

D no 101

06.03.2023

# Madhav Institute of Technology & Science, Gwalior-474 005

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

## Department of Information Technology

Date: 14/12/2022

### Minutes of Meeting of Board of Studies (BoS) in Information Technology

The Meeting of Board of Studies (BoS) in Information Technology was held on 14<sup>th</sup> December 2022 at 01:00 P.M. onwards in offline/online mode (through video conferencing). During the meeting following were present.

1.	Dr. Akhilesh Tiwari, Professor & Head	Chairman
2.	Dr. Surya Prakash Discipline of Computer Science and Engineering, School of Engineering, Indian Institute of Technology Indore Indore-453552, Madhya Pradesh, India	External Member (Academics)  (Nominee of Hon'ble Vice Chancellor RGPV Bhopal)
3.	Dr. Deepak Garg, Dean, School of Computer Science Engineering and Technology, Bennett University, Greater Noida, Uttar Pradesh	External Member (Academics)
4.	Dr. Nisha Chaurasia, Assistant Professor, Department of Information Technology, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar (Punjab)	External Member (Alumnus)
5.	Dr. Vivek Tiwari, Department of Computer Science Engineering, International Institute of Information Technology, Naya Raipur (IIIT-NR)	Invitee Member (Academics)
6.	Dr. Sanjiv Sharma, Assistant Professor	Member
7.	Mr. Punit Kumar Johari, Assistant Professor	Member
8.	Mr. Vikas Sejwar, Assistant Professor	Member
9.	Mr. Abhilash Sonker, Assistant Professor	Member
10.	Dr. Saumil Maheshwari, Assistant Professor	Member
11.	Dr. Vikram Rajpoot, Assistant Professor	Member
12.	Dr. Dhananjay Bisen, Assistant Professor	Member
13.	Dr. Tej Singh, Assistant Professor	Member
14.	Dr. Pawan Dudey, Assistant Professor	Member
15.	Mr. Abhishek Dixit, Assistant Professor	Member
16.	Dr. Bhagat Singh Raghuvansi, Assistant Professor	Member
17.	Dr. Nidhi Saxena, Assistant Professor	Member
18.	Mr. Aditya Dubey, Assistant Professor	Member
19.	Dr. Anshika Srivastava, Assistant Professor	Member
20.	Dr. Ana Kumar, Assistant Professor	Member
21.	Dr. Kritika Bansal, Assistant Professor	Member

In addition to above, faculty members under contractual engagement were also present.

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Minutes of Meeting of Board of Studies (BoS) in Information Technology held on 14<sup>th</sup> December 2022

Handwritten signatures of the members present at the meeting, including Akhilesh, Surya, Deepak, Nisha, Vivek, Sanjiv, Punit, Vikas, Abhilash, Saumil, Vikram, Dhananjay, Tej, Pawan, Abhishek, Bhagat, Nidhi, Aditya, Anshika, Ana, and Kritika.

**The following external and internal members could not attend the meeting.**

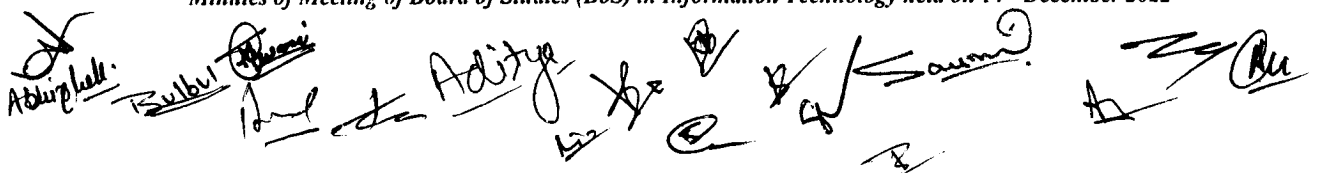
1.	Dr. Dinesh Kumar Vishwakarma, Professor, Department of Information Technology, Delhi Technological University (DTU), Delhi	External Member (Academics)
2.	Mr. Abhinav Mishra, Sr. Director, Persistent System Limited	External Member (Industry)
3.	Mr. Rajeev Kumar Singh, Assistant Professor	Internal Member
4.	Ms. Neha Bhardwaj, Assistant Professor	Internal Member

**The following student members/ representatives were also present in the meeting.**

1.	Amrit Kaur (0901EC191020)	B. Tech IT Fourth year
2.	Harshita Vishwakarma (0901IT191026)	B. Tech IT Fourth year
3.	Akshat Kothavade (0901IT201005)	B. Tech IT Third year
4.	Praveen Singh Bhadouriya (0901IO201049)	B. Tech IoT Third year
5.	Ashutosh kawat Manjhi (0901AI201014)	B. Tech AIR Third year
6.	Ayush Hurkat (0901IT211013)	B. Tech IT Second year
7.	Rashi Trivedi (0901IO211047)	B. Tech IoT Second year
8.	Kanishka Jain (0901AD211023)	B. Tech AIDS Second year
9.	Piyush Kushwah (0901AM211036)	B. Tech AIML Second year
10.	Rahul Lalwani (0901AM211045)	B. Tech AIML Second year

**The following deliberation took place in the meeting:**

ITEM IT-1:	To confirm the minutes of previous BoS meeting held in the month of May 2022.  <b>The minutes of previous Board of Studies (BoS) meeting held on 28<sup>th</sup> May 2022 were presented, discussed and confirmed.</b>
ITEM IT-2:	To propose the scheme structure of VIII Semester with the provision of ONE DE & ONE OC course to be offered in online mode with credit transfer for the batch admitted in 2019-20. (The total credits from I-VIII semester should be 170 for this batch)  <b>The scheme structure of VIII Semester were discussed, finalized and recommended with the provision of ONE DE &amp; ONE OC (to be offered in online mode) with credit transfer. The same is Annexed as Annexure-I.</b>
ITEM IT-3:	To propose the list of courses which the students can opt from SWAYAM/NPTEL/ other MOOC Platforms/Institution (MITS) MOOC, to be offered in online mode under Departmental Elective (DE) category courses (DE-5) and open category (OC-4) for credit transfer in the VIII Semester under the flexible curriculum (Batch admitted in 2019-20)  <b>The list of Departmental Elective (DE) category courses (DE-5) and open category (OC-4) to be offered from SWAYAM/NPTEL/MOOC based learning platform/ Institutional MOOC (in online mode) for B. Tech VIII Semester IT discipline (under flexible curriculum) were discussed and recommended, as per the following detail</b>
<b>DE-5 (B. Tech IT):</b>	
<ul style="list-style-type: none"> <li>• Blockchain and its Applications (12 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Natural Language Processing (12 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul>	



**OC-4 (Offered by IT Department):**

- Information Security - 5 - Secure Systems Engineering (8 Weeks)
- Social Networks (12 Weeks)
- Foundation of Cloud IoT Edge ML (8 Weeks)

*In continuation, it is also discussed and recommended that the above mentioned list of Departmental Elective (DE) category courses (DE-5) and open category (OC-4) may be kept dynamic and newly emerging courses may be inducted in line with the industrial need and emerging developments (as and when desired).*

ITEM IT-4:

To propose the list of "Additional Courses" which can be opted for getting an

- (i) **Honours (for students of the host department)**
- (ii) **Minor Specialization (for students of other departments)**

*[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the VI semester (for the batch admitted in 2020-21) and for VIII semester students (for the batch admitted in 2019-20)] The list should be additive; such that those MOOCs which were offered in previous semesters are also included provided they are being offered on the platform during Jan-June 2023 semester]*

The courses available on SWAYAM/NPTEL/MOOC based learning platforms for Honours and Minor Specialization were discussed and identified. The Same has been listed, as mentioned below

**B. Tech IT VI Semester (2020-21 admitted batch)**

**Additional Courses for "Honours" (Parent Department)**

- Quantum Algorithms and Cryptography (12 Weeks)
- Object Oriented System Development Using UML, Java And Patterns (12 Weeks)
- GPU Architectures And Programming (12 Weeks)
- The Joy of Computing using Python (12 Weeks)
- Advanced Computer Architecture (12 Weeks)

**Additional Courses for "Minor Specialization" (Other Departments)**

- Programming, Data Structures and Algorithms in Python (8 Weeks)
- Programming in Java (12 Weeks)
- Design and analysis of algorithms (8 Weeks)
- Introduction to Database Systems (12 Weeks)

**B. Tech IoT VI Semester (2020-21 admitted batch)**

**Additional Courses for "Honours" (Parent Department)**

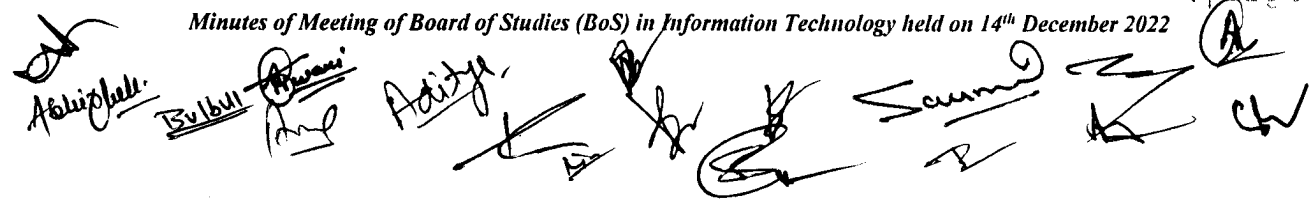
- Introduction To Industry 4.0 And Industrial Internet Of Things (12 Weeks)
- Quantum Algorithms and Cryptography (12 Weeks)
- Object Oriented System Development Using UML, Java And Patterns (12 Weeks)
- Advanced Computer Architecture (12 Weeks)
- The Joy of Computing using Python (12 Weeks)

**Additional Courses for "Minor Specialization" (Other Departments)**

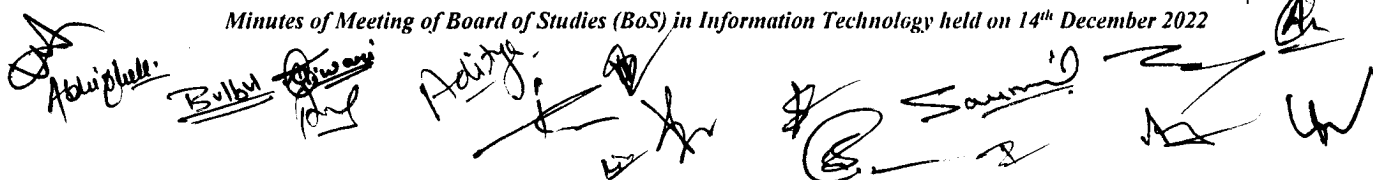
- Programming, Data Structures and Algorithms in Python (8 Weeks)
- Design and analysis of algorithms (8 Weeks)
- Programming in Modern C++ (12 Weeks)
- Introduction to Internet of Things (12 Weeks)

Abuljaleel  
Bilal  
Aditya  
Saurabh  
A  
H

	<p align="center"><b>B. Tech AIR VI Semester (2020-21 admitted batch)</b></p> <p align="center"><b>Additional Courses for "Honours" (Parent Department)</b></p> <ul style="list-style-type: none"> <li>• Artificial Intelligence: Knowledge Representation And Reasoning (12 Weeks)</li> <li>• GPU Architectures And Programming (12 Weeks)</li> <li>• Advanced Computer Architecture (12 Weeks)</li> <li>• The Joy of Computing using Python (12 Weeks)</li> </ul> <p align="center"><b>Additional Courses for "Minor Specialization" (Other Departments)</b></p> <ul style="list-style-type: none"> <li>• Programming, Data Structures and Algorithms in Python (8 Weeks)</li> <li>• AI: Constraint Satisfaction (8 Weeks)</li> <li>• Design and analysis of algorithms (8 Weeks)</li> <li>• Introduction to Machine Learning (12 Weeks)</li> </ul> <p align="center"><b>B. Tech IT VIII Semester (2019-20 admitted batch)</b></p> <p align="center"><b>Additional Courses for "Honours" (Parent Department)</b></p> <ul style="list-style-type: none"> <li>• User-centric Computing for Human-Computer Interaction (8 Weeks)</li> <li>• Affective Computing (12 Weeks)</li> <li>• Ethical Hacking (12 Weeks)</li> </ul> <p align="center"><b>Additional Courses for "Minor Specialization" (Other Departments)</b></p> <p><b>Provision of Domain Specific Courses for minor specialization (as available on the SWAYAM/NPTEL platform), as follows:</b></p> <p><b>Domain 1: Programming</b></p> <ul style="list-style-type: none"> <li>• Introduction to parallel programming with OpenMP and MPI (8 Weeks)</li> <li>• Ethical Hacking (12 Weeks)</li> </ul> <p><b>Domain 2: Systems</b></p> <ul style="list-style-type: none"> <li>• Advanced computer architecture (12 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul> <p>In continuation, it is discussed that the above list must be kept dynamic and additional courses may be inducted (as per the requirement).</p>
ITEM IT-5:	<p>To review and finalize the scheme &amp; syllabi for all <i>Departmental Core (DC) Courses</i> of <i>VI Semester (for batches admitted in 2020-21)</i> under the flexible curriculum along with their COs</p> <p>The Scheme &amp; Syllabi of all the Departmental Core (DC) Courses, to be offered during VI Semester (B. Tech. Programmes [<i>Information Technology/Internet of Things(IoT)/ Information Technology (Artificial Intelligence and Robotics)</i>]) along with their COs under flexible curriculum were discussed and recommended. The same is Annexed as Annexure-II.</p>
ITEM IT-6:	<p>To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (<i>for batches admitted in 2020-21</i>) in online mode under <i>Departmental Elective (DE-1) Courses</i> with credit transfer, in the <i>VI Semester</i></p> <p>The list of Departmental Elective (DE-1) courses to be offered from SWAYAM/NPTEL/MOOC based learning platforms with credit transfer (in online mode) for B. Tech. VI Semester IT, IoT, AIR discipline (under flexible curriculum) were discussed and recommended, as per the following detail</p>



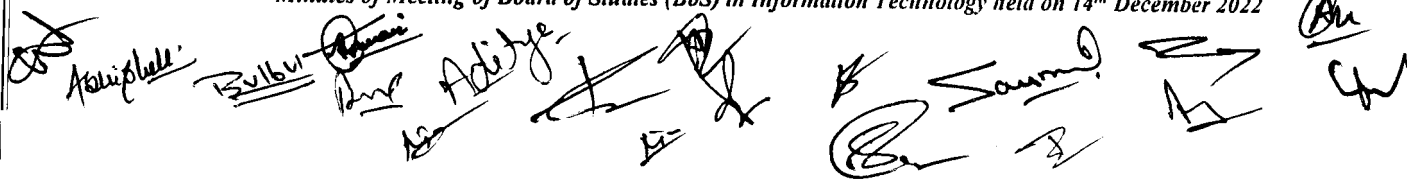
	<table border="1" style="margin-bottom: 10px;"> <tr> <th style="text-align: center;">DE-1 (B. Tech IT):</th> </tr> <tr> <td> <ul style="list-style-type: none"> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul> </td> </tr> </table> <table border="1" style="margin-bottom: 10px;"> <tr> <th style="text-align: center;">DE-1 (B. Tech IoT):</th> </tr> <tr> <td> <ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> </ul> </td> </tr> </table> <table border="1"> <tr> <th style="text-align: center;">DE-1 (B. Tech AIR):</th> </tr> <tr> <td> <ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul> </td> </tr> </table>	DE-1 (B. Tech IT):	<ul style="list-style-type: none"> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul>	DE-1 (B. Tech IoT):	<ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> </ul>	DE-1 (B. Tech AIR):	<ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul>
DE-1 (B. Tech IT):							
<ul style="list-style-type: none"> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul>							
DE-1 (B. Tech IoT):							
<ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> <li>• Information Security - 5 - Secure Systems Engineering (8 Weeks)</li> </ul>							
DE-1 (B. Tech AIR):							
<ul style="list-style-type: none"> <li>• Programming In Java (12 Weeks)</li> <li>• Introduction To Internet Of Things (12 Weeks)</li> <li>• Advanced Graph Theory (8 Weeks)</li> <li>• Foundation of Cloud IoT Edge ML (8 Weeks)</li> </ul>							
ITEM IT-7:	<p>To review and finalize the courses &amp; syllabi to be offered <i>(for batches admitted in 2020-21)</i> under the <b>Open Category (OC) Courses</b> (in traditional mode) for <b>VI semester</b> students of other departments along with their COs</p> <p>The courses to be offered under Open Category (OC) Courses for B. Tech. VI Semester (for the students of other departments) were discussed and recommended as per the following detail</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th style="text-align: center;">Offered by IT Department</th> </tr> <tr> <td> <u>OC-1:</u> <ul style="list-style-type: none"> <li>• Data Mining &amp; Warehousing</li> <li>• Software Engineering</li> </ul> </td> </tr> </table> <p><i>Further, considering the fact that the Open Category (OC) courses are meant only for the students of other departments, it is discussed and recommended that the above list of courses may be expanded (as per the need and demand from other departments). The detailed syllabi (along with their COs) is Annexed as Annexure-III.</i></p>	Offered by IT Department	<u>OC-1:</u> <ul style="list-style-type: none"> <li>• Data Mining &amp; Warehousing</li> <li>• Software Engineering</li> </ul>				
Offered by IT Department							
<u>OC-1:</u> <ul style="list-style-type: none"> <li>• Data Mining &amp; Warehousing</li> <li>• Software Engineering</li> </ul>							
ITEM IT-8:	<p>To review and finalize the Experiment list/ Lab manual for Laboratory Courses to be offered in VI semester <i>(for batches admitted in 2020-21)</i></p> <p>The experiment list / lab manual for the Laboratory Courses for VI semester of B. Tech Programme (IT, IoT, AIR) were discussed and finalized. The same is annexed as Annexure-IV.</p>						
ITEM IT-9:	<p>To review and finalize the scheme and syllabi of B. Tech. IV Semester <i>(for batches admitted in 2021-22)</i> under the flexible curriculum along with their COs</p> <p>The Scheme Structure and Syllabi of B. Tech. IV Semester [Information Technology / Internet of Things (IoT)/ Information Technology (Artificial Intelligence &amp; Robotics)/ Artificial Intelligence and Data Science(AI&amp;DS)/ Artificial Intelligence and Machine Learning (AI&amp;ML)] <i>(for batches admitted in 2021-22)</i> under the flexible curriculum were discussed, finalized and recommended.</p>						



	<b>The Scheme Structure &amp; syllabi (along with their COs) is annexed as Annexure-V.</b>
ITEM IT-10:	To review and finalize the Experiment list/ Lab manual for Laboratory Courses to be offered in IV <i>(for batch admitted in 2021-22)</i>  <b>The experiment list / lab manual for the Laboratory Courses for IV semester were discussed and finalized. The same is annexed as Annexure-VI.</b>
ITEM IT-11:	To review and finalize the suggestive list of projects under the 'Skill based mini-project' category in various laboratory courses to be offered in Jan - June 2023 semester during IV Semester <i>(for the batch admitted in 2021-22)</i> .  <b>The list of "skill based mini project" for the Laboratory Courses of B. Tech. IV Semester (for 2021-22 admitted batch) was discussed and finalized. It is also discussed that the list must be treated as dynamic and more projects can be added by the course faculty. The same is annexed as Annexure-VII.</b>
ITEM IT-12:	To ratify the <i>Scheme &amp; Syllabi, list of experiments and skill based mini projects of First Semester &amp; Second Semester B. Tech. programmes [admitted batch 2022-23 Session]</i>  <b>The Scheme, Syllabi, List of experiments and Skill based mini projects of B. Tech. I &amp; II semester (IT, IoT, IT(AIR), AI&amp;ML, AI&amp;DS) was discussed and recommended in its present form for further ratification in the Academic Council. The same is annexed as Annexure-VIII.</b>
ITEM IT-13:	To review the CO attainments, to identify gaps and to suggest corrective measures for the improvement in the CO attainment levels for Jan-June 2022.  <b>The attainment level of Course Outcomes (COs) for all the courses pertaining to January - June 2022 Session for I to IV Year was presented. In continuation, it was discussed that the courses (if any) where the set target value has not been attained, should be critically analyzed to identify the difficulty level and other causes. The analysis must be followed by corrective measures, such as arrangement of extra / remedial classes, proper coverage of COs in the Question Paper and interaction with the students for possible improvement. The same is annexed as Annexure-IX.</b>
ITEM IT-14:	To review curricula feedback from various stakeholders, its analysis and impact  <b>The summarized report of curricula feedback from various stakeholders (students, faculty members and alumni etc.) (for March - July 2022 Semester (I Year) and July - November 2022 Semester (II to IV Year)) was presented and discussed. This was based on various considered parameters. The report is annexed as Annexure-X.</b>
ITEM IT-15:	To review Course Outcomes (COs) feedback of various courses, its analysis and impact  <b>The detailed analysis and impact report of Course Outcomes (COs) feedback of various courses from students [for January - June 2022 Semester (I to IV year)] was presented and discussed. The same is enclosed as Annexure -XI.</b>

**Suggestions by External Experts / Members:**

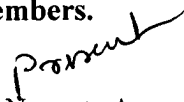
- It was suggested to reorient the contents of course/subject- "AI in Robotics".

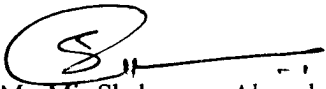


The meeting ended with the vote of thanks to all the members.

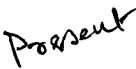
  
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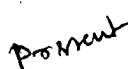
  
Ms. Bulbul Agrawal

  
Ms. Namrata Agrawal

  
Mr. Mir Shahnawaz Ahmad

  
Dr. Kritika Bansal

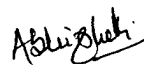
  
Dr. Ana Kumar

  
Dr. Anshika Srivastava

  
Mr. Aditya Dubey

  
Dr. Nidhi Saxena

  
Dr. Bhagat Singh Raghuvansi

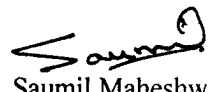
  
Mr. Abhishek Dixit

  
Dr. Pawan Dudev

  
Dr. Tej Singh

  
Dr. Dhananjay Bisen

  
Dr. Vikram Rajpoot

  
Dr. Saumil Maheshwari

  
Mr. Abhilash Sonkar

  
Mr. Vikas Sejwar

  
Mr. Punit Kumar Johri

  
Dr. Sanjiv Sharma

*Absent*  
Mr. Abhinav Mishra  
Sr. Director,  
Persistent System Limited

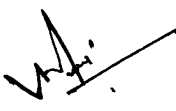
*Attended online*  
Dr. Nisha Chaurasia  
Assistant Professor,  
Department of Information  
Technology, Dr. B. R. Ambedkar  
National Institute of Technology,  
Jalandhar (Punjab)


*Attended online*  
Dr. Vivek Tiwari, Assistant  
Professor,  
Department of Computer Science  
Engineering,  
International Institute of  
Information Technology,  
Naya Raipur (IIIT-NR)

*Absent*  
Dr. Dinesh Kumar Vishwakarma  
Professor,  
Department of Information  
Technology,  
Delhi Technological University  
(DTU), Delhi

*Present (on-line)*  
Dr. Deepak Garg  
Professor & Head,  
Department of Computer Science  
Engineering  
Bennett University, Greater Noida,  
Uttar Pradesh

*Attended online*  
Dr. Surya Prakash  
Professor  
Discipline of Computer Science  
and  
Engineering, School of  
Engineering,  
Indian Institute of Technology  
Indore

  
(Dr. Akhilesh Tiwari)  
Professor & Head,  
Department of IT,  
MITS Gwalior  
[Chairman, BoS]

  
09.12.2023  
DEAN (ACADEMICS)  
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