ਮਹਾਰਾਜਾ ਰਣਜੀਤ ਸਿੰਘ ਪੰਜਾਬ ਟੈਕਨੀਕਲ ਯੂਨੀਵਰਸਿਟੀ, ਬਠਿੰਡਾ

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY

(A State Univ. Estd. by Govt. of Punjab vide Punjab Act No. 5 of 2015 and Approved u/s 2(f) & 12 (B) of UGC; Member AIU)
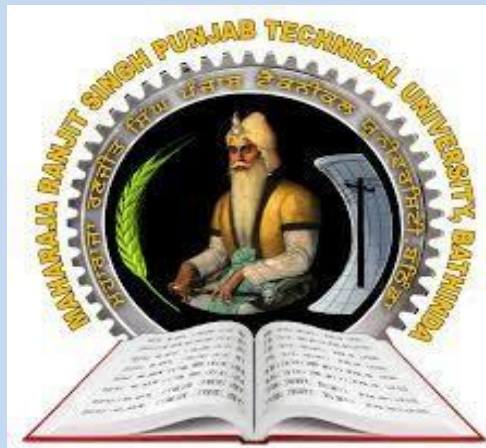
Bathinda-151001 (Punjab), India

REPORT

INTERNAL ACADEMIC AUDIT

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY
Bathinda-151001 (Punjab), India

INTERNAL ACADEMIC AUDIT

2023-2024

INTERNAL QUALITY ASSURANCE CELL
MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY
BATHINDA 151001

INTERNAL ACADEMIC AUDIT

Prepared by:

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- Mr. Akshay Kumar, DoPST, MRSPTU, Bathinda
- Members, Respective Audit Committees

Inputs by:

- Dr. Ashish Baldi, Director, IQAC

Version 1
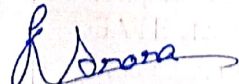*Year 2024*

INTERNAL QUALITY ASSURANCE CELL

INTERNAL ACADEMIC AUDIT

Internal Audit Report (2023-24)
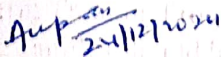
Name of Department: Computer Science and Engineering

No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum should be taken from all stakeholders on regular basis, analysed, and corrective action taken accordingly.
2	**Teaching Learning & Evaluation**	• Admissions of the students in the undergraduate programmes are excellent. • However admissions in the postgraduate programme are not up to the mark. • Regular faculty strength with proper cadre ratio need to be
3	**Research Innovation and Extension**	• A few students have taken advantage of AICTE's ADF scheme for pursuing PhD. However, more number of Research Scholars should be enrolled to increase research output of the department. • Conferences, Workshops, Expert lectures should be conducted at frequent intervals.
4	**Infrastructure and Learning Resources**	• Sufficient number of labs are available, but the computer systems need to be upgraded and equipped with latest software for the benefit of UG, PG and research students. • At least one Smart Classroom and one state of the art Research Lab need to be developed to enhance teaching-learning experience and research outputs.
5	**Student Support & Progression**	• Student participation in national and international level competitive examinations such as GRE, TOEFL, GMAT, GATE etc. should be increased. • Student participation in sports and cultural events at the university/state level should be increased.
6	**Governance Leadership and Management**	• More number of Faculty Development Programmes and Short Term Training Programmes should be conducted • Faculty members should be sponsored to participate in training programmes and conferences in India and abroad to enhance their knowledge and technical skills.
7	**Best Practices (if any)**	• Keeping in view the continuous developments in the field of computer science and engineering, the department has initiated the specialized undergraduate programme in Artificial Intelligence & Machine Learning which has received tremendous response of students.

Assistant CoE   Assistant Director IQAC   Associate Dean Academics

24.12.24

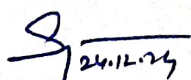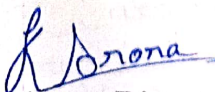Campus Director   Dean (R & D)

Internal Audit Report (2023-24)

Name of Department: Civil Engineering

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum from all stakeholders should be taken, evaluated and appropriate action taken on regular basis.
2	Teaching Learning & Evaluation	• Admissions in undergraduate programme are excellent. • Faculty members should be fully aware about the attainment process and its significance. • Regular faculty strength with proper cadre ratio need to be maintained.
3	Research Innovation and Extension	• Research output of the department should be enhanced by conducting conferences, workshops, and expert lectures at frequent intervals. • Collaborative activities with national level agencies like NHAI, NRIDA are undertaken for new development and safety of road infrastructure in the country.
4	Infrastructure and Learning Resources	• Sufficient number of classrooms and laboratories are available in the department. However majority of the lab equipment and software are required to be updated. • At least one Smart Classroom need to be developed in the department to enhance teaching-learning experience
5	Student Support & Progression	• Student participation in national level competitive examinations like GATE, UPSC Engineering Services should be increased to enhance their career progression. • Student participation in sports and cultural events at the university and state level should be increased.
6	Governance Leadership and Management	• More number of Faculty Development Programmes and Short-term Training Programmes should be conducted. • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and professional skills
7	Best Practices (if any)	• The department has been instrumental in substantial amount of internal resource generation through industrial consultancy. • The faculty, staff and student participation in real life consultancy projects helps them in enhancing their problem solving skills and better application of engineering knowledge.

Assistant CoE   Assistant Director IQAC   Associate Dean Academics
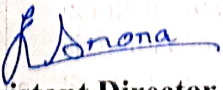
Campus Director   Dean (R & D)

Internal Audit Report (2023-24)
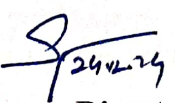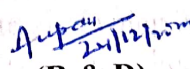
Name of Department: Electrical Engineering

No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum from all stakeholders should be taken, evaluated and appropriate action taken on regular basis.
2	**Teaching Learning & Evaluation**	• Admissions in undergraduate programme is satisfactory • Faculty members should be fully aware about the attainment process and its significance. • Regular faculty strength with proper cadre ratio need to be maintained.
3	**Research Innovation and Extension**	• Research output of the department should be enhanced through publications, patents and securing grants from various funding agencies. • Conferences, Workshops, Expert lectures should be conducted at frequent intervals. • Collaborative activities with outside agencies should be undertaken to widen the scope of learning of students.
4	**Infrastructure and Learning Resources**	• More number of E-learning resources should be procured and used to ensure better understanding of subject matter by the students. • At least one Smart Classroom need to be developed in the department to enhance teaching-learning experience
5	**Student Support & Progression**	• Student participation in national and international level competitive examinations like GATE, GRE, TOEFL should be increased to enhance their career progression. • Student participation in sports and cultural events at the university and state level should be increased.
6	**Governance Leadership and Management**	• More number of Faculty Development Programmes and Short-term Training Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and professional skills
7	**Best Practices (if any)**	• Despite having limited human resources at its disposal, the department has been able to maintain a strong alumni base which always remain keen to provide any kind of assistance for further development of the department.

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**

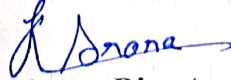**Campus Director**   **Dean (R & D)**

Internal Audit Report (2023-24)

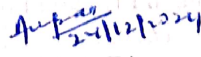**Name of Department: Electronics and Communication Engineering**

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum should be taken from all stakeholders on regular basis.
2	Teaching Learning & Evaluation	• Sustained efforts should be made to increase number of admissions up to sanctioned strength. • Regular faculty strength with proper cadre ratio need to be maintained.
3	Research Innovation and Extension	• More number of Research Scholars should be enrolled to increase research output of the department through publications, patents. • Conferences, Workshops, Expert lectures should be conducted at frequent intervals. • Collaborative activities with outside agencies should be undertaken to widen the scope of learning of students.
4	Infrastructure and Learning Resources	• Sufficient number of classrooms should be made available for conduct of theory classes. • At least one Smart Classroom need to be developed to enhance teaching-learning experience
5	Student Support & Progression	• Student participation in national and international level competitive examinations should be increased. • Student participation in sports and cultural events at the university/state level should be increased.
6	Governance Leadership and Management	• More number of Faculty Development Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and skills
7	Best Practices (if any)	• The department has a strong alumni connect all over the world which helps in creating internship and placement opportunities for current students

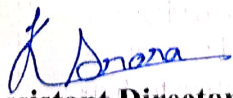**Assistant CoE**   **Assistant Director IQAC**   **Associate Dean Academics**

Campus Director   **Dean (R & D)**

Internal Audit Report (2023-24)
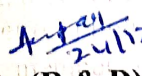
Name of Department: Mechanical Engineering

No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Proper record of all curriculum related committees of the department should be maintained and remedial actions taken as per the requirements.
2	**Teaching Learning & Evaluation**	• Despite being a core branch, the admissions in undergraduate and postgraduate programme are not satisfactory at all. • Attainment process should be more effectively implemented.
3	**Research Innovation and Extension**	• Research environment need to be strengthened by procuring state of the art research oriented equipment and software and maximizing their use in the research labs. • Collaborative activities with industries involved in manufacturing sector should be undertaken to widen the scope of research activities leading to innovative outputs provided by the students.
4	**Infrastructure and Learning Resources**	• Majority of the equipment available in undergraduate labs need to be replaced which can be accomplished through schemes such as MODROB of AICTE. • At least one Smart Classroom need to be developed in the department to enhance teaching-learning experience
5	**Student Support & Progression**	• Student participation in national and international level competitive examinations like GATE, GRE, TOEFL should be increased to enhance their career progression. • Student participation in sports and cultural events at the university and state level should be increased.
6	**Governance Leadership and Management**	• More number of Faculty Development Programmes and Short-term Training Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and professional skills
7	**Best Practices (if any)**	• Students are trained in developing their leadership, managerial and interpersonal skills by involving them in organizing various activities under the auspices of SAE club and Robotics Club.

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**

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Campus Director   24/12/2024
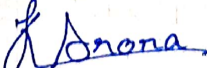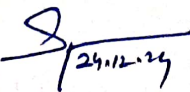   **Dean (R & D)**

Internal Audit Report (2023-24)
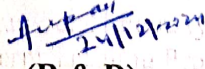
Name of Department: Textile Engineering

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020 and outcome attainment should be integrated in curriculum revision. • Feedback on course curriculum from all stakeholders should be taken, evaluated and appropriate action taken on regular basis.
2	Teaching Learning & Evaluation	• Admissions in undergraduate programme is not good in first year, which is taken care of up to some extent in the second year through lateral entry admission of diploma students. • Regular faculty strength with proper cadre ratio need to be maintained.
3	Research Innovation and Extension	• Research output of the department should be enhanced through publications, patents and securing grants from various funding agencies. • Conferences, Workshops, Expert lectures should be conducted at frequent intervals. • Collaborative research activities with outside agencies are being undertaken to widen the scope of learning of students.
4	Infrastructure and Learning Resources	• Department is equipped with some of the state of the art equipment in labs which is used both for undergraduate and research studies. • At least one Smart Classroom need to be developed in the department to enhance teaching-learning experience
5	Student Support & Progression	• Student participation in national and international level competitive examinations like GATE, GRE, TOEFL should be increased to enhance their career progression. • Student participation in sports and cultural events at the university and state level should be increased.
6	Governance Leadership and Management	• More number of Faculty Development Programmes and Short-term Training Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and professional skills
7	Best Practices (if any)	• Being one of only two textile engineering academic centres of study in the state, the department has the distinction of achieving almost 100% placement of eligible students in the textile industry mainly situated in the state of Punjab

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**
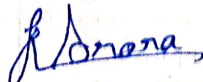
Campus Director   **Dean (R & D)**

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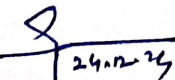
Name of Department: GZS School of Architecture & Planning
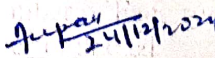
No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020 (as per statutory body – Council of Architecture). • Feedback on course curriculum should be taken from all stakeholders on regular basis.
2	**Teaching Learning & Evaluation**	• Sustained efforts should be made to increase number of admissions up to sanctioned strength. • Regular faculty strength with proper cadre ratio need to be maintained.
3	**Research Innovation and Extension**	• More number of Research Scholars should be enrolled (as per availability of supervisors in the Department) to increase research output of the department through publications, patents. • Conferences, Workshops, Expert lectures, Visits to Industrial/ building material exhibitions (For B.Arch. and Interior Design students) should be conducted at frequent intervals. • Collaborative activities (MoUs, academic partnership) with outside agencies should be undertaken to widen the scope of learning of students.
4	**Infrastructure and Learning Resources**	• Sufficient number of classrooms should be made available for conduct of theory classes. • At least one Smart Classroom need to be developed to enhance teaching-learning experience • Computer Labs should be equipped with latest software for Architecture, Planning, and Fine Arts
5	**Student Support & Progression**	• Student participation in national and international level competitive examinations should be increased. • Student participation in sports and cultural events at the university/state level should be increased.
6	**Governance Leadership and Management**	• More number of Faculty Development Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and skills
7	**Best Practices (if any)**	• The department has a strong alumni connect all over the world which helps in creating internship and placement opportunities for current students

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**
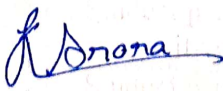
Campus Director 24.12.24   **Dean (R & D)** 24/12/2024

Internal Audit Report (2023-24)

Name of Department: Food Science and Technology
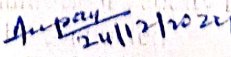
No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • MOOCs subject may be incorporated in the curriculum.
2	**Teaching Learning & Evaluation**	• Sustained efforts should be made to increase number of admissions up to sanctioned strength. • Regular faculty strength with proper cadre ratio need to be maintained.
3	**Research Innovation and Extension**	• More number of Research Scholars should be enrolled to increase research output of the department through publications, patents. • Conferences, Workshops, Expert lectures should be conducted at frequent intervals. • Collaborative activities with outside agencies should be undertaken to widen the scope of learning of students.
4	**Infrastructure and Learning Resources**	• Sufficient number of classrooms should be made available for conduct of theory classes. • At least one Smart Classroom need to be developed to enhance teaching-learning experience
5	**Student Support & Progression**	• Student participation in national and international level competitive examinations should be increased. • Student participation in sports and cultural events at the university/state level should be increased.
6	**Governance Leadership and Management**	• More number of Faculty Development Programmes should be conducted • Faculty members should be sponsored to participate in training programme and conferences in India and abroad to enhance their knowledge and skills
7	**Best Practices (if any)**	• The department has a built a sophisticated analytical lab through grant from Ministry of Food Processing Industries (MOFPI) to test all sorts of food items.

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**

24.12.24
Campus Director

24/12/2024
Dean (R & D)

Internal Audit Report (2023-24)
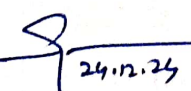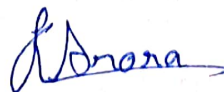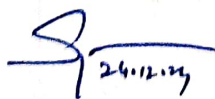
Name of Department: University Business School

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Skill development courses should be enhanced in the curriculum.
2	Teaching Learning & Evaluation	• The number of regular faculty should be increased. • Industry oriented programmes should be launched.
3	Research Innovation and Extension	• The department should focus on increasing research paper publications. • Workshops should be held more regularly to provide enhanced learning opportunities. • The department should actively pursue government-sponsored grants.
4	Infrastructure and Learning Resources	• The labs should be equipped with analytical softwares and databases. • Sufficient computers/ desktops should be provided in the labs.
5	Student Support & Progression	• The department should conduct a greater number of expert lectures to develop students' skills and offer latest business scenario knowledge. • The placement should be improved in the department.
6	Governance Leadership and Management	• More workshops on quality control should be conducted in the department. • The department should apply in NIRF, AICTE, NBA accreditation.
7	Best Practices (if any)	Students are assigned short projects and case studies to expose them to real-life business issues and improve decision-making skills.

Assistant CoE   Assistant Director IQAC   Associate Dean Academics
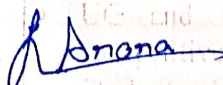
Campus Director   Dean (R & D)

Internal Audit Report (2023-24)

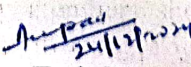**Name of Department: Pharmaceutical Sciences and Technology**

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Include more methods and techniques for continuous assessment. • Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020 (as per statutory body – Pharmacy Council of India).
2	Teaching Learning & Evaluation	• Regular faculty strength with proper cadre ratio needs to be maintained. • Improve the admission in PharmD programme.
3	Research Innovation and Extension	• Enrollment of more PhD scholars needs to be increased to enhance research output of the department through publications and patents. • Conferences, Workshops, Expert lectures should be conducted during every academic session.
4	Infrastructure and Learning Resources	• Sufficient laboratory infrastructure should be made available for conduct of practical. • At least one good laboratory for researchers need to be developed to enhance teaching-learning experience
5	Student Support & Progression	• UG and PG student participation in national level competitive examinations should be increased. • Student placement at the university level should be improved.
6	Governance Leadership and Management	• Faculty members should be sponsored to participate in different training programme and conferences in India and abroad to enhance their knowledge and skills. • Seed funds can be given to new faculty members to initiate research work.
7	Best Practices (if any)	• Department is research orientated and the outcome is more relatives to the other departments.

Assistant CoE

Assistant Director IQAC
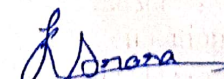
Associate Dean Academics

29.12.23

Campus Director

24/12/2024

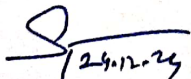Dean (R & D)

Internal Audit Report (2023-24)
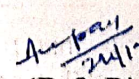
Name of Department: Computational Sciences

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum should be taken from all stakeholders on regular basis.
2	Teaching Learning & Evaluation	• In certain subjects where the pass percentage is approximately 50% or lower, faculty members should strive to improve student performance through dedicated efforts and targeted interventions. • Consistent efforts should be undertaken to provide students with hands-on skill exposure.
3	Research Innovation and Extension	• All the faculty should publish more research papers. • Workshops and Industry experts' lectures should be conducted at frequent intervals. • The department should focus on bringing Govt. sponsored grants in the department
4	Infrastructure and Learning Resources	• A sufficient number of computers/desktops should be made available for conduct of practical. • At least one Smart Classroom need to be developed to enhance teaching-learning experience • Lab infrastructure should be adequate available to all the students.
5	Student Support & Progression	• The department should organize skills enhancement workshops to equip students with advanced competencies and practical knowledge. • Student should be counselled for appearing competitive examinations. • The department should focus on enhancing the placement of students in renowned companies, ensuring greater opportunities for career advancement and industry recognition.
6	Governance Leadership and Management	• The department should conduct a greater number of Faculty Development Programmes to foster professional growth and academic excellence. • Faculty members should be provided sponsorship to participate in training programs and conferences, both within India and internationally, to enhance their knowledge and skills.
7	Best Practices (if any)	

Assistant CoE

Assistant Director IQAC
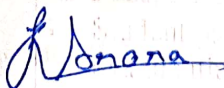
Associate Dean Academics

Campus Director

Dean (R & D)

Internal Audit Report (2023-24)

Name of Department: Physics

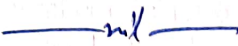| No	Criteria	Observations/Recommendations
1	**Curriculum Aspects**	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum should be taken from all stakeholders on regular basis. • MOOCs subject may be incorporated in the curriculum.
2	**Teaching Learning & Evaluation**	• Efforts should be made to increase the admission. • Sustained efforts should be made to provide students with more practical exposure and to attend technical events.
3	**Research Innovation and Extension**	• Faculty should be encouraged to involve in research apply for research projects and funding from government agencies. • Fix certain target for faculty members for publications.
4	**Infrastructure and Learning Resources**	• Sufficient infrastructure should be made available for conduct of theory and practical classes. • ICT based facility are needed to be improved.
5	**Student Support & Progression**	• Student participation in national level competitive examinations like NET, GATE should be increased. • Placement should be enhanced in the department. • Students should be encouraged to enroll in MOOCs.
6	**Governance Leadership and Management**	• Faculty should be encouraged and financially facilitated to attend workshops and FDPs. • Faculty members should be encouraged to apply for individual/collaborative research projects.
7	**Best Practices (if any)**	• Organizing National Science Day every year through funding support for students across university.

Assistant CoE   **Assistant Director IQAC**   **Associate Dean Academics**
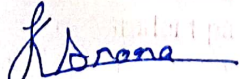
Campus Director   **Dean (R & D)**

Internal Audit Report (2023-24)

Name of Department: Chemistry

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Feedback on course curriculum should be taken from all stakeholders on regular basis.
2	Teaching Learning & Evaluation	• Sustained efforts should be made to increase number of admissions up to sanctioned strength. • Sustained efforts should be made to provide more industrial exposure and encouraged to attend technical events.
3	Research Innovation and Extension	• Faculty should be encouraged to involve in research apply for research projects and funding from government agencies.
4	Infrastructure and Learning Resources	• Sufficient number of classrooms should be made available for conduct of theory classes. • ICT based facility are needed to be improved.
5	Student Support & Progression	• Student participation in national and international level competitive examinations like NET, GATE should be increased. • Placement should be enhanced in the department
6	Governance Leadership and Management	• Faculty should be encouraged and financialy facilitated to attend workshops and FDPs. • Faculty members should be encouraged to apply for individual/collaborative research projects.
7	Best Practices (if any)	———nil———

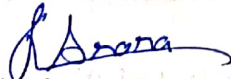Assistant CoE   Assistant Director IQAC   Associate Dean Academics

Campus Director   Dean (R & D)

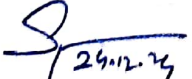# Internal Audit Report (2023-24)

Name of Department: Mathematics

No	Criteria	Observations/Recommendations
1	Curriculum Aspects	• Course Curriculum of all programmes should be revised to align them with the requirements of NEP-2020. • Skill development courses should be enhanced in the curriculum.
2	Teaching Learning & Evaluation	• Career counselling/ competitive examination preparation should be facilitated to the students.
3	Research Innovation and Extension	• The department should aim to increase the publication of research papers and apply for patents. • Workshops should be organized more frequently to enhance learning opportunities. • Dissertation may be included in M.Sc. to include students in research.
4	Infrastructure and Learning Resources	• A sufficient number of computers/desktops should be made available for conduct of practical. • At least one Smart Classroom need to be developed to enhance teaching-learning experience
5	Student Support & Progression	• Students should be encouraged to participate in technical events outside the university. • Student should be encouraged for higher education like Ph.D.
6	Governance Leadership and Management	• The department should conduct more Faculty Development Programmes to enhance professional growth and excellence. • Faculty should be sponsored to attend training programs and conferences to enhance their skills.
7	Best Practices (if any)	Department should identify best practices and implement it.

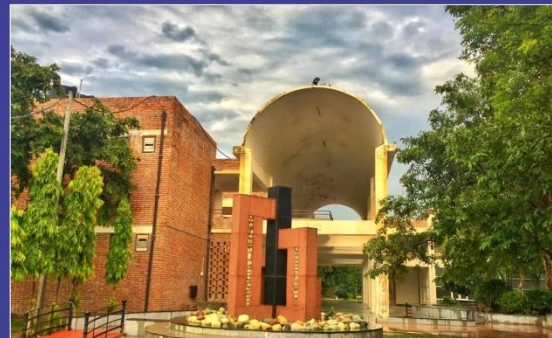Assistant CoE   Assistant Director IQAC   Associate Dean Academics

Campus Director   Dean (R & D)

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY

Dabwali Road, Bathinda (Pb.) - 151001

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