz, Austria, Karl Franzens Medical University, Graz, Austria and University Sains Malaysia, Malaysia, Sports Authority of India, Sri Guru Ram Das Institute of Medical Sciences & Research and Fortis Escorts Hospital, Amritsar.

MYAS-GNDU Department of Sports Sciences and Medicine formerly known as the Department of Sports Medicine and Physiotherapy (established in 1994) has one of the most comprehensive research laboratories in the fields of Neurophysiology, Motion Analysis, Human Performance, Sports Psychology, Exercise Physiotherapy, Kinan thropometry, Exercise Physiology, Isotonic and VO₂ calculation. Regarding teaching, this Department was the first to introduce Masters in Sports Physiotherapy in South-Central Asia which is now continuing as Masters in Physiotherapy (Sports Physiotherapy) as well as the first University to offer a PhD program in Sports Medicine and Physiotherapy in this part of Asia.

Context:

As envisioned by the Government of India, the need of the country in order to enhance sporting performance, is specialised and trained human resource, which is specialised in meeting the unique demands of persons involved in sporting activity, with the aim of applying the latest in sports sciences to the field, so as to enable the athlete to achieve his maximum potential. Thus, the goal is to produce Sports Scientists in various disciplines related to sporting performance in order to enhance the performance on field. This includes the fields of nutrition, physiology and physiotherapy to enhance performance of athletes.

Goal:

The Masters of Physiotherapy (Sports Physiotherapy) also includes pre-participation examination of fitness; biomechanical factors related to training, rehabilitation of injured athletes so that they can reach their maximum potential. The M.A. (Sport Psychology) course has been started with the aim of generating sports psychologists who can provide psychological support and counselling to enhance performance. The course of M.Sc. (Exercise and Sports Physiology) has been started with the aim of generating human resource with an understanding of human physiology in sports and exercise. Using this theoretical base and practical knowledge they will be able to device training programs

specific to a wide range of sports persons, to enhance performance. Graduates will be competent in evaluating an athlete's fitness and performance using a wide range of field and lab tests. They will also demonstrate an understanding of changes in various physiological systems during sport & exercise through theory and practical classes and be able to use this knowledge, to prescribe fitness programs to both, the injured and non injured athlete. The course of M.Sc. (Sports Nutrition) has been started with an aim to develop human resource who will have the skills to evaluate and recommend healthy nutrition for optimal sporting performance for athletes of many disciplines. They will also have an understanding of principles of exercise physiology and sports medicine in order to be able to prescribe diets for optimal weight management for individuals across ages as well as sports persons. Graduates will demonstrate an understanding of nutritional practices, evaluation of diet plans, formulation of diet plans, counselling for changes in food behaviours for individuals and sportsperson. The course of M.Sc. (Sports Bio-Chemistry) has been started with an aim to develop human resource who will have expertise in the field of biochemistry, cell and molecular biology with special emphasis on Sports Medicine.

The Practice:

The department will run dedicated courses in Sports Sciences including Sports Nutrition, Sports Psychology, Sports Physiology and Sports Physiotherapy. The courses will be launched in July 2018. This is the only state university in India to be beginning so many specific courses in this field. The department is already running Masters in Physiotherapy (Sports) since 1994 when the department was named "Department of Sports Medicine and Physiotherapy" and this program has been successfully running since then. The department was also first to start MD (Sports Medicine) program in India. The students of Masters in Physiotherapy (Sports) have provided many physiotherapy coverage in national sports events conducted outside the University and in other states as well as events conducted on campus itself (list attached as Annexure-I). The department has the following equipments for training students as well as treating patients. Ultrasound, EMG, Pressure Biofeedback, TECAR Therapy, Advanced Holter Analysis System for 6 patients, 32 Channel Computerised EEG, Computerized Pulmonary Function Testing Equipment, ECG machine Pulse Oximeter as well as NIBP monitoring system, Depth Perception Test, Bassin Anticipation Timer, Tachistoscope, Steadyness Tester, Flicker Fusion, Flicker Fusion, G.S.R. Bio-Feed Back, Reaction Time, Eye Tracking System, Vienna Testing System, High Performance Treadmill, Zephyr Bioharness system, VO₂ Max. System, NORAXON TELEMYO 16-channel telemetric EMG system, zebris FDM Gait Analysis system, KNEELAX Arthometer, HUR machines, Biodex dynamometer system

Evidence of Success:

The department has over 260 publications to its credit as an evidence of contribution of the departmental research.

II. Title of the Best Practice:

Centre for Data Analytics and Research (CDAR)

Need

Present times are characterized by unprecedented complexities and deluge of information which needs to be harnessed for benefit of one and all. The emergence of new disciplines, advent of information technology, increased sensitivities and vulnerabilities, strong connectivity to international developments, stricter legal mandates from domestic and international regulators have resulted in nose dive changes in the way businesses are done and research is conducted. With added emphasis on precision, zero tolerance for deviations and continuous analysis of the huge quantum of data for strategic and everyday decisions, need of the hour is to sift noise from information to arrive at meaningful and sustainable solutions. Data analytics can prove a panacea for all menaces of modern world which offer huge opportunities veiled in intense challenges. Data analytics can help build a sustainable advantage for the society at large by providing scientific basis to decisions and choices in the times of fleeting changes.

Purpose

Centre for Data Analytics and Research intends to provide necessary support to the researchers and academicians of the university and outside by strengthening the analytical aspects of research to arrive at meaningful and robust conclusions. The data inputs employed by industry, medical professional, bankers, insurers and other elements of society will be subjected to scientific and empirical rigor to provide them desired assistance to thrive in the competitive world. Doctors, bankers, insurers, business people, researchers, all dabble with scientific problems, backed with perplexing data and numbers, calling for quantitative and qualitative analysis to arrive at workable solutions. The center aims to serve them and offer an abode for all analytical solutions which when meaningfully interpreted can enable us to compete at the global level.

Activities Planned

Phase I

- To provide constructive inputs to researchers submitting/intending to submit research proposals to funding Agencies
- To provide analytical inputs to research scholars pursuing Ph.D. in various disciplines
- To provide consultation and expertise to faculty and researchers to help publish manuscripts in reputed journals
- To organise workshops/training programs to instil and polish analytical skills of potential researchers

Phase II

- To offer diploma/certificate courses in Data Analytics
- To offer ID subject to students of various departments with limited seats

Phase III

- To offer Post Graduate course in M.Sc. in Data Analytics
- To offer consultancy services to various business establishments like banks, insurance companies, corporate sector etc.
- To carry out surveys on behalf of various government and private agencies
- To act as partners in various national and international projects

Activities Undertaken by the Centre (Phase I)

The activities of CDAR revolved around training, informing and equipping researchers to better combat the challenges of research world. In this direction number of activities and initiatives has been undertaken.

Workshops

CDAR started its journey with initiatives to enriching research and researchers through organising a series of workshops so as to train the researchers on the finer nuances of research and new age analysis methods. In this short span of one year CDAR has successfully organised five national level workshops wherein participants from all over India and also overseas (Nepal) participated. CDAR workshops have been a real success and have found huge patronage of the participants who dispersed with contented hearts and enriched minds.

The details of the workshops organised by the centre, theme of the workshop and number of participants have been presented here:

Details of Workshops Organised

| S.NO | Dates of workshop | No. of days | Title | No. of Participants |
|------|------------------------|----------------|---|------------------------|
| 1 | 25-27 November 2017 | 3 Days | Data Preparation And Analysis : Testing Of Hypothesis | 44 |
| 2 | 24-30 December 2017 | 7 Days | Analytical Techniques For Research | 48 |
| 3 | 20-26 February 2018 | 7 Days | Insights into Bimolecular Interactions: A Biophysical Perspective | 28 |
| 4 | 20-22 April 2018 | 3 Days | Introduction to R and Statistical Analysis using R-Studio | 46 |
| 5 | 12-18 May 2018 | 7 Days | Data Analytics & Modeling using AMOS, Smart PLS& ADANCO | 42 |

1. Expert Talk

CDAR also managed to get to the researchers of GNDU the expertise of Prof. Sanjay Kapoor (F.NA.A.Sc.), Department of Plant Molecular Biology, University of Delhi South Campus, New Delhi. Prof. Kapoor enlightened the students on the skills of documenting the research and presents the research to the academic and research world effectively. Prof. Sanjay Kapoor from Department of Plant Molecular Biology, University of Delhi South Campus, New Delhi delivered a highly relevant lecture on the topic "How to document research and convert it into research papers" on 11-10-2017 which was highly appreciated by the budding researchers of the university.

2. Data Management Through Software

CDAR has also worked to render help to the researchers in managing their data through development of customised software. The gigantic task of data collection and management and rendering the data fit for analysis has been made easy through developing software which helps sail through the processes smoothly. CDAR has developed different software according to the research area of the researcher and some of them are mentioned here:

- IPO Return Measurements and Analysis: Mr.RamitAnand, Deptt. Of University School Financial Studies, G.N.D.U., ASR
- Suwidha Centres and Good Governance: A Study of Punjab: Ms.NirdoshKaur, Amardeep Singh ShergillMamorial College, Mukandpur
- Effect of Environmental Degradation on Different Communities of Punjab-Explaining The Socio-Legal and Economic Aspects of Society: Ms.JasleenKaur, Law University, Patiala.

• Performance of MSMEs under WTO Regime: A case study of Punjab: Ms.DivyaMahajan, Department of University Business School, G.N.D.U., Amritsar.

3. Guidance to Researchers

CDAR has rendered research help to the researchers who had been facing unique challenges in their research journey. Personalised counselling, guidance and problem solving was offered by the experts at the centre on account of literature access, analysis methods and similar research challenges. The students who have been guided by the centre are:

- Manisha Sharma, EducationDeptt.
- HarpreetKaur, EducationDeptt.
- RavneetSandhu, PhysiotherapyDeptt.
- SikhaArora, Business & Management (RC, Gurdaspur)
- Neha, PhysiotherapyDeptt.
- PankajChhabra, Guru Ramdas School Of PlanningDeptt.
- Kuldeep Singh, Guru Ramdas School Of Planning Deptt.
- RomiArora, Research Fellow, University Business School

4. Open Source Software

CDAR in its efforts to strengthen and fortify research introduced the concept of open software in times of very costly paid software for analysis which lie beyond the reach of researchers. This is also to promote ethics in research to educate researchers on the eminence of being ethical in their research efforts. Two open source data analysis software which have been introduced to the researchers:

- ➤ GRETL
- > JAMOVI

CDAR envisions providing all necessary help to the researchers pan India with the objective to take Indian research to new heights of recognition and glory worldwide. With the objective to take research in India to the mainstream and create a culture of meaningful and prolific research the new identity of India, CDAR stands committed. CDAR drives its strength from the experts within the university which have dedicated their time, energy and knowledge to this pioneering initiative.

Human Resources in the Centre

1. Dr Prabhjit Singh

Research Methodology Specialist

Professor

Department of Biotechnology

Guru Nanak Dev University

Amritsar-Punjab

2. Dr Balwinder Singh

Data Analysis Specialist

Professor

University School of Financial Studies

Guru Nanak Dev University,

Amritsar-Punjab

3. S. Sukhdev Singh Aulakh

Software Developer

Assistant Programmer

Other than the full time members of the centre, experts from other universities have shouldered this responsibility and attached themselves with the missions of CDAR. These include: Dr. Neeraj Kaushik, Associate Professor, NIT Kurukshetra, Prof. SanketVij,

Professor, BPS MahilaVishwavidyalaya, KhanpurKalan, Sonepat, Prof. Sanjay Rastogi, IIFT, and New Delhi.

The road ahead for CDAR is long and definitely not smooth. Catering to the researchers from different disciplines, different regions, varied needs, diverse objectives calls for strong fundamentals and continuously apprising with the latest developments in the discipline. CDAR stands committed to its objectives and make a meaningful contribution to the research landscape of the country

7.4 Contribution to environmental awareness / protection.

- As a major initiative towards green environment and also to reduce the financial burden, Guru Nanak Dev University, Amritsar approached Solar Energy Corporation of India for installation of Rooftop Solar Energy Plant. University has been allocated a Rooftop Solar Energy Plant of 3 Mega Watt capacity under Government of India's Jawaharlal Nehru National Solar Mission (JNNSM). There will be no financial burden of installation on GNDU and it will save around 1.08 Crore per annum in electricity charges. GNDU has recognized 22 buildings for installation of rooftop solar energy plant and some of them have completed the installation process.
- Steps to make GNDU <u>Vehicle Free University</u> has been initiated. With this, entry of four wheelers will be banned in the campus. Installing Boom Barriers for traffic regulations and by providing two parking lots have been constructed at both entry gates for the convenience of students at very nominal parking rates. An agreement has been signed with Hero Group wherein they have started providing bi-cycles at very nominal charges (including maintenance cost) from both parking lots to all departments.
- <u>Plantation of Trees:</u> Encouraging students to plant at least one plant and nurture it for 6 months on the advice of consultant (horticulture) and Head, Botanical Sciences. A group of volunteer students has already taken initiative for the same.
- Flower & Plant Show cum- Seminar in the name of renowned Punjabi Poet Bhai Vir Singh was organized from December 18-19, 2017. Second Spring Festival of Flowers and Plants is being organized on 10th to 12th March, 2018.
- There has been up gradation of Infrastructure with the ongoing construction of new auditorium and up gradation of the Dasmesh Auditorium.
- University plans to establish two new departments from next year, the Department of Agriculture and Department of Mass Communication.

7.5 Whether environmental audit was conducted?

Environmental Audit is a specialized field under Environmental Protection Act (1986), GOI. This includes mass balance approach related to use of air, water, soil, electricity, heating, ventilation, and air conditioning use in the campus. Environment audit is a yearly activity & look forward to improvements in the management of resources in yearly basis. University got NOC from PPCB related to Sewage Treatment Plant (STP) & submits Environment Audit report to PPCB on yearly basis.

7.6 Any other relevant information the institution wishes to add.

University Grants Commission (UGC) has granted Category-I status to the University, the only University to get this elite status in the region of Punjab, Haryana,

Himachal Pradesh & Chandigarh. It is the Premier University of North India with a score of 3.51 on 4.00 scale of National Assessment and Accreditation Council (Accreditated at highest level i.e. A++ as per the new modified criteria) and it has also been conferred with the status of University with Potential for Excellence (UPE) by UGC and is amongst 16 Universities in the country who got this status. Currently, the University has won the prestigious Maulana Abul Kalam Azad (MAKA) Trophy for 2017-18, for best all-around performance in sports, thereby becoming the only University at National level to claim this Trophy 23 times. The University is also the National winner of both North Zone and National Inter-University Youth Festivals 2017-18. In the National Inter-University youth festival, the University participated in 14 items of Music, Dance, Theatre and Fine arts and got medals in all the 14 disciplines. It has also been recognized as one of the leading institutions in India with the establishment of the first ever "MYAS-GNDU Centre for Sports Sciences and Medicine" outside the Ministry of Youth Affairs.

Spread over an area of 500 acres, the University boasts of 38 teaching departments at the campus, 149 affiliated colleges and 15 University Colleges which are located in the rural areas so as to make quality higher education accessible to the rural masses. The University has established the Directorate of Open and Distance Learning on its campus from the current academic session. The Departments of Sports Medicine and Life Sciences have been recognized as "Centre of Potential for Excellence in a Particular Area". The Chemistry Department of the University has been granted Centre for Advanced Study (CAS) by UGC. One of the four Nodal Calibration Centres established by Bhabha Atomic Research Centre is set up at University campus. The Centre of Emerging Life Sciences equipped with the state-of-the-art sophisticated scientific instruments worth crores of rupees, a well-maintained Botanical Garden, Health Centre and Physiotherapy Centre are a few other assets to mention with pride.

Reversing the trend of more and more students from Punjab going abroad for higher education, University has recorded a whopping 21.5 per cent increase in the admissions this academic session. A number of student-centric initiatives like Student's Activity Clubs, e-magazine, GNDU-Talkies (Screening of English movies for communication skills) and involvement of students in preparation / up gradation of syllabus as members of Pre-Board of Studies, seeking suggestions from the students in "Innovation and Development Board" has helped the students feel engaged in the process of functioning of the University. The University has initiated Several Students Centric Activities; Facilitation Centre for Students has been established for all students' issues, Identity cum Debit Cards has been issued to students in University campus for cashless transactions. POS machines have been installed for deposition of fees and for user charges in the Health Centre. For improving the facilities for students, 70 Water Coolers with R.O. have been installed. To promote students' social and cultural activities Student-Run clubs like Dance Club, Drama Club, Photography Club, Food & Fitness club, Nature and wildlife club, Literary club, Social Service club, Music club, Science club, Movie Making club, Fine Arts club and Go Green club are functioning. For the entertainment of students an International fame company SPIC-MACAY has offered to perform cultural activities without any charges. The exhibitions of photography and paintings in the "The Gallery: History and Dreams" has given opportunity to students to showcase their talent and the

University gives merit and participation certificates. Representatives of the students from all the courses have been made a part of the Board of Control to suggest changes in syllabi. This unique initiative has enabled the students to be a part of the decision making process at the University level. Keeping the physical and mental health of the students in mind, the facility of psychological counseling has been provided. The hostel messes have been upgraded with introduction of high powered chimneys and introduction of buffet style mess. Students Wall in each department and Induction courses for the students have also been introduced. An Organ gram for addressing the grievances of the students has been setup. The Students involvement has been incorporated in the newly constituted Research Development Board to advise the administration regarding the various activities to improve the academic and research environment of the University.

The University has received several grants from National funding agencies. More than twenty Departments of the University have received varied grants under CAS, SAP, DST-FIST and PURSE. Ministry of Youth Affairs and Sports has sanctioned the "MYAS-GNDU Centre for Sports Sciences" with a support of Rs. 25 crores over five years. Rs. 107 crores has been sanctioned for Enhancing quality and Excellence in select state universities, Rs. 4.28 crores has been sanctioned for Faculty Development Centre (FDC) under the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching by MHRD. Additionally, University has also received Rs. 7.0 crores for new Guest House, Rs. 7.0 crores for establishment of two chairs in GNDU, i.e. Baba Saheb Bhim Rao Ambedkar Chair and Baba Budha ji Chair, Rs. 5.7 crores for School of Education, Rs. 90 lakhs for the improvement of Botanical Garden and Rs. 2.25 crores for Hostels' Cleanliness from HUDCO CSIR.

In order to promote research, the University has established Centre for Data Analytics and Research (CDAR), to provide necessary support to the researchers and academicians to enable them to submit the proposal to Federal Funding Agencies and for sending research papers to high impact journals. University has signed several Memorandums of Understanding (MoU's) with leading organizations to enhance academic interests of the students and to facilitate internships in reputed and international institutions and organizations. The University has established an office of PHD Chamber of Commerce in the campus. University-Industry Linkage Programme (UILP) functions as a facilitator to address the needs of both the industry and the University and is constantly undertaking collaborations with national and international industries and research centres. To provide impetus to meaningful research, the Research Degree Boards have been reintroduced with scholars predominantly from institutes of national repute and eminent universities. The faculty from varied Departments has received prestigious Awards/Recognitions and attained research projects and grants from the apex bodies like the DBT, CSIR, BARC, UGC, DST, etc.

8. Plans of institution for next year

- Guru Nanak Dev University is entering into Golden Jubilee Year in 2019. Special
 efforts will be made to strengthen teaching learning and research atmosphere of the
 University in all domains.
- An interfaith centre for the celebrations of 550th birthday of Guru Nanak Dev will be set up at Guru Nanak Dev University (GNDU). Besides, chairs of Guru Nanak Dev will be created in foreign universities. The centre will be established at the cost of Rs 510 crore on the GNDU premises. The centre will have a division of Guru Granth Sahib languages, Divisions of Gurbani sangeet, comparative religions, conflict resolution, travels of Guru Nanak Dev, Sikh archives, division of theology and symphony of religion music and convention centre will be part of interfaith centre.
- The anticipated future developments are focussed to link research and teaching in applied sciences. Future is predicated that MYAS-Sports Sciences and Medicine, Information Technology, Nanotechnology, Basic and Applied Sciences and Centre for Data Analytics will attain more visibility. The future plan is to develop modern and updated infrastructure and highly qualified and competent faculty in these sciences. Focus will be on developing multi-disciplinary collaborative projects.

Prof. Renu Bhardwaj

Director,

Internal Quality Assurance Cell, Guru Nanak Dev University

Amritsar

Prof. Jaspal Singh Sandhu

Vice Chancellor,

Guru Nanak Dev University,

Amritsar

Annexure I

Abbreviations:

CAS - Career Advanced Scheme

CAT - Common Admission Test

CBCS - Choice Based Credit System

CE - Centre for Excellence

CGPA - Cumulative Grade Point Average

COP - Career Oriented Programme

CPE - College with Potential for Excellence

CPEPA - Centre with Potential for Excellence in Particular Area

DPE - Department with Potential for Excellence

DSW - Dean Students' Welfare

GATE - Graduate Aptitude Test

GOC - General Orientation Course

HOD - Head of the Department

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 for Excellence

UPSC - Union Public Service Commission

Annexure II

Academic Calendar for the Session 2017-18

| 1. | Summer Vacations | 29.05.2017 to 30.06.2017 |
|----|----------------------|--------------------------|
| 2. | Semester-I | 03.07.2017 to 17.11.2017 |
| 3. | Examination Schedule | Starts from 20.11.2017 |
| 4. | Winter Vacations | 18.12.2017 to 29.12.2017 |
| 5. | Semester-II | 01.01.2018 to 01.05.2018 |
| 6. | Examination Schedule | Starts from 04.05.2018 |

Course/Programme wise distribution of pass percentage

| | 1 | CCDA | CCDA | CCDA | CCDA | |
|--|-----------|----------|-----------|-----------|--------|--------|
| | Total no. | CGPA | CGPA | CGPA | CGPA | passed |
| Title of the Programme | of | 8.42 (75 | 6.75-8.42 | 5.62-6.74 | 5.62 | |
| | students | and | (60 to < | (50 to < | (<50) | |
| | appeared | above) | 75) | 60) | | |
| M.B.A. (Financial Analysis), 2nd Semester | 59 | 44.07 | 45.76 | 6.78 | 3.39 | 100.00 |
| M.B.A. (Marketing | 53 | 15.09 | 56.60 | 16.98 | 11.32 | 100.00 |
| Management), 2nd Semester | | | | | | |
| Master of Computer | 52 | 13.46 | 23.08 | 28.85 | 26.92 | |
| Applications (FYIC), 2nd | | | | | | 92.31 |
| Semester | | | | | | |
| B.Sc. (Hons. School) | 86 | 31.40 | 36.05 | 15.12 | 3.49 | 86.05 |
| Chemistry, 2nd Semester | | | | | | |
| B.Sc. (Hons. School) | 84 | 39.29 | 35.71 | 17.86 | 3.57 | 96.43 |
| Chemistry, 4th Semester | | | | | | |
| B.Sc. (Hons. School) | 72 | 31.94 | 43.06 | 13.89 | 0.00 | 88.89 |
| Chemistry, 6th Semester | | | | | | |
| B.Sc (Hons. School) | 65 | 18.46 | 27.69 | 15.38 | 9.23 | 70.77 |
| Economics, 2nd-Semester | | 10.40 | 27.03 | 15.50 | 3.23 | 70.77 |
| B.Sc (Hons. School) | 61 | 19.67 | 55.74 | 22.95 | 1.64 | 100.00 |
| Economics, 4th-Semester | 01 | 13.07 | 33.74 | 22.95 | 1.04 | 100.00 |
| B.Sc (Hons. School) | F2 | 21.15 | FF 77 | 21.15 | 1.02 | 100.00 |
| Economics, 6th-Semester | 52 | 21.15 | 55.77 | 21.15 | 1.92 | 100.00 |
| Masters of Business | 0.5 | 24.00 | 40.50 | 40.75 | 44.46 | |
| | 96 | 21.88 | 40.63 | 18.75 | 11.46 | 02.71 |
| Administration (FYIC), 2nd- Semester | | | | | | 92.71 |
| Masters of Business | 02 | 24.20 | 27.00 | 22.47 | 40.00 | |
| | 82 | 24.39 | 37.80 | 23.17 | 10.98 | 96.34 |
| Administration (FYIC), 4th- Semester | | | | | | 90.34 |
| Master of Computer | 1 | 0.00 | 0.00 | 0.00 | 100.00 | |
| Applications (FY & SMIC), 2nd- | 1 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Semester | | | | | | 100.00 |
| Master of Computer | 83 | 13.25 | 22.89 | 42.17 | 18.07 | |
| Applications (FY & SMIC), 4th- | 85 | 13.25 | 22.89 | 42.17 | 18.07 | 96.39 |
| Semester | | | | | | 30.33 |
| B.Tech. (Food Technology)- | 25 | FC 00 | 40.00 | 4.00 | 0.00 | 100.00 |
| 2nd Semester | 25 | 56.00 | 40.00 | 4.00 | 0.00 | 100.00 |
| | 40 | 40.60 | 46.54 | 27.04 | 4.65 | 07.67 |
| B.Tech. (Food Technology)- 4th Semester | 43 | 18.60 | 46.51 | 27.91 | 4.65 | 97.67 |
| | | | | | | 400.00 |
| B.Tech. (Food Technology)- | 49 | 38.78 | 36.73 | 22.45 | 2.04 | 100.00 |
| 6th Semester | | | | | | |
| B.Tech. (Food Technology)- | 47 | 14.89 | 38.30 | 42.55 | 4.26 | 100.00 |
| 8th Semester | | | | | | |
| B.Tech. (Computer Science & | 213 | 16.90 | 39.44 | 29.11 | 12.68 | 98.12 |
| Engg.)-2nd Semester | | | | | | |
| B.Tech. (Computer Science & | 198 | 35.35 | 46.97 | 16.16 | 1.01 | 99.49 |
| Engg.)-4th Semester | | | | | | |
| B.Tech. (Computer Science & | 180 | 33.33 | 45.00 | 17.78 | 3.89 | 100.00 |
| Engg.)-6th Semester | | | | | | |
| B.Tech. (Computer Science & | 165 | 54.55 | 39.39 | 6.06 | 0.00 | 100.00 |
| Engg.)-8th Semester | | | | | | |
| B.Tech (Electronics & Comm. | 106 | 22.64 | 37.74 | 30.19 | 3.77 | 94.34 |
| Engg.)-2nd Semester | | | | | | |

| B.Tech (Electronics & Comm. Engg.)-4th Semester | 101 | 18.81 | 47.52 | 20.79 | 10.89 | 98.02 |
|--|-----|-------|-------|--------|--------|--------|
| B.Tech (Electronics & Comm. Engg.)-6th Semester | 153 | 22.88 | 46.41 | 27.45 | 3.27 | 100.00 |
| B.Tech (Electronics & Comm. Engg.)-8th Semester | 153 | 37.91 | 54.25 | 7.84 | 0.00 | 100.00 |
| B.Tech. (Urban & Regional Planning)-2nd Semester | 12 | 50.00 | 16.67 | 25.00 | 0.00 | 91.67 |
| B.Tech. (Urban & Regional Planning)-4th Semester | 18 | 16.67 | 50.00 | 22.22 | 11.11 | 100.00 |
| B.Tech. (Urban & Regional Planning)-6th Semester | 20 | 10.00 | 65.00 | 20.00 | 0.00 | 95.00 |
| B.Tech. (Urban & Regional Planning)-8th Semester | 30 | 23.33 | 36.67 | 36.67 | 3.33 | 100.00 |
| Bachelor of Architecture-2nd Semester | 77 | 16.88 | 62.34 | 18.18 | 1.30 | 98.70 |
| Bachelor of Architecture-4th Semester | 76 | 11.84 | 47.37 | 32.89 | 5.26 | 97.37 |
| Bachelor of Architecture-6th Semester | 78 | 7.69 | 51.28 | 34.62 | 3.85 | 97.44 |
| Bachelor of Architecture-8th Semester | 73 | 0.00 | 58.90 | 38.36 | 2.74 | 100.00 |
| Bachelor of Architecture-10th Semester | 78 | 5.13 | 61.54 | 30.77 | 1.28 | 98.72 |
| B.Sc.(Hons.School)Human Genetics, 2nd Semester | 30 | 6.67 | 36.67 | 30.00 | 3.33 | 76.67 |
| B.Sc.(Hons.School)Human Genetics, 4th Semester | 24 | 16.67 | 54.17 | 20.83 | 8.33 | 100.00 |
| B.Sc.(Hons.School)Human Genetics, 6th Semester | 20 | 25.00 | 45.00 | 25.00 | 5.00 | 100.00 |
| B.Sc.(Honours School) Physics, 2nd Semester | 71 | 25.35 | 32.39 | 16.90 | 7.04 | 81.69 |
| B.Sc.(Honours School) Physics, 4th Semester | 62 | 35.48 | 40.32 | 19.35 | 3.23 | 98.39 |
| B.Sc.(Honours School) Physics, 6th Semester | 66 | 36.36 | 46.97 | 16.67 | 0.00 | 100.00 |
| B.Tech. (Electronics Communication System Engineering), 6th Semester | 1 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 |
| B.Tech. (Electronics Communication System Engineering), 8th Semester | 17 | 11.76 | 52.94 | 29.41 | 5.88 | 100.00 |
| Bachelor of Pharmacy, 2nd Semester | 55 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Bachelor of Pharmacy, 4th Semester | 38 | 39.47 | 39.47 | 18.42 | 0.00 | 97.37 |
| Bachelor of Pharmacy, 6th Semester | 41 | 41.46 | 43.90 | 14.63 | 0.00 | 100.00 |
| Bachelor of Pharmacy, 8th Semester | 40 | 40.00 | 42.50 | 17.50 | 0.00 | 100.00 |
| Bachelor of Laws (Hons) (Three Year Course), 4th Semester | 1 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Bachelor of Laws (Hons) (Three Year Course), 6th | 4 | 0.00 | 0.00 | 25.00 | 75.00 | 100.00 |

| Semester | | | | | | |
|---|-----|-------|-------|-------|--------|--------|
| B.A. LL.B. (Hons.)-FYIC, 4th Semester | 95 | 0.00 | 62.11 | 27.37 | 10.53 | 100.00 |
| B.A. LL.B. (Hons.)-FYIC, 8th Semester | 87 | 3.45 | 33.33 | 51.72 | 11.49 | 100.00 |
| Bachelor of Library & Information Science (Hons.), 2nd Semester | 23 | 34.78 | 30.43 | 21.74 | 8.70 | 95.65 |
| B.A. (Hons. School) Punjabi, 2nd-Semester | 24 | 20.83 | 4.17 | 33.33 | 25.00 | 83.33 |
| B.A. (Hons. School) Punjabi, 4th-Semester | 24 | 25.00 | 41.67 | 29.17 | 4.17 | 100.00 |
| B.A. (Hons. School) Punjabi, 6th-Semester | 20 | 20.00 | 30.00 | 30.00 | 20.00 | 100.00 |
| B.Tech. (Computer Engineering), 8th Semester | 48 | 33.33 | 56.25 | 10.42 | 0.00 | 100.00 |
| B.A. (Hons.) Social Sciences, 2nd Semester | 84 | 11.90 | 32.14 | 28.57 | 17.86 | 90.48 |
| B.A. (Hons.) Social Sciences, 4th Semester | 68 | 27.94 | 47.06 | 14.71 | 7.35 | 97.06 |
| B.A. (Hons.) Social Sciences, 6th Semester | 79 | 27.85 | 35.44 | 24.05 | 12.66 | 100.00 |
| Bachelor of Laws (Three Year Course), 2nd Semester | 85 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Bachelor of Laws (Three Year Course), 4th Semester | 82 | 0.00 | 42.68 | 40.24 | 17.07 | 100.00 |
| Bachelor of Laws (Three Year Course), 6th Semester | 116 | 0.00 | 51.72 | 40.52 | 7.76 | 100.00 |
| Bachelor of Tourism & Travel Management, 2nd Semester | 22 | 13.64 | 22.73 | 22.73 | 22.73 | 81.82 |
| Bachelor of Tourism & Travel Management, 4th Semester | 14 | 14.29 | 21.43 | 57.14 | 7.14 | 100.00 |
| Bachelor of Pharmacy (PCI), 2nd Semester | 55 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| B.A. LL.B. (Five Years Course), 2nd Semester | 110 | 4.55 | 44.55 | 30.00 | 0.91 | 80.00 |
| Masters of Business Administration (FYIC), 6th- Semester | 74 | 27.03 | 41.89 | 22.97 | 8.11 | 100.00 |
| Master of Computer Applications (FY & SMIC), 6th- Semester | 94 | 22.34 | 43.62 | 28.72 | 5.32 | 100.00 |
| Master of Computer Applications (FY & SMIC), 10th-Semester | 53 | 28.30 | 52.83 | 16.98 | 0.00 | 98.11 |
| B.A. LL.B. (Hons.)-FYIC, 6th Semester | 108 | 0.93 | 55.56 | 35.19 | 6.48 | 98.15 |
| Master of Commerce, 2nd- Semester | 110 | 11.82 | 41.82 | 30.91 | 12.73 | 97.27 |
| Master of Commerce, 4th- Semester | 115 | 18.26 | 53.04 | 21.74 | 6.09 | 99.13 |
| Masters of Business Administration, 2nd-Semester | 117 | 18.80 | 43.59 | 26.50 | 9.40 | 98.29 |
| Masters of Business Administration, 4th-Semester | 109 | 23.85 | 38.53 | 30.28 | 7.34 | 100.00 |

| M.Sc.(Hons.School) Economics, 2nd-Semester | 66 | 9.09 | 34.85 | 24.24 | 25.76 | 93.94 |
|--|----|-------|-------|--------|--------|--------|
| M.Sc.(Hons.School) Economics, 4th-Semester | 63 | 12.70 | 69.84 | 14.29 | 3.17 | 100.00 |
| Master of Computer Applications(TYC), 2nd- Semester | 58 | 32.76 | 46.55 | 10.34 | 5.17 | 94.83 |
| Master of Computer Applications(TYC), 4th- Semester | 64 | 17.19 | 42.19 | 20.31 | 3.13 | 82.81 |
| Master of Computer Applications(TYC), 6th- Semester | 60 | 51.67 | 41.67 | 6.67 | 0.00 | 100.00 |
| Masters of Business Administration (FYIC), 8th- Semester | 34 | 14.71 | 41.18 | 29.41 | 8.82 | 94.12 |
| Master of Computer Applications (FY & SMIC), 8th- Semester | 51 | 25.49 | 62.75 | 11.76 | 0.00 | 100.00 |
| M.Tech. (Urban Planning), 2nd-Semester | 23 | 56.52 | 26.09 | 17.39 | 0.00 | 100.00 |
| M.Tech. (Urban Planning), 4th-Semester | 21 | 38.10 | 42.86 | 19.05 | 0.00 | 100.00 |
| M.Sc. Biotechnology, 2nd Semester | 15 | 46.67 | 26.67 | 26.67 | 0.00 | 100.00 |
| M.Sc. Biotechnology, 4th Semester | 27 | 29.63 | 59.26 | 7.41 | 3.70 | 100.00 |
| M.Sc. (Hons.School) Chemistry, 2nd Semester | 59 | 30.51 | 47.46 | 16.95 | 3.39 | 98.31 |
| M.Sc. (Hons.School) Chemistry, 4th Semester | 61 | 26.23 | 59.02 | 11.48 | 3.28 | 100.00 |
| M.Sc. (Food Technology), 2nd Semester | 30 | 26.67 | 60.00 | 10.00 | 0.00 | 96.67 |
| M.Sc. (Food Technology), 4th Semester | 29 | 31.03 | 58.62 | 6.90 | 0.00 | 96.55 |
| Master of Pharmacy, 2nd Semester | 20 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Master of Pharmacy, 4th Semester | 15 | 46.67 | 53.33 | 0.00 | 0.00 | 100.00 |
| M.Sc. (Hons.) Molecular Biology & Biochemistry, 4th Semester | 2 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 |
| M.Tech. (Computer Science & Engineering) Two Year Course, 2nd Semester | 39 | 43.59 | 33.33 | 7.69 | 10.26 | 94.87 |
| M.Tech. (Computer Science & Engineering) Two Year Course, 4th Semester | 57 | 56.14 | 40.35 | 1.75 | 1.75 | 100.00 |
| Master of Planning (Infrastructure), 2nd Semester | 18 | 22.22 | 55.56 | 16.67 | 5.56 | 100.00 |
| Master of Planning (Infrastructure), 4th Semester | 16 | 12.50 | 68.75 | 18.75 | 0.00 | 100.00 |
| M.Sc. (Hons.) Chemistry, 4th Semester | 1 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 |
| Master of Arts in English (Hons), 4th Semester | 2 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |

| M.Phil. Punjabi , 2nd Semester | 4 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 |
|---|----|--------|-------|--------|--------|--------|
| M.Phil. Sanskrit, 2nd Semester | 6 | 100.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| M.Phil. Hindi, 2nd Semester | 5 | 0.00 | 0.00 | 100.00 | 0.00 | 100.00 |
| M.Phil. Religious Studies, 2nd Semester | 4 | 25.00 | 75.00 | 0.00 | 0.00 | 100.00 |
| M.Sc. (Hons. School) Physics, 2nd-Semester | 44 | 47.73 | 38.64 | 6.82 | 0.00 | 93.18 |
| M.Sc. (Hons. School) Physics, 4th-Semester | 38 | 7.89 | 86.84 | 5.26 | 0.00 | 100.00 |
| Post Graduate Diploma In Mental Health Counselling, 2nd Semester | 13 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| M.Tech. (ECE*) Specialization (Communication Systems), 2nd Semester | 16 | 25.00 | 37.50 | 37.50 | 0.00 | 100.00 |
| M.Tech. (ECE*) Specialization (Communication Systems), 4th Semester | 26 | 30.77 | 65.38 | 3.85 | 0.00 | 100.00 |
| M.Sc. (Honours School) Human Genetics, 2nd Semester | 17 | 52.94 | 41.18 | 5.88 | 0.00 | 100.00 |
| M.Sc. (Honours School) Human Genetics, 4th Semester | 22 | 27.27 | 50.00 | 22.73 | 0.00 | 100.00 |
| Master of Architecture (Urban Design), 2nd Semester | 8 | 0.00 | 62.50 | 25.00 | 0.00 | 87.50 |
| M.P.A. Music (Vocal), 2nd Semester | 30 | 33.33 | 56.67 | 0.00 | 0.00 | 90.00 |
| M.P.A. Music (Vocal), 4th Semester | 27 | 51.85 | 48.15 | 0.00 | 0.00 | 100.00 |
| M.P.A. Music (Instrumental), 2nd Semester | 26 | 42.31 | 53.85 | 0.00 | 0.00 | 96.15 |
| M.P.A. Music (Instrumental), 4th Semester | 18 | 72.22 | 27.78 | 0.00 | 0.00 | 100.00 |
| Master of Arts in Psychology, 2nd Semester | 32 | 25.00 | 28.13 | 28.13 | 18.75 | 100.00 |
| Master of Arts in Psychology, 4th Semester | 30 | 40.00 | 50.00 | 10.00 | 0.00 | 100.00 |
| M.B.A. Financial Services, 4th Semester | 29 | 20.69 | 51.72 | 27.59 | 0.00 | 100.00 |
| M.B.A.Marketing and Retail Management, 4th Semester | 32 | 15.63 | 53.13 | 31.25 | 0.00 | 100.00 |
| Master of Arts in Political Science, 2nd Semester | 52 | 15.38 | 57.69 | 23.08 | 3.85 | 100.00 |
| Master of Arts in Political Science, 4th Semester | 43 | 11.63 | 62.79 | 23.26 | 0.00 | 97.67 |
| M.Sc. Chemistry, 2nd Semester | 51 | 11.76 | 54.90 | 25.49 | 7.84 | 100.00 |
| M.Sc. Chemistry, 4th Semester | 48 | 16.67 | 45.83 | 29.17 | 2.08 | 93.75 |
| Master of Arts in English, 2nd Semester | 40 | 2.50 | 40.00 | 25.00 | 15.00 | 82.50 |

| Master of Arts in English, 4th Semester | 27 | 7.41 | 51.85 | 40.74 | 0.00 | 100.00 |
|---|----|-------|-------|--------------|--------|--------|
| Master of Arts in History, 2nd Semester | 24 | 0.00 | 33.33 | 41.67 | 12.50 | 87.50 |
| Master of Arts in History, 4th Semester | 26 | 3.85 | 38.46 | 57.69 | 0.00 | 100.00 |
| Master of Arts in Hindi, 2nd Semester | 19 | 0.00 | 52.63 | 36.84 | 10.53 | 100.00 |
| Master of Arts in Hindi, 4th Semester | 12 | 0.00 | 41.67 | 58.33 | 0.00 | 100.00 |
| Master of Arts in Philosophy, 2nd-Semester | 4 | 25.00 | 50.00 | 25.00 | 0.00 | 100.00 |
| Master of Arts in Philosophy, 4th-Semester | 9 | 77.78 | 11.11 | 11.11 | 0.00 | 100.00 |
| Master of Arts in Religious Studies, 2nd Semester | 14 | 64.29 | 35.71 | 0.00 | 0.00 | 100.00 |
| Master of Arts in Religious Studies, 4th Semester | 11 | 45.45 | 45.45 | 9.09 | 0.00 | 100.00 |
| Master of Arts in Sanskrit, 2nd Semester | 7 | 28.57 | 71.43 | 0.00 | 0.00 | 100.00 |
| Master of Arts in Sanskrit, 4th Semester | 8 | 37.50 | 37.50 | 25.00 | 0.00 | 100.00 |
| Master of Arts in Sociology, 2nd Semester | 20 | 0.00 | 10.00 | 40.00 | 45.00 | 95.00 |
| Master of Arts in Sociology, 4th Semester | 18 | 11.11 | 16.67 | 50.00 | 22.22 | 100.00 |
| M.Sc. Molecular Biology & Biochemistry, 2nd Semester | 43 | 11.63 | 51.16 | 16.28 | 16.28 | 95.35 |
| M.Sc. Molecular Biology & Biochemistry, 4th Semester | 46 | 8.70 | 47.83 | 34.78 | 8.70 | 100.00 |
| M.Sc. Human Genetics, 2nd Semester | 19 | 21.05 | 36.84 | 21.05 | 15.79 | 94.74 |
| M.Sc. Human Genetics, 4th Semester | 20 | 10.00 | 50.00 | 25.00 | 15.00 | 100.00 |
| LL.M. (One Year Course), 2nd Semester | 26 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Master of Arts in Punjabi, 2nd Semester | 49 | 38.78 | 55.10 | 4.08 | 2.04 | 100.00 |
| Master of Arts in Punjabi, 4th Semester | 45 | 31.11 | 51.11 | 15.56 | 2.22 | 100.00 |
| M.Sc. Microbiology, 2nd Semester | 47 | 8.51 | 21.28 | 23.40 | 34.04 | 87.23 |
| M.Sc. Microbiology, 4th Semester | 41 | 17.07 | 60.98 | 21.95 | 0.00 | 100.00 |
| M.Sc. Physics, 2nd Semester | 59 | 23.73 | 47.46 | 25.42 | 3.39 | 100.00 |
| M.Sc. Physics, 4th Semester | 61 | 26.23 | 62.30 | 9.84 | 0.00 | 98.36 |
| M.Sc. Zoology, 2nd Semester | 48 | 16.67 | 52.08 | 27.08 | 4.17 | 100.00 |
| M.Sc. Zoology, 4th Semester | 48 | 35.42 | 56.25 | 6.25 | 2.08 | 100.00 |
| | | 1 | | | 1 | 1 |

| | | • | | | | |
|---|----|-------|--------|-------|--------|--------|
| M.Sc. Environmental Sciences, 4th Semester | 29 | 24.14 | 55.17 | 17.24 | 3.45 | 100.00 |
| Master of Library & Information Science, 2nd | 20 | 35.00 | 60.00 | 5.00 | 0.00 | 100.00 |
| Semester | | | | | | |
| M.Sc. Botany, 2nd Semester | 48 | 35.42 | 45.83 | 16.67 | 0.00 | 97.92 |
| M.Sc. Botany, 4th Semester | 51 | 27.45 | 62.75 | 7.84 | 0.00 | 98.04 |
| Master of Arts in Education, 2nd Semester | 11 | 54.55 | 36.36 | 9.09 | 0.00 | 100.00 |
| Master of Arts in Education, 4th Semester | 9 | 55.56 | 44.44 | 0.00 | 0.00 | 100.00 |
| M.Sc. Mathematics, 2nd Semester | 48 | 18.75 | 35.42 | 14.58 | 14.58 | 83.33 |
| M.Sc. Mathematics, 4th Semester | 42 | 21.43 | 33.33 | 33.33 | 11.90 | 100.00 |
| Master in Physiotherapy (Sports), 2nd Semester | 26 | 42.31 | 53.85 | 3.85 | 0.00 | 100.00 |
| Master in Physiotherapy (Sports), 4th Semester | 23 | 30.43 | 69.57 | 0.00 | 0.00 | 100.00 |
| M.A. (Business Economics), 2nd Semester | 12 | 8.33 | 50.00 | 33.33 | 8.33 | 100.00 |
| M.A. (Business Economics), 4th Semester | 8 | 0.00 | 37.50 | 37.50 | 25.00 | 100.00 |
| Master of Education, 2nd Semester | 27 | 62.96 | 37.04 | 0.00 | 0.00 | 100.00 |
| Master of Education, 4th Semester | 14 | 50.00 | 50.00 | 0.00 | 0.00 | 100.00 |
| Master of Business Administration (Hospital Administration), 2nd Semester | 9 | 44.44 | 55.56 | 0.00 | 0.00 | 100.00 |
| Master of Business Administration (Hospital Administration), 4th Semester | 21 | 52.38 | 33.33 | 14.29 | 0.00 | 100.00 |
| Pre Ph.D. Course in Biotechnology, 1st Semester | 5 | 60.00 | 40.00 | 0.00 | 0.00 | 100.00 |
| Pre Ph.D. Course in Botany, 1st Semester | 5 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Pre Ph.D. Course in Microbiology, 1st Semester | 1 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Pre Ph.D. Course in Commerce, 2nd Semester | 11 | 54.55 | 45.45 | 0.00 | 0.00 | 100.00 |
| Pre Ph.D. Faculty of Humanities and Religious Studies, 2nd Semester | 7 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Pre Ph.D. (Planning), 2nd Semester | 1 | 0.00 | 100.00 | 0.00 | 0.00 | 100.00 |
| Pre Ph.D. Course in Hindi, 2nd Semester | 4 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Pre Ph.D. Course in Agricutlure, 1st-Semester | 1 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| Pre Ph.D. Course in Business Administration, 2nd Semester | 8 | 75.00 | 25.00 | 0.00 | 0.00 | 100.00 |

List of Existing Important Equipment

UPE: Material Science

High Resolution Transmission Electron Microscope

Vibrating Sample Magnetometer

Pulse Laser Deposition System

Vector network Analyser

Spectroscopic Ellipsometry

Dynamic Light Scattering

Brunauer-Emmett-Teller (BET) surface analyzer

Semiconductor IV-CV Characterisation Systems

Software Virtual Nano Lab Silvaco Quantum 3D

PVD System (Multi target) with electron beam gun

SAXS and high temperature stage

UPE: Health Care, Drug Development and Sports Medicine

NMR spectrometer (500 MHz)

Motion Analysis Equipment

Flash Chromatography

UPE: Environmental Management

Next Generation Sequencer

Accessories of SEM

Atomic Absorption Spectrometer

Amino Acid Analyser

CHNSO Analyzer

Preparative/ Semi-prep. HPLC

Ion Chromatography

Freeze Drier

Mobile Environmental Analysis lab

Software for Remote Sensing

Five parts Haematology Analyser

Standard Radon Equipment

CPEPA

Cytogenetic Workstation

Real Time PCRs (2 nos)

Ultracentrifuge

PURSE

Automated DNA Sequencer 24 capillary

Scanning Electron Microscope (SEM)

DRT

Inverted Microscope with Fluorescent Attachment

University Funds

Confocal Microscope

LC MS system

Scanning Electron Microscope

Flow Cytometer

List of Equipment in the Departments:

Faculty of Life Sciences

Department of Biotechnology

- 1. Gel Documentation System
- 2. High Speed Centrifuge
- 3. Deep Freezer -80°C
- 4. UV-VIS Spectrophotometer
- 5. CO₂ Incubators
- 6. Stereo Microscope
- 7. qRT-PCR Machine
- 8. Walk-in Cold Room
- 9. Cryomicrotome
- 10. ELISA Plate Reader
- 11. Inverted Microscope
- 12. Upright Fluroscent Microscope
- 13. HPLC
- 14. Incubator Shaker
- 15. Refrigerated Centrifuge
- 16. AKTA Prime Plus
- 17. 3100 Offgel Fractionator
- 18. Protein Purification System
- 19. Distillation Unit
- 20. Laminar Flow Hoods
- 21. Lyohilizer
- 22. Pulse filed Electrophoresis Apparatus
- 23. Fermenter
- 24. Real time PCR System
- 25. Automatic Liquid Scintilation Counter
- 26. Horizontal Laminar Flow
- 27. Laminar Air Flow Cabinet
- 28. Transillunator
- 29. Microrocessor Photosynthesis Control Panel
- 30. Gene Pulser Excel Electrophoration System
- 31. GL 115 Pathology Work Station

Department of Botanical & Environmental Sciences

- 1. AAS
- 2. GCMS
- 3. Gel Docs
- 4. PCR
- 5. Deep freezer -40°C, -80°C
- 6. CO₂ incubator
- 7. Lyophilyzer
- 8. Inverted microscope
- 9. Infra Red Gas Analyzer
- 10. Rotary evaporator
- 11. Centrifuge
- 12. Spectrophotometer
- 13. Vapour pressure osmometer
- 14. Fluorescent microscope
- 15. Seed Germinator
- 16. Colony Counter

Department of Human Genetics

- 1. DNA Sequencer ABI-PRISM 377
- 2. Fluorescent Microscope
- 3. Cytogenetic Work Station Fluorescent Microscope BX51 (CytovisionSoftware)

- 4. Cytogenetic Work Station with AHBT3 Olympus Microscope (VysisSoftware)
- 5. Water Purification System Elix 3 (Millipore)
- 6. Trinocular Inverted Microscope
- 7. Photographic System Model PM 30 (Olympus)
- 8. Electronic Balance
- 9. Icematic Flaker
- 10. Stadiometer
- 11. Harpenden-Type Calliper
- 12. Lange's Skinfold Callipers
- 13. Electronic Weighing Machine Gym Model
- 14. Blood Analyzer Semi Automatic
- 15. Blotting System
- 16. Refrigerated Centrifuge
- 17. Body Fat Analyzer
- 18. Laminar Hoods
- 19. B.O.D. Incubator
- 20. Deep Freezer -20°C
- 21. Gel Documentation System
- 22. Hybridization Incubator
- 23. Thermocyclers
- 24. CO₂ Incubators
- 25. ELISA Systems
- 26. RT-PCR
- 27. Electrophoretic Systems
- 28. Nano-Drop
- 29. Thermobrite
- 30. Personal Exposimeter
- 31. Cytospin
- 32. Deep Freezer-80°C

Department of Microbiology

- 1. High Performance Liquid Chromatography
- 2. Fast Protein Liquid Chromatography
- 3. Lyophilizer
- 4. Two Dimensional Gel Electrophoresis
- 5. Gradient PCR
- 6. Bench Scale Fermentor
- 7. Centrifuge C-24BL
- 8. Gas Chromatography
- 9. Flash Chromatography
- 10. Rota Vapour
- 11. Sonicator
- 12. Freezer-20°C
- 13. Freezer-80°C
- 14. Plant Growth Chamber
- 15. Spectrophotometer UV1601
- 16. Fluoroscent Plate Reader
- 17. Protein Purification System
- 18. Incubator Shakers
- 19. Anaerobic Chamber

Department of Molecular Biology & Biochemistry

- 1. Water Purification System
- 2. Refrigerator Centrifuge
- 3. Thermocycler

- 4. UV-VIS spectrophotometer
- 5. Microscope Flourence
- 6. FPLC
- 7. 2D Electrophoresis
- 8. Gel Documentation System

Department of Pharmaceutical Sciences

- 1. Particle size Analyser
- 2. Rehometer
- 3. Brookfield Viscometer
- 4. Non Invasive Blood Pressure Measuring
- 5. HPLC
- 6. J.R.
- 7. Diffusion Cell
- 8. Dissolution apparatus autosampler
- 9. Probe Sonicator
- 10. Freezer Drier
- 11. FTIR
- 12. UV Spectrophotometer
- 13. Rotary tablet machine
- 14. Rotary Evaporator

Department of Zoology

- 1. Turbidity meter and Thermoreacter
- 2. Muffle furnace 150x150x300mm
- 3. Double Beam UV-VIS spectrophotometer
- 4. Nikon Trinocular Research Microscope Model E20 with accessories
- 5. Benchtop freezer dryer
- 6. Water Purification System with prefilter, ultrapure, RO System
- 7. Humidity Chamber
- 8. Microplate Reader
- 9. Wildlife Photography equipment
- 10. Microprocessor based UV Visible Spectrophotometer
- 11. BOD incubator
- 12. Automatic Microplate Absorbance Reader
- 13. Vertical Laminar Flow Cabinet
- 14. Horizontal Laminar Flow
- 15. Deep Freezer -40°C
- 16. Refrigerated Incubator Shaker

Faculty of Sciences

Department of Chemistry

- 1. JEOL-FT NMR-AL 300 MHz spectrophotometer
- 2. Varian fluorospectrophotometer
- 3. Varian IR spectrophotometer
- 4. (TGA)/ differential scanning calorimetrtic analyzer (DSC)
- 5. CHNS analyzer
- 6. Polarized optical microscope (POM)
- 7. Chiral HPLC
- 8. Bruker's Apex-II CCD diffractometer
- 9. UV-vis spectrophotometer
- 10. Biotage initiator microwave
- 11. HP-TLC
- 12. X-ray powder diffractometer
- 13. Tensiometer
- 14. Fluorescence life time TSPC

Department of Food Science & Technology

- 1. UV/VIS Spectroscopy
- 2. Freeze Drier
- 3. Differential Scanning Calorimeter
- 4. Rapid Visco-Analyzer
- 5. Spray Drier
- 6. GPC
- 7. Hunter Color Lab.
- 8. Watr Activity Meter
- 9. HPLC
- 10. Farinograph
- 11. Viscoamylograph
- 12. Alveograph
- 13. Falling Number Apparatus
- 14. McGill Sheller/Polisher
- 15. Komat Oil Expeller
- 16. Hammer Mill
- 17. Barbender Flour Mill
- 18. Reel Type Baking Oven
- 19. Fermenter with Refrigeration Unit
- 20. Brookfiled Viscometer
- 21. Dough Mixer
- 22. Cabinet Driers
- 23. Texture Analyser
- 24. Dynamic Rheometer
- 25. Evaporator
- 26. Fluidized Bed Drier
- 27. Single Screw Extruder
- 28. FTIR
- 29. Mixograph
- 30. Atomic Absorption Spectrometer
- 31. Instron Universal Testing Machine
- 32. Bioreactor
- 33. Electrophorosis

Department of Physics

- 1. X-Ray Diffraction
- 2. Photoluminescence
- 3. UV-Visible
- 4. FTIR
- 5. Atomic Absorption Spectroscope
- 6. Atomic Force Microscope
- 7. Raman Spectrophotometer
- 8. RF Sputtering Unit
- 9. Planetary Ball Mill
- 10. Thermal Evaporation Unit
- 11. Sputtering Unit
- 12. Source Meter
- 13. High Temperature Furnace
- 14. LCR Meter

Faculty of Sports Medicine & Physiotherapy

Department of Sports Medicine & Physiotherapy

- 1. Biomechanical EMG Analyser
- 2. Isotonic Strength Performance System

- 3. Computer Multimedia Projector
- 4. Dual Biaxial Electronic Cyclonometer
- 5. Gas Analyser (VO₂ Max)
- 6. Ergometer Cycle
- 7. Reaction / Movement Time Panel
- 8. Isotonic Strength Performance System
- 9. Treadmill Test
- 10. Semi Automatic Blood Chemistry Analyser
- 11. Biofeedback System Procomp 5
- 12. Multiple Site Bone Strength Sonometer
- 13. USB A/D Converter
- 14. Zephyr Bioharness Team System
- 15. Ultrapure Water Purification System
- 16. Fixed Channel for MyoSystem
- 17. Body Comparison Analyser
- 18. Portable Lactate Analyser
- 19. Computerize Spirometer
- 20. Mini Omni Bone Sonometer
- 21. Neurovision Hardware Software Kit
- 22. On field Motion Analysis System
- 23. Stability Platform with Digital Control
- 24. Cervical Spine Evaluation & Training System
- 25. Telemetric VO₂ Max System
- 26. Functional Monitoring & Physical Activity System
- 27. Isometric Evaluation System for Upper Body
- 28. Gait Analysis System
- 29. 16 Channel Telemetric EMG System
- 30. Anthropometric Rods
- 31. Harvest SmartPrep 2 MCS
- 32. Arthometer for Knee
- 33. Microwave Therapy
- 34. Isokinetic System
- 35. Centrifuge plus Rotor Head
- 36. Digital UV Spectrophotometer