

■ BPIT

Bhagwan Parshuram Institute of Technology

A Unit of Bhartiya Brahmin Charitable Trust (Regd.)
(Approved by Ministry of Education (MoE), AICTE & DTTE)
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Bhagwan Parshuram Institute of Technology,
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From the Chief Patron’s Desk



It is rightly said:

“Investment in knowledge pays the best interest.”

At BPIT, we believe that an investment in education is an investment in people and their promising future. In 2005, we set ourselves an ambitious goal of establishing a quality education institution in India with a mission to offer outstanding learning and educational services to the community. We are deeply grateful to those who have assisted us and participated in the accomplishment of this goal, i.e. the establishment of BPIT.

BPIT is committed to develop and enhance the offered accredited academic programs, services, and facilities to enable the institution’s stakeholders to achieve their goals. During the previous years, though we faced many challenges, we were determined to continue the fulfillment of BPIT’s mission of providing accessible and valued education in India.

BPIT has demonstrated quality teaching. Its faculty members have proved their commitments to share their knowledge, talent, and experience into learning and teaching. At BPIT, we have proved that the institute is capable of pursuing the never-ending quest for quality technical education and research. As a means of striving towards this goal of excellence, I feel proud to present the issue (Volume 11, 2025) of Bodh BPIT International Journal of Technology and Management.

This journal is a sincere and dedicated effort of the learned faculty and management to disseminate their wealth of knowledge in the fields of technology and management. This journal would provide a great opportunity to make them more influential, dynamic and innovative. I feel proud to acknowledge the contribution of highly qualified, multi-talented faculty and the college management, for working tirelessly to enrich the content of this journal.

**Sh. Vinod Vats
Chairman, BPIT**

From the Editor-in-Chief's Desk



BPIT has always looked forward to upgrade itself to fulfil its mission and vision to provide quality education. The function of education is to teach one to think intensively and to think critically.

It gives me immense joy to present the issue (Volume 11, 2025) of Bodh BPIT International Journal of Technology and Management (BBIJTM), which includes research papers from Technology and Management. This journal is a tool for building knowledge and for facilitating learning. The journal is a good means of extending knowledge to the research scholars, professors, scientists and students regarding the current issues related to engineering and management. The journal is an amalgam of the efforts of the highly dedicated faculty who have worked day in and day out for the successful launch of this issue of BBIJTM. I congratulate all for this sustained effort that has produced such outstanding results.

On behalf of our editorial team, I would like to offer a word of thanks to our readers, contributors, authors, editors and anonymous reviewers, all of whom have volunteered to contribute to the success of the journal and also for its mission to improve the quality of research in the form of publication. We are publishing our journal annually with a particular emphasis on quality, novelty and better outcomes of research.

I extend my whole-hearted thanks to Hon'ble Chairman Sh. Vinod Vats and the entire management of BPIT for their untiring support and worthy guidance.

Thank you. We hope you will find BBIJTM more informative in the future endeavor.

Prof. Payal Pahwa
Principal, BPIT

From the Associate Editor's Desk



It is both an honor and a privilege for us to present Volume 11 (2025) of Bodh BPIT International Journal of Technology and Management (BBIJTM) published by Bhagwan Parshuram Institute of Technology. We are delighted to share that BBIJTM has been consistently contributing to the advancement of research quality through its regular publications since 2015. Considerable effort and dedication have gone into the continuous development and growth of this journal. This issue features a collection of six research papers covering emerging areas in engineering, science, technology, and management.

We are pleased to inform our authors, contributors, and reviewers that the journal is indexed in several leading international indexing and bibliographic databases, including Google Scholar (USA), EZB Electronic Journals Library (University of Regensburg, Germany), Academic Resource Index, and IIFS indexing platforms etc.

We extend our sincere gratitude to our panel of experts for their dedicated efforts in guiding the submitted manuscripts through multiple rounds of review, ensuring the highest standards and bringing out the best in the contributions. We wish to express our sincere gratitude to the editorial advisory board, editorial team and the panel of reviewers, who brought out the best knowledge from the authors.

We are equally thankful to our esteemed authors for their trust in BBIJTM as a platform to present and disseminate their original research work. We also appreciate the authors whose papers could not be included in this issue due to certain limitations. We encourage them to continue refining their work and to contribute actively to our forthcoming issues.

We would like to thank our Patron, Hon'ble Chairman Sh. Vinod Vats, for his continued guidance, motivation, and unwavering support in the successful publication of this edition of the journal.

Associate Editors

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