MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(A Govt. Aided UGC Autonomous Institute, Affiliated to RGPV, Bhopal)
NAAC Accredited with A++ Grade
Department of Information Technology

Date: 01/12/2023

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

The Meeting of **Board of Studies (BoS)** in **Information Technology** was held on 1st December 2023 at 11:30 A.M. onwards **in offline/online mode (through video conferencing)**. During the meeting following were present.

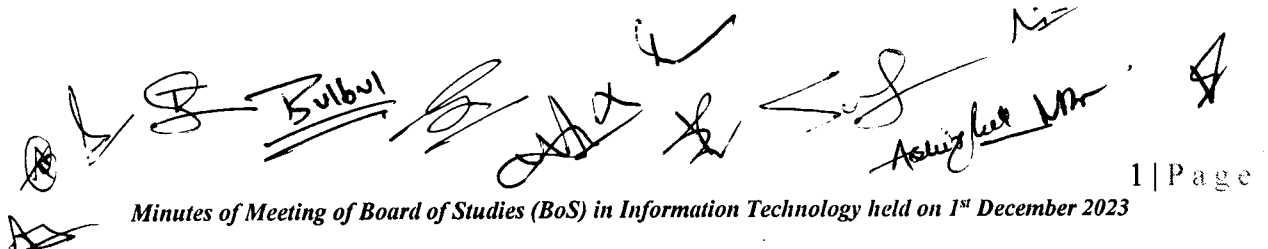|		
1.	Dr. Sanjiv Sharma, Assistant Professor, Programme Coordinator	Chairman
2.	Dr. Surya Prakash Discipline of Computer Science and Engineering, School of Engineering, Indian Institute of Technology Indore Indore-453552, Madhya Pradesh, India	External Member (Academics) *(Nominee of Hon'ble Vice Chancellor RGPV Bhopal)*
3.	Dr. Deepak Garg Vice-Chancellor, SR University, Telangana	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, ABV- Indian Institute of Information Technology and Management, Gwalior (ABV-IIITM)	Invitee Member (Academics)
6.	Dr. Punit Kumar Johari, Assistant Professor	Member
7.	Mr. Vikas Sejwar, Assistant Professor	Member
8.	Dr. Abhilash Sonker, Assistant Professor	Member
9.	Mr. Rajeev Kumar Singh, 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. Abhishek Dixit, Assistant Professor	Member
14.	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)

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

1.	Abhishek Kumar Shrivastava	0901IT221003

The following deliberation took place in the meeting:

ITEM **IT-1:**	To confirm the minutes of previous BoS meeting held in the month of June 2023. **The minutes of previous Board of Studies (BoS) meeting held on 2nd June 2023 were presented, discussed and confirmed.**
ITEM **IT-2:**	The examination committees constituted vide Dean Academics Notice no 1332 dated 20/4/2021 need to be reconstituted this year. **The examination committee was constituted, finalized and recommended. The same is Annexed as Annexure-I.**
ITEM **IT-3:**	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 academic year 2020-21. (**The total credits from I-VIII semester should not be less than 160 for this batch**). **The scheme structure of VIII Semester was discussed, finalized and recommended with the provision of ONE DE & ONE OC (to be offered in online mode) with credit transfer. The same is Annexed as Annexure-II.**
ITEM **IT-4:**	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 (OC3)** for credit transfer in the **VIII Semester** under the flexible curriculum (Batch admitted in academic year 2020-21) **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** **DE-5 (B. Tech IT):** • Foundations of Cryptography (12 Weeks) • Blockchain and its Applications (12 Weeks) • Edge Computing (8 Weeks) **OC-4 (Offered by IT Department):** • Getting Started with Competitive Programming (12 Weeks) • Introduction To Soft Computing (8 Weeks) • Social Networks (12 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).* • Foundation of Cloud IoT Edge ML (8 Weeks)

ITEM **IT-5:**	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. VIII semester students (for the batch admitted in 2020-21)] and for B. Tech. VI semester (for the batch admitted in 2021-22)]

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 (2021-22 admitted batch)
Additional Courses for "Honours" (Parent Department)

Specialization 1: Artificial Intelligence and Machine Learning
- Machine Learning for Engineering and science applications (12 Weeks)
- AI:Constraint Satisfaction (8 Weeks)

Specialization 2: Data Analytics
- Data Science for Engineers (8 Weeks)
- Business Intelligence & Analytics (12 weeks)

Specialization 3: Robotics
- Embedded Systems Design (12 weeks)
- AI:Constraint Satisfaction (8 Weeks)

Additional Courses for "Minor Specialization" (Other Departments)

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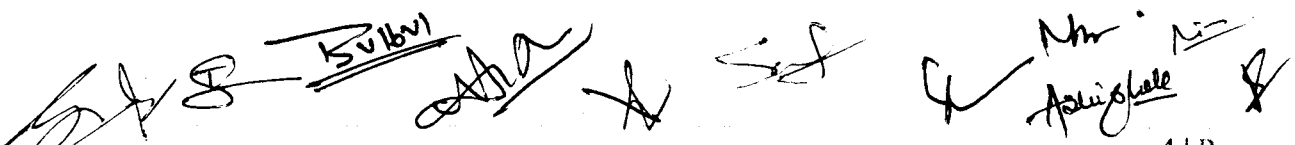- Introduction to Database Systems (12 Weeks)

B. Tech IT VIII Semester (2020-21 admitted batch)
Additional Courses for "Honours" (Parent Department)

- Machine Learning for Engineering and science applications (12 Weeks)
- Natural Language Processing (12 Weeks)
- Recommender Systems (8 Weeks)
- Reinforcement Learning (12 Weeks)
- Advanced Distributed Systems (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)
- GPU Architectures And Programming (12 Weeks)

Additional Courses for "Minor Specialization" (Other Departments)

- Selected Topics in Algorithms (12 Weeks)
- Computer Networks And Internet Protocol (12 Weeks)
- Fuzzy Logic And Neural Networks (8 Weeks)
- Programming in Java (12 Weeks)
- Programming, Data Structures and Algorithms Using Python (8 Weeks)
- Design and analysis of algorithms (8 Weeks)
- Introduction To Internet Of Things (12 Weeks)
- Introduction to Database Systems (12 Weeks)

In continuation, it is discussed that the above list must be kept dynamic and additional courses may be inducted (as per the requirement).

| ITEM IT-6: | To review and finalize the **scheme structure of B. Tech VI Semester under** the flexible curriculum **(Batch admitted in 2021-22)**

The **Scheme structure of B. Tech. VI Semester** *[Information Technology]* was **discussed and recommended. The same is Annexed as Annexure-III.** |
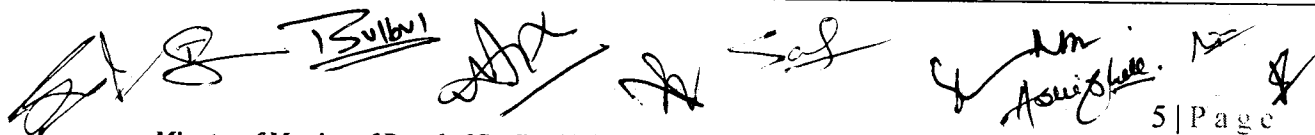
ITEM **IT-7:**	To review & finalize the syllabi for all Departmental Core Courses (DC) of B. Tech VI Semester (for batch admitted in 2021-22) under the flexible curriculum along with their COs **The Syllabi of all the Departmental Core (DC) Courses, to be offered during B. Tech. VI Semester *[Information Technology]* along with their COs under flexible curriculum were discussed and recommended. The same is Annexed as Annexure-IV.**
ITEM **IT-8:**	To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (for batches admitted in 2021-22) **in online mode under Departmental Elective (DE-1) Course** with credit transfer, in the VI Semester **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 *[Information Technology]* (under flexible curriculum) were discussed and recommended, as per the following detail** **DE-1 (B. Tech IT):** • Introduction To Internet Of Things (12 Weeks) • Foundation of Cloud IoT Edge ML (8 Weeks) • Cloud Computing and Distributed Systems (8 Weeks)
ITEM **IT-9:**	To review and finalize the courses & syllabi to be offered (for batch admitted in 2021-22) under the Open Category (OC) Courses (in traditional mode) for VI semester students of other departments along with their COs **The courses to be offered under Open Category (OC) Courses for B. Tech. VI Semester *[Information Technology]* (for the students of other departments) were discussed and recommended as per the following detail** **Offered by IT Department** **OC-1:** • Networking with TCP/IP • Software Engineering • Cryptography & Network Security ***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-V.**
ITEM **IT-10:**	To review and finalize the Experiment list/ Lab manual for all the Laboratory Courses to be offered in B. Tech. VI semester *(for batch admitted in 2021-22).* **The Experiment list / Lab manual for the Laboratory Courses for VI semester of B. Tech *[Information Technology]* were discussed and finalized. The same is annexed as Annexure-VI.**
ITEM **IT-11:**	To review and finalize the suggestive list of projects which can be offered under the 'Skill based mini-project' category in various laboratory components based courses to be offered in B. Tech. VI Semester **(for the batch admitted in 2021-22).** **The list of "skill based mini project" for the Laboratory Courses of B. Tech. VI Semester *[Information Technology]* (for 2021-22 admitted batch) was discussed and**

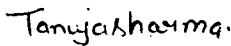|	
	finalized. It was also discussed that the list must be treated as dynamic and more projects can be added by the course faculty. The same is annexed as Annexure-VII.
ITEM **IT-12:**	To review and finalize the scheme and syllabi of B. Tech. IV Semester (**for batch admitted in 2022-23**) under the flexible curriculum along with their COs. The Scheme Structure and Syllabi of B. Tech. IV Semester *[Information Technology] (for batches admitted in 2022-23)* under the flexible curriculum were discussed, finalized and recommended. The scheme structure & syllabi (along with their COs) is annexed as Annexure-VIII.
ITEM **IT-13:**	To review and finalize the Experiment list/ Lab manual for all the Laboratory Courses to be offered in B. Tech IV semester (**for batch admitted in 2022-23**) The experiment list / lab manual for the Laboratory Courses for B. Tech IV Semester *[Information Technology]* were discussed and finalized. The same is annexed as Annexure-IX.
ITEM **IT-14:**	To review and finalize the suggestive list of projects which can be offered under the 'Skill based mini-project' category in various laboratory components based courses to be offered in B. Tech IV Semester *(for the batch admitted in 2022-23)*. The list of "Skill based mini project" for the Laboratory Courses of B. Tech. IV Semester *[Information Technology]* (for 2022-23 admitted batch) was discussed and finalized. It was 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-X.
ITEM **IT-15:**	To review and finalize the scheme and syllabi of B. Tech. II Semester (**for batch admitted in 2023-24**) under the flexible curriculum along with their COs. The Scheme, Syllabi of B. Tech. II semester *[Information Technology]* were discussed and recommended in its present form. The same is annexed as Annexure-XI.
ITEM **IT-16:**	To review and finalize the Experiment list/ Lab manual for all the Laboratory Courses to be offered in Batch II semester (**for batch admitted in 2023-24**). The experiment list / lab manual for the Laboratory Courses for B. Tech II Semester *[Information Technology]* were discussed and finalized. The same is annexed as Annexure-XII.
ITEM **IT-17:**	To review and finalize the suggestive list of projects which can be offered under the 'Skill based mini-project' category in various laboratory components based courses to be offered in B. Tech IV Semester *(for the batch admitted in 2023-24)*. The list of "skill based mini project" for the Laboratory Courses of B. Tech. II Semester *[Information Technology]* (for 2023-24 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-XIII.
ITEM **IT-18:**	To review the CO attainments, identify gaps and suggest corrective measures for the improvement in the CO attainment levels for the courses taught in Jan-June 2023 Session. The attainment level of Course Outcomes (COs) for all the courses pertaining to January - June 2023 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-XIV.

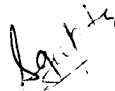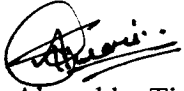| ITEM **IT-19:**	To review the PO attainment, CO-PO mapping matrix and action to be taken to improve PO attainment level. **The Programme Outcome (PO) attainment, CO-PO mapping matrix with attainments and gap analysis for 2019-2023 passout batch were discussed and reviewed. The same is annexed as Annexure-XV.**
ITEM **IT-20:**	To review curricula feedback from various stakeholders, its analysis and impact **The summarized report of curricula feedback from various stakeholders (students, faculty members and alumni etc.) (for Jan. 2023 to June 2023 (II, IV & VI Semester) was presented and discussed. This was based on various considered parameters. The report is annexed as Annexure-XVI.**
ITEM **IT-21:**	To discuss and recommend the scheme structure & syllabi of PG Programme (M. Tech.) along with their Course Outcomes (COs). **The Scheme Structure and Syllabi of M. Tech. II Semester *[Information Technology] (for batches admitted in 2023-24)* were discussed, finalized and recommended. The Scheme Structure & syllabi (along with their COs) is annexed as Annexure- XVII.**
ITEM IT-22:	To ratify the Tracks of Honours Specialization offered under B. Tech V Semester **The Honours Specialization (through SWAYAM/NPTEL/MOOC Platforms) is to be offered in three different tracks for B. Tech V Semester *[Information Technology] (for batches admitted in 2021-22)* were presented and discussed.**

Suggestions by External Experts / Members:

- It was suggested to add the contents related to retrieval techniques in the course/subject- "Image Processing & Retrieval Techniques" offered under M. Tech. II Semester [Information Technology].
- It was suggested to provide the recent edition book as recommendation with syllabus.

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

Mr. Shubham Sharma   Ms. Tanuja Sharma   Ms. Surbhi Gupta   Ms. Akanchha Tiwari
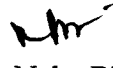
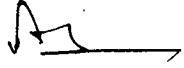Ms. Bulbul Agrawal   Dr. Nidhi Saxena   Dr. Abhishek Dixit   Dr. Vikram Rajpoot

Dr. Saumil Maheshwari   Ms. Neha Bhardwaj   Mr. Rajeev Kumar Singh   Dr. Abhilash Sonkar

Mr. Vikas Sejwar   Dr. Punit Kumar Johari

Absent

Mr. Abhinav Mishra
Co-Founder & CEO at Altysys
and Former 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
Associate Professor,
Department of Computer
Science Engineering,
ABV- Indian Institute of
Information Technology and
Management, Gwalior

Absent

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

Online Present

Dr. Deepak Garg
Vice-Chancellor,
SR University, Telangana

Online present

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

Dr. Sanjiv Sharma
Assistant Professor & Coordinator Department of IT,
Chairman, BoS

Minutes of Meeting of Board of Studies (BoS) in Information Technology held on 1ˢᵗ December 2023