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: 28th May 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 28th May, 2022 at 11:30 A.M. onwards **in offline mode / 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, Professor & Head, Department of Computer Science Engineering 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.	Ms. Neha Bhardwaj, Assistant Professor	Member
11.	Dr. Saumil Maheshwari, Assistant Professor	Member
12.	Dr. Vikram Rajpoot, Assistant Professor	Member
13.	Dr. Dhananjay Bisen, Assistant Professor	Member
14.	Dr. Tej Singh, Assistant Professor	Member
15.	Dr. Pawan Dudey, Assistant Professor	Member
16.	Mr. Abhishek Dixit, Assistant Professor	Member
17.	Dr. Bhagat Singh Raghuwansi, Assistant Professor	Member
18.	Dr. Nidhi Saxena, Assistant Professor	Member

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

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

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

1.	Amrit Kaur (0901EC191020)	B. Tech IT Third year
2.	Harshita Vishwakarma (0901IT191026)	B. Tech IT Third 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 December 2021 **The minutes of previous Board of Studies (BoS) meeting held on 22nd December 2021 were presented, discussed and confirmed.**
ITEM **IT-2:**	To prepare and finalize the scheme structure of B. Tech. VII Semester with the provision of *Two Departmental Electives (DEs) and Two Open Category (OC) Course* (in which both Departmental Elective is to be offered in online mode with credit transfer) for the batch admitted in 2019-20. **The Scheme of B. Tech. VII semester** [Information Technology] **(batch admitted 2019-20), were discussed and recommended.** The Scheme is annexed as Annexure-I.
ITEM **IT-3:**	To prepare and finalize the syllabus of courses to be offered *(for batch admitted in 2019-20)* under *Departmental Elective (DE) Course* (in traditional mode) for B. Tech. *VII Semester* along with their COs **The courses to be offered under Departmental Elective (DE-3) category (in offline mode) for B. Tech VII Semester, IT discipline (under flexible curriculum) were discussed and finalized, as per the following detail. The detailed syllabi (along with their COs) is Annexed** as Annexure - II. **DE-3 (B. Tech IT):** • Data Mining & Predictive Modelling • Soft Computing • Mobile Computing
ITEM IT-4:	To propose the list of courses which the students can opt from SWAYAM/NPTEL/MOOC Platform, to be offered in *online mode under Departmental Elective (DE) category*, with credit transfer in the *VII Semester (Batch admitted in 2019-20)* **The list of Departmental Elective (DE-4) courses to be offered from SWAYAM/NPTEL/MOOC based learning platform (in online mode) for B. Tech VII Semester IT discipline (under flexible curriculum) were discussed and finalized, as per the following detail** **DE-4 (B. Tech IT):** • Scalable Data Science (8 Week) • Social Networks (12 Week) • Big Data Computing (8 Week) ***In continuation, it is also discussed and recommended that the above mentioned list of Departmental Elective (DE) course 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-5:**	To prepare and finalize the syllabus of courses to be offered *(for batch admitted in 2019-20)* under the *Open Category (OC) Courses* (in traditional mode) for B. Tech. *VII semester* students of other departments along with their Cos **The courses to be offered under Open Category (OC) Courses for B. Tech VII Semester (for the students of other departments) under flexible curriculum, were discussed and finalized, as per the following detail** **OC-2:** • Soft Computing **OC-3:** • Analytics using R Programming ***It is further discussed that the Open Category (OC) courses are meant only for the students of other departments; therefore the above list of courses may be kept dynamic (as per the need and demand from other departments).*** **The detailed syllabi (along with their COs) is annexed as Annexure-III.**
ITEM **IT-6:**	To prepare and finalize the Experiment list/ Lab manual for Departmental Laboratory Course (DLC) to be offered in B. Tech. VII semester *(for batches admitted in 2019-20)* **The experiment list / lab manual for the Laboratory Courses for B. Tech VII semester were discussed and finalized. The same is annexed as Annexure-IV.**
ITEM **IT-7:**	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* B. Tech. ***VII semester students*** *(for the batch admitted in 2019-20)] and for* B. Tech. ***V semester*** *(for the batch admitted in 2020-21)]* **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 V Semester (2020-21 admitted batch)
Additional Courses for "Honours" (Parent Department)
B. Tech Information Technology • Software Project Management (12 Week) • Distributed Systems (8 Week) • The Joy of Computing using Python (12 Week) **B. Tech Internet of Things (IoT)** • Hardware Modeling Using Verilog (8 Week) • Design & Implementation of Human-Computer Interfaces (12 Week) • The Joy of Computing using Python (12 Week) **B. Tech Information Technology (Artificial Intelligence and Robotics)** • Machine Learning for Earth System Sciences (8 Week)

	• Design & Implementation of Human-Computer Interfaces (12 Week) • The Joy of Computing using Python (12 Week)
	Additional Courses for "Minor Specialization" (Other Departments)
	Provision of Domain Specific Courses for minor specialization (as available on the SWAYAM/NPTEL platform), as follows: **B. Tech Information Technology** • Programming, Data Structures and Algorithms in Python (8 Week) • Programming in Java (12 Week) • Introduction to Operating Systems (8 Week) **B. Tech Internet of Things (IoT)** • Introduction to Internet of Things (12 Week) • Introduction to Operating Systems (8 Week) • Programming, Data Structures and Algorithms in Python (8 Week) **B. Tech Information Technology (Artificial Intelligence and Robotics)** • Introduction to Machine Learning (12 Week) • Introduction to Operating Systems (8 Week) • Programming, Data Structures and Algorithms in Python (8 Week)
	B. Tech VII Semester (2019-20 admitted batch) **Additional Courses for "Honours" (Parent Department)** • Computer Vision (12 Week) • Deep Learning (12 Week) • Distributed Systems (8 Week) **Additional Courses for "Minor Specialization" (Other Departments)** **Domain 1: Programming** • Introduction to Machine Learning (12 Week) • Data Science for Engineers (8 Week) **Domain 2: Systems** • Real-Time Systems (12 Week) • MultiCore Computer Architecture-Storage and Interconnects (8 Week)
ITEM **IT-8:**	To prepare and recommend the *scheme structure of B. Tech. V Semester under* the flexible curriculum *(Batch admitted in 2020-21)* **The Scheme of B. Tech. V semester [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)] (batch admitted 2020-21), were discussed and recommended. The Scheme is annexed as Annexure-V.**
ITEM **IT-9:**	To prepare and recommend the syllabi for all *Departmental Core (DC) Courses* of B. Tech. *V Semester (for* batch admitted in 2020-21) under the flexible curriculum along with their COs.

	The Syllabi (along with the Course Outcomes) of B. Tech. V **[Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)]** ***(batch admitted 2020-21 onwards), were discussed and finalized.*** The same is annexed as Annexure- VI.
ITEM **IT-10:**	To prepare and recommend the Experiment list/ Lab manual for all the Laboratory Courses to be offered in B. Tech V semester *(for batch admitted in 2020-21)* **The experiment list / lab manual for the laboratory courses for B. Tech V semester [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)] were discussed and finalized. The same is annexed as** Annexure-VII.
ITEM **IT-11:**	To prepare and recommend the suggestive list of projects which can be assigned under the 'Skill based mini-project' category in various laboratory component based courses to be offered in B. Tech. V Semester ***(for the batch admitted in 2020-21)*** **The list of "skill based mini project" for the Laboratory Courses of B. Tech. V Semester (for 2020-21 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-VIII.
ITEM **IT-12:**	To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered *(for batch admitted in 2020-21)* in online mode under *Self-Learning Presentation*, in the B. Tech. *V Semester* **The courses to be offered under Self-Learning/ Presentation through SWAYAM / NPTEL based learning platform for B. Tech. V semester (2020-21 admitted batch) [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)], under flexible curriculum were discussed and finalized, as per the following** **B. Tech. V Semester** • Python for Data Science (4 Week) • Demystifying networking (4 Week) ***To promote the self-learning, it is mandatory to register for one online course (as per above list) from the SWAYAM / NPTEL platform under the Seminar / Self Study Course. Further, the evaluation will be based on attendance, assignments and presentations, etc.***
ITEM **IT-13:**	To prepare and recommend the Scheme & Syllabi (along with the Course Outcomes) of B. Tech. III semester of the newly started B. Tech. programmes in the emerging areas [Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning] (started from 2021-22 Session) **The Scheme & Syllabi *(along with the Course Outcomes)* of B. Tech. programmes in the emerging areas [Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning] III semester (*batch admitted 2021-22*) were discussed and finalized. The scheme & detailed syllabi is annexed as** Annexure-IX.

ITEM **IT-14:**	To prepare and recommend the list of experiments and skill based mini projects of *B. Tech. III semester* of the newly started B. Tech. programmes in the emerging areas (Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning) (started from 2021-22 Session) **The experiment list / lab manual and skill based mini project for the Laboratory Courses for B. Tech III semester (Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning) were discussed and finalized. The same is annexed as** Annexure-X. *The list of "skill based mini project" for the Laboratory Courses must be treated as dynamic and more projects can be added by the course faculty.*
ITEM **IT-15:**	To review, prepare, finalize and recommend the *Scheme & Syllabi (along with the Course Outcomes) of III semester* B. Tech. programmes (batch admitted 2021-22 Session) **The Scheme & Syllabi *(along with the Course Outcomes)* of B. Tech. programmes [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)] III semester (*batch admitted 2021-22*) were discussed and finalized. The Scheme & detailed syllabi are annexed as** Annexure-XI.
ITEM **IT-16:**	To review, prepare, finalize and recommend the list of experiments/ Lab manual and skill based mini projects for various laboratory courses to be offered in III Semester *(for the batch admitted in 2021-22)* **The experiment list / lab manual and skill based mini project for the Laboratory Courses for B. Tech III semester [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics)] were discussed and finalized. The same is annexed as** Annexure-XII. *The list of "skill based mini project" for the Laboratory Courses must be treated as dynamic and more projects can be added by the course faculty.*
ITEM **IT-17:**	To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered *(for batches admitted in 2021-22)* in online mode under *Self-Learning Presentation*, in the *III Semester* **The courses to be offered under Self-Learning/ Presentation through SWAYAM / NPTEL based learning platform for B. Tech. III semester (2021-22 admitted batch) [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics), Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning], under flexible curriculum were discussed and finalized, as per the following** **B. Tech. III Semester** • Programming, Data Structures And Algorithms Using Python (8 Week) • Getting Started with Competitive Programming (12 Week) ***To promote the self learning, it is mandatory to register for one online course (as per above list) from the SWAYAM / NPTEL platform under the Seminar / Self Study Course. Further, the evaluation will be based on attendance, assignments and presentations, etc.***

ITEM **IT-18:**	To review the *Scheme & Syllabi, list of experiments and skill based mini projects of First semester* of the B. Tech programmes *(for the batch 2022-23)* ***The Scheme & Syllabi, list of experiments and skill based mini projects of First semester* of the B. Tech. programmes [Information Technology, Internet of Things (IoT), Information Technology (Artificial Intelligence and Robotics), Artificial Intelligence and Data Science, Artificial Intelligence and Machine Learning], (*batch admitted 2022-23*), were discussed and finalized. The same is annexed as** Annexure-XIII.
ITEM **IT-19:**	To review the CO attainments, to identify gaps and to suggest corrective measures for the improvement in the CO attainment levels for (i) I year November 2021 - February 2022 Semester (ii) July-December 2021 Session for II to IV year students **The attainment levels of Course Outcomes (COs) for all the courses pertaining to November 2021 – February 2022 semester and July-December 2021 Semester were presented and reviewed. The house appreciated the same and observed the achievement of target attainment levels for almost all the courses. The same is enclosed as** Annexure-XIV.
ITEM **IT-20:**	To review PO attainment of 2017-2021 batch, CO-PO mapping matrix with attainments and gap analysis **The Programme Outcome (PO) attainment, CO-PO mapping matrix with attainments and gap analysis for 2017-2021 passout batch were discussed and reviewed. The same is annexed as** Annexure-XV.
ITEM **IT-21:**	To review the curricula feedback from various stakeholders, its analysis and impact **The summarized report of curricula feedback from various stakeholders (students, faculty members and alumni etc.) (July – December 2021 (B. Tech V & VII Sem), September 2021 - January 2022 (B. Tech III Sem), October 2021 – March 2022 (B. Tech II Sem), January - April 2022 (B. Tech IV & VI Sem)) was presented and discussed. This was based on various considered parameters. Further, the house has reviewed the feedback & its summarized report and efforts made where appreciated. The report is annexed as** Annexure-XVI.
ITEM **IT-22:**	To review the Course Outcomes (COs) feedback of various courses, its analysis, and ATR **The detailed analysis and impact report of Course Outcomes (COs) feedback of various courses from students (for November 2021 – February 2022 semester and July-December 2021) was presented and discussed.** **The same is annexed as** Annexure -XVII.

ITEM IT-23:	Any other matter:
	To discuss and consider the Modules/Courses to be offered under Summer Internship Project–I (SIP-I), Novel Engaging Course (NEC) and Skill Enhancement Program (SEP). **The list of Modules/Courses under Summer Internship Project–I (SIP-I), Novel Engaging Course (NEC) and Skill Enhancement Program (SEP) as per the following were discussed and considered.** SUMMER INTERNSHIP PROJECT - I (SIP-I) MODULES • Programming using Python • Imbalanced Learning for classification • Problem Solving through programming • JAVA (Core) • Data Handling Through MATLAB programming • Scientific writing Tools NOVEL ENGAGING COURSES (NEC) • Digital Learning • IT Tools • Understanding Financial Markets • Python for Image processing applications using Open CV • Statistical data analysis through programming • Imbalance Learning • Integrating Engineering and Literacy SKILL ENHANCEMENT PROGRAM (SEP) MODULES • Google Services • Deep Learning – Basics to Advance **The detail of Modules/Courses is annexed as** Annexure -XVIII.

Suggestions by External Experts / Members:

- It was suggested to include practical slot of two hours by reducing one lecture slot in the course "Analytics in IoT", for the B. Tech. V semester (Internet of Things (IoT)) (2020-21 admitted batch)
- Minor changes were suggested in the syllabi of course "Embedded & IoT", for the B Tech V semester (Internet of Things (IoT)) (2020-21 admitted batch)

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

(Ms. Namrata Agrawal) (Dr. Nidhi Saxena) (Dr. Bhagat Singh Raghuwanshi) (Mr Abhishek Dixit)

(Dr. Parvan Dubey) (Dr. Tej Singh) (Dr. Dhananjay Bisen) (Dr. Vikram Rajpoot)

(Dr. Saumil Maheshwari) (Ms. Neha Bhardwaj) (Mr. Abhilash Sonkar) (Mr Vikas Sejwar)

(Mr. Punit Kumar Johri)

(Dr. Sanjiv Sharma)

Absent.

(Mr. Abhinav Mishra)
Sr. Director,
Persistent System Limited

Online present

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

Online present

(Dr. Vivek Tiwari)
Assistant Professor,
Departmentof 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

Online present

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

Online present

(Dr. Surya Prakash)
Professor,
Discipline of Computer Science and Engineering, School of Engineering,
Indian Institute of Technology Indore

28/5/2022

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