



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

Deemed to be University

(Declared under Distinct Category by Ministry of Education, Government of India)

NAAC Accredited with A++ Grade

Centre for Artificial Intelligence

Summary of Board of Studies (BoS)

Courses where revision was carried out						
(Course/subject name)	Course Code	Year/Date of introduction	Year/Date of revision	Percentage of content added or replaced	Agenda Item No.	Page No.
Robot Operating System	2240524	2023	2024	5%	9	4

Courses focusing on employability/entrepreneurship/ skill development					
(Course/subject name)	Course Code	Activities/contents which have a bearing on increasing skill and employability		Agenda Item No.	Page No.
Robot Operating System	240731/ 2240524	Command and control applications for a simulated mobile robot, inspect and debug a robotics system.		2,9	2,4
Humanoid Robotics	240732	ASIMO, Humanoid Mechanism and Design, Object recognition and scene understanding, Behavior adaptation and learning.		4	2
Augmented and Virtual Reality	240734/ 270733/ 280733	Augmented-Virtual and Mixed Reality, Architecture of VR systems, Technology and Features of Augmented Reality, Visualization Techniques for Augmented Reality, Enhancing interactivity in AR Environments, Evaluating AR systems.		4	2
Generative AI	270731/ 280731	Discriminative models, Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs), Flow-based models, Autoregressive models, Applications of Generative AI.		4	2
Statistical Programming with R	2270524/ 2280524/ OC-2	R Commands, Computational Statistic, Exploratory Data Analysis, Statistical Functions in R, Data Visualization in R, model selection and validation in computational statistics, Randomization Techniques.		5,9	2,4
Pattern Recognition	270732/ 280732	Feature Selection and Extraction Techniques, Feature Scaling and Transformation, Feature Extraction, <u>Deep Learning</u> , <u>Transfer Learning</u> , <u>Feature Fusion Techniques</u>		4	2
Software Engineering	2240521	Software Development of Life Cycle Model, Software design, Software Metrics, Project Management and Estimation, Software Testing.		9	4
Data Mining & Warehousing	2270521/ 2280521	Significance of data mining in a real-world perspective, applying data mining techniques and tools for solving real-world problems.		9	4
Data Science	2240522/ 2270522/ 2280522	Data Cleaning, Data Transformation, Feature Selection, Supervised and Unsupervised Learning		9	4
Theory of Computation	2240523/ 2270523/ 2280523	Computability, decidability, and complexity through problem solving, analyzing and designing abstract models of computation & formal languages.		9	4
Soft Computing Techniques	2240525 /2270525/ 2280525	Neural networks, fuzzy logic, and Evolutionary Algorithms.		9	4
Design & Analysis Of Algorithms	3240321/ 3270321/ 3270321	Efficient algorithmic design, with reduced complexities, for real world problem solving.		14	4



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Python Programming	3240322/ 3270322/ 3270322	Programming approaches and program documentation techniques in Python, concepts of procedural and object oriented programming techniques in Python, design and implement basic programming solutions using Python programming constructs.	14	4
Robot Kinematics	3240323	Forward Kinematic Modeling, Path Planning and Applications, Manipulator Differential Motion, Dynamics and Control.	14	4
Operating Systems	3240324	computer operating system structures and functioning, Process Management, Synchronization, Memory Management.	14	4
Database Management System	3270323/ 3280323	design and implementation of a database system, Relational Model, SQL, Transaction Management.	14	4
Computer Networks	3270324/ 3280324	taxonomy and terminology of the computer networking, detailed knowledge about various layers, protocols and devices that facilitate networking, solving various networking problems such as flow control, error control and congestion control.	14	4
Industrial Robotics: Theories for Implementation	240768	Robot sensors and its interfaces, Robot Dynamics, Load data calibration, Robot Control.	3	2
Deep Learning for Computer Vision	240770	Visual Matching, Convolutional Neural Networks, Recurrent Neural Networks, Attention Models, Deep Generative Models.	3	2
Mechanics and Control of Robotic Manipulators	240772	Differential kinematics, Dynamic simulation, Trajectory generation.	3	2
Advanced Distributed Systems	H24072504	Bitcoin and Blockchains, Amazon Dynamo, Facebook Cassandra, Google Percolator.	7	3
Computational Complexity	H24072505	Models of computations and computational complexity classes.	7	3
Responsible and Safe AI Systems	270761	AI Risks for Gen models, Adversarial Attacks – Vision, NLP, Superhuman Go agents, Privacy & Fairness in AI, Regulation landscape.	3	2
Applied Accelerated AI	270763	GPUs, DeepOps, Optimizing Deep Learning, Distributed AI Computing, Accelerated Data Analytics, Accelerated Machine Learning.	3	2
Artificial Intelligence for Economics	270766	Predictive Algorithms, Introduction to Game Theory, Auction Theory.	3	2
Cyber Security and Privacy	H24052601	Cyber security policy, Risk Management, Privacy regulation, Information privacy.	7	3
Sensor Technology: Physics, Fabrication and Circuits	H24052604	Multidisciplinary Aspects of Sensors, Physics of Sensors, Sensor Geometries.	7	3
Multi-Core Computer Architecture	H24052605	Pipelining, Superscalar Processors and GPU architectures, Energy Efficient NoCs.	7	3



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New Courses Added				
(Course/subject name)	Course Code	Activities/contents which have a bearing on increasing skill and employability	Agenda Item No.	Page No.
Augmented and Virtual Reality	240734/ 270733/ 280733	Augmented-Virtual and Mixed Reality, Architecture of VR systems, Technology and Features of Augmented Reality, Visualization Techniques for Augmented Reality, Enhancing interactivity in AR Environments, Evaluating AR systems.	4	2
Generative AI	270731/ 280731	Discriminative models, Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs), Flow-based models, Autoregressive models, Applications of Generative AI.	4	2
Statistical Programming with R	2270524/ 2280524/ OC-2	R Commands, Computational Statistic, Exploratory Data Analysis, Statistical Functions in R, Data Visualization in R, model selection and validation in computational statistics, Randomization Techniques.	5,9	2,4
Data Science	2240522/ 2270522/ 2280522	Data Cleaning, Data Transformation, Feature Selection, Supervised and Unsupervised Learning	9	4
Robot Modeling and Simulation Lab	3240325	Robotic Arm with Vision-Based Sorting, Robot programming, simulation tools to test coordination and task execution, Implement advanced sensors for force feedback and tactile sensing.	15	5
Competitive Programming Lab	3270325/ 3280325	Optimized Data structures and efficient algorithmic design for problem solving.	15	5
Industrial Robotics: Theories for Implementation	240768	Robot sensors and its interfaces, Robot Dynamics, Load data calibration, Robot Control.	3	2
Deep Learning for Computer Vision	240770	Visual Matching, Convolutional Neural Networks, Recurrent Neural Networks, Attention Models, Deep Generative Models.	3	2
Mechanics and Control of Robotic Manipulators	240772	Differential kinematics, Dynamic simulation, Trajectory generation.	3	2
Advanced Distributed Systems	H24072504	Bitcoin and Blockchains, Amazon Dynamo, Facebook Cassandra, Google Percolator.	7	3
Computational Complexity	H24072505	Models of computations and computational complexity classes.	7	3
Responsible and Safe AI Systems	270761	AI Risks for Gen models, Adversarial Attacks – Vision, NLP, Superhuman Go agents, Privacy & Fairness in AI. Regulation landscape.	3	2
Applied Accelerated AI	270763	GPUs, DeepOps, Optimizing Deep Learning, Distributed AI Computing, Accelerated Data Analytics, Accelerated Machine Learning.	3	2
Artificial Intelligence for Economics	270766	Predictive Algorithms, Introduction to Game Theory, Auction Theory.	3	2

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Feedback on curriculum received from stakeholders: Analysis & ATR				
Stakeholder	Student	Faculty	Alumni	Employer
No. of responses	433	18	-	-
Link of Analysis	https://web.mitsgwalior.in/images/Departments/Centre%20of%20Artificial%20Intelligence/Feedback/Student%20CC%20Feedback%20Report_July-Dec%202023.pdf	https://web.mitsgwalior.in/images/Departments/Centre%20of%20Artificial%20Intelligence/Feedback/CC%20Feedback%20Given%20by%20faculty_july-december%202023.pdf	-	-
ATR Link	https://web.mitsgwalior.in/images/Departments/Centre%20of%20Artificial%20Intelligence/Feedback/Student%20CC%20Feedback%20Report_July-Dec%202023.pdf	https://web.mitsgwalior.in/images/Departments/Centre%20of%20Artificial%20Intelligence/Feedback/CC%20Feedback%20Given%20by%20faculty_july-december%202023.pdf	-	-
Link showing Excel sheet of Google Form details of stakeholders	https://drive.google.com/file/d/195dGl-KvVgsEnsovFraF_vcBTZi9lg0U/view?usp=sharing	https://drive.google.com/file/d/1R0nnZMv-L-bA6raUhcZBQ33-FwGM4Wp/view?usp=sharing	-	-

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Date: 31.05.2024

Minutes of Meeting of Board of Studies (BoS) in Centre for Artificial Intelligence

The meeting of the Board of Studies (BoS) in the Centre for Artificial Intelligence was held on 31 May, 2024 at 10:00 AM in offline/online mode (though video conferencing). During the meeting following were present:

	Chairman
1. Dr. Rajni Ranjan Singh	External Member (Academics)
2. Dr. Jitendra Agrawal <i>Director and Associate Professor, School of Information Technology, RGPV Bhopal.</i>	(<i>Nominee of Hon'ble Vice Chancellor RGPV Bhopal</i>)
3. Dr. Dilip Singh Sisodia <i>Associate Professor and HoD, Department of Computer Science, NIT Raipur</i>	External Member (Academics)
4. Mr. Giridhari Lal Gupta <i>Associate at Goldman Sachs, Gwalior.</i>	External Member (Alumnus)
5. Dr. Tej Singh	Member
6. Dr. Pawan Dubey	Member
7. Dr. Bhagat S. Raghuvanshi	Member
8. Dr. Kritika Bansal	Member
9. Ms. Shubha Mishra	Member
10. Dr. Sunil Kumar Shukla	Member
11. Dr. Vibha Tiwari	Member
12. Dr. Mir Shahnawaz Ahmad	Member
13. Mr. Arun Kumar	Member

The following external members could not attend the meeting:

1. Dr. R. K. Pateriya <i>Professor; Department of CSE, MANIT Bhopal</i>	External Member (Academics)
2. Mr. Aditya Marathe <i>Founder and CEO, Nugenix Robotics, Ichalkaranji, Maharashtra.</i>	External Member (Corporate Sector)

Handwritten signatures and initials in blue ink, including names like 'Rajni Ranjan Singh' and 'Dr. Jitendra Agrawal', and a circled 'E'.



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The following deliberation took place in the meeting:

Item 1	To confirm the minutes of the previous BoS meeting held in the month of December 2023. The minutes of the previous BoS meeting held on 02-Dec., 2023 were presented, discussed and confirmed. To review and finalize the scheme structure of B.Tech. VII Semester with the provision of Three (03) Departmental Electives (DEs) and Open Category (OC) Course. (Out of which One (01) Elective and 01 Open category course is to be offered in traditional mode and remaining Two (02) Departmental Electives are to be offered in online mode with credit transfer for the batch admitted in 2021-22.																																			
Item 2	The scheme structure of B. Tech. VII Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 – 22 (under the flexible curriculum), with the list of DEs (one course in traditional mode and two courses from SWAYAM/NPTEL platform) and OCs, was discussed and recommended. The scheme is annexed as Annexure-I. To propose the list of courses which the students can opt from SWAYAM/NPTEL/MOOC based Platforms, to be offered in online mode for Two (02) Departmental Electives (DE) Course, with credit transfer in the B.Tech. VII Semester under the flexible curriculum (Batch admitted in 2021-22) Following list of Departmental Elective courses, offered from SWAYAM/NPTEL platform, for B. Tech. VII Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 – 22, were presented, discussed and recommended in the meeting:																																			
Item 3	<table border="1"> <thead> <tr> <th colspan="2">IT (AIR)</th> <th colspan="2">AI&DS</th> <th colspan="2">AI&ML</th> </tr> <tr> <th>DE-3</th> <th>DE-4</th> <th>DE-3</th> <th>DE-4</th> <th>DE-3</th> <th>DE-4</th> </tr> </thead> <tbody> <tr> <td>Reinforcement Learning (12 Weeks)</td> <td>Deep Learning for Computer Vision (12 Weeks)</td> <td>Responsible and Safe AI Systems (12 Weeks)</td> <td>Big Data Computing (8 Weeks)</td> <td>Responsible and Safe AI Systems (12 Weeks)</td> <td>Big Data Computing (8 Weeks)</td> </tr> <tr> <td>Industrial Robotics: Theories for Implementation (12 Weeks)</td> <td>Big Data Computing (8 Weeks)</td> <td>Deep Learning for Computer Vision (12 Weeks)</td> <td>Software Testing (12 Weeks)</td> <td>Deep Learning for Computer Vision (12 Weeks)</td> <td>Software Testing (12 Weeks)</td> </tr> <tr> <td>Software Testing (12 Weeks)</td> <td>Mechanics and Control of Robotic Manipulators (8 Weeks)</td> <td>Applied Accelerated AI (12 Weeks)</td> <td>Artificial Intelligence for Economics (8 Weeks)</td> <td>Applied Accelerated AI (12 Weeks)</td> <td>Artificial Intelligence for Economics (8 Weeks)</td> </tr> </tbody> </table>						IT (AIR)		AI&DS		AI&ML		DE-3	DE-4	DE-3	DE-4	DE-3	DE-4	Reinforcement Learning (12 Weeks)	Deep Learning for Computer Vision (12 Weeks)	Responsible and Safe AI Systems (12 Weeks)	Big Data Computing (8 Weeks)	Responsible and Safe AI Systems (12 Weeks)	Big Data Computing (8 Weeks)	Industrial Robotics: Theories for Implementation (12 Weeks)	Big Data Computing (8 Weeks)	Deep Learning for Computer Vision (12 Weeks)	Software Testing (12 Weeks)	Deep Learning for Computer Vision (12 Weeks)	Software Testing (12 Weeks)	Software Testing (12 Weeks)	Mechanics and Control of Robotic Manipulators (8 Weeks)	Applied Accelerated AI (12 Weeks)	Artificial Intelligence for Economics (8 Weeks)	Applied Accelerated AI (12 Weeks)	Artificial Intelligence for Economics (8 Weeks)
IT (AIR)		AI&DS		AI&ML																																
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Software Testing (12 Weeks)	Mechanics and Control of Robotic Manipulators (8 Weeks)	Applied Accelerated AI (12 Weeks)	Artificial Intelligence for Economics (8 Weeks)	Applied Accelerated AI (12 Weeks)	Artificial Intelligence for Economics (8 Weeks)																															
Item 4	To prepare and finalize the syllabus of courses to be offered (for batch admitted in 2021-22) under Departmental Elective (DE) Course (in traditional mode) for B. Tech. VII Semester along with their COs The syllabus, along with COs, of B. Tech. VII Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 – 22, was discussed and recommended. The syllabus of various courses is annexed as Annexure-II.																																			
Item 5	To prepare and finalize the syllabus of courses to be offered (for batch admitted in 2021-22) under the Open Category (OC) Courses (in traditional mode) for B.Tech. VII semester students of other departments along with their COs The syllabus of courses to be offered (for batch admitted in 2021-22) under the Open Category (OC) Courses (in traditional mode) for B.Tech. VII semester students of other departments along with their COs were proposed, reviewed and recommended during the meeting, the same is annexed as Annexure-III.																																			

[Handwritten signatures and initials in blue ink, including names like 'Vijay', 'Sunita', and various initials like 'GMA', 'AS', 'W', 'D']



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To review and finalize the Experiment list/ Lab manual for Departmental Laboratory Course (DLC) to be offered in B. Tech. VII semester (for batches admitted in 2021-22)

The Experiment list/ Lab manual for Departmental Laboratory Course (DLC) to be offered in B. Tech. VII semester (for batches admitted in 2021-22), was proposed, reviewed and recommended. The same is annexed in Annexure-IV.

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 2021-22) and for B.Tech. V semester (for the batch admitted in 2022-23)

Following list of Honours courses, offered from SWAYAM/NPTEL platform, for B. Tech. VII Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 - 22, and B. Tech. V Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022 - 23, were presented, discussed and recommended in the meeting:

List of courses to be opted for Honours in VII Semester (for the batch admitted in 2021-22)
(to be opted by students of Parent Department)

Track 1: Information Security		Track 2: Internet of Things	
1.	Secure Computation Part-II (12 Weeks)	1.	Introduction to Industry 4.0 and Industrial IoT (12 Weeks)
2.	Practical Cyber Security for Cyber Security Practitioners (12 Weeks)	2.	Distributed Systems (8 Weeks)
3.	Cyber Security and Privacy (12 Weeks)	3.	Introduction to Internet of Things (12 Weeks)
4.	Ethical Hacking (12 Weeks)	4.	Sensor Technology: Physics, Fabrication and Circuits (8 Weeks)
Track 3: High Performance Computing			
1.	Advanced Distributed Systems (12 Weeks)		
2.	Computational Complexity (12 Weeks)		
3.	Multi-Core Computer Architecture (12 Weeks)		
4.	Distributed System (12 Weeks)		

List of courses to be opted for Honours in V Semester (for the batch admitted in 2022-23)
(to be opted by students of Parent Department)

Track 1: Information Security		Track 2: Internet of Things	
1.	Cyber Security and Privacy (12 Weeks)	1.	Introduction to Internet of Things (12 Weeks)
2.	Ethical Hacking (12 Weeks)	2.	Sensor Technology: Physics, Fabrication and Circuits (8 Weeks)
Track 3: High Performance Computing			
1.	Multi-Core Computer Architecture (12 Weeks)		
2.	Distributed System (12 Weeks)		

Following is the list of Minor Specialization courses in Artificial Intelligence and Machine learning for the students of other departments of B.Tech. V semester (for the batch admitted in 2022-23):

Minor Specialization in Artificial Intelligence and Machine Learning for V Semester Students
(to be opted by students of other Department)

1.	The Joy of Computing using Python (12 weeks)
2.	Introduction To Machine Learning – IITKGP (8 weeks)
3.	Fundamentals of Artificial Intelligence (12 weeks)

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Item 8	<p>To review and finalize the <i>scheme structure of B.Tech. V Semester</i> under the flexible curriculum (<i>Batch admitted in 2022-23</i>)</p> <p>The scheme structure of B. Tech. V Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022 – 23 (under the flexible curriculum), was discussed, reviewed and recommended. The scheme is annexed as Annexure-V.</p>										
Item 9	<p>To review and finalize the syllabi for all <i>Departmental Core (DC) Courses</i> of B. Tech. <i>V Semester</i> (for batch admitted in 2022-23) under the flexible curriculum along with their COs.</p> <p>The syllabus of DC courses, along with COs, of B. Tech. V Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022 – 23, was discussed, reviewed and recommended. The syllabus of various courses is annexed as Annexure-VI.</p>										
Item 10	<p>To review and recommend the Experiment list/ Lab manual for all the Laboratory Courses to be offered in B. Tech. <i>V Semester</i> (for batch admitted in 2022-23)</p> <p>The Experiment list/ Lab manual for all the Laboratory Courses to be offered in B. Tech. V semester (for batches admitted in 2022-23), was proposed, reviewed and recommended. The same is annexed in Annexure-VII.</p>										
Item 11	<p>To review and recommend the list of projects which can be assigned under the 'Skill based mini-project' category in various laboratory components based courses to be offered in B.Tech. V Semester (<i>for the batch admitted in 2022-23</i>).</p> <p>The list of skill based mini projects for all the Laboratory Courses to be offered in B. Tech. V semester (for batches admitted in 2022-23), was proposed, reviewed and recommended. The same is annexed in Annexure-VII.</p> <p>To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered (<i>for batch admitted in 2022-23</i>) in online mode under <i>Self-Learning/ Presentation</i>, in the B. Tech. <i>V Semester</i></p> <p>Following list of courses, offered from SWAYAM/NPTEL platform, under Self-Learning/ Presentation, for B. Tech. V Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022 – 23, were presented, discussed and recommended in the meeting:</p> <table border="1"><tr><td>1.</td><td>Python for Data Science (4 Weeks)</td></tr><tr><td>2.</td><td>Software Conceptual Design (4 Weeks)</td></tr><tr><td>3.</td><td>Foundation of Cognitive Robotics (4 Weeks)</td></tr><tr><td>4.</td><td>Electronic System Design Hands on Circuits and PCB Design with CAD Software (12 Weeks)</td></tr><tr><td>5.</td><td>Gender Justice and Workplace Security (4 Weeks)</td></tr></table>	1.	Python for Data Science (4 Weeks)	2.	Software Conceptual Design (4 Weeks)	3.	Foundation of Cognitive Robotics (4 Weeks)	4.	Electronic System Design Hands on Circuits and PCB Design with CAD Software (12 Weeks)	5.	Gender Justice and Workplace Security (4 Weeks)
1.	Python for Data Science (4 Weeks)										
2.	Software Conceptual Design (4 Weeks)										
3.	Foundation of Cognitive Robotics (4 Weeks)										
4.	Electronic System Design Hands on Circuits and PCB Design with CAD Software (12 Weeks)										
5.	Gender Justice and Workplace Security (4 Weeks)										
Item 12	<p>To review and finalize the <i>scheme structure of B.Tech. III Semester</i> under the flexible curriculum (<i>Batch admitted in 2023-24</i>)</p> <p>The scheme structure of B. Tech. III Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2023 – 24 (under the flexible curriculum), was discussed, reviewed and recommended. The scheme is annexed as Annexure-VIII.</p>										
Item 13	<p>To review and finalize the syllabi for all Departmental Core (DC) Courses of B. Tech. <i>III Semester</i> (for batch admitted in 2023-24) under the flexible curriculum along with their COs.</p>										
Item 14	<p>The syllabus of DC courses, along with COs, of B. Tech. III Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2023 – 24, was reviewed and recommended. The syllabus of various courses is annexed as Annexure-IX.</p>										

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Item 15	To review and recommend the list of experiments and skill-based mini projects of <i>B.Tech. III semester</i> (for batch admitted in 2023-24) The list of experiments and skill-based mini projects for all the Laboratory Courses to be offered in B. Tech. III semester (for batches admitted in 2023-24), reviewed and recommended. The same is annexed in Annexure-X.										
Item 16	To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered in the <i>B.Tech. III Semester (for batches admitted in 2023-24)</i> in online mode under <i>Self-Learning/ Presentation</i> . Following list of courses, offered from SWAYAM/NPTEL platform, under Self-Learning/ Presentation, for B. Tech. III Semester [Artificial Intelligence and Robotics]/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2023 - 24, were presented, discussed and recommended in the meeting: <table border="1" data-bbox="779 363 929 1093"><tr><td>1.</td><td>C Programming and Assembly Language (4 Weeks)</td></tr><tr><td>2.</td><td>Demystifying Networking (4 Weeks)</td></tr><tr><td>3.</td><td>Introduction to Quantum Computing (4 Weeks)</td></tr><tr><td>4.</td><td>Foundation of Cognitive Robotics (4 Weeks)</td></tr><tr><td>5.</td><td>Ethics in Engineering Practice (8 Weeks)</td></tr></table>	1.	C Programming and Assembly Language (4 Weeks)	2.	Demystifying Networking (4 Weeks)	3.	Introduction to Quantum Computing (4 Weeks)	4.	Foundation of Cognitive Robotics (4 Weeks)	5.	Ethics in Engineering Practice (8 Weeks)
1.	C Programming and Assembly Language (4 Weeks)										
2.	Demystifying Networking (4 Weeks)										
3.	Introduction to Quantum Computing (4 Weeks)										
4.	Foundation of Cognitive Robotics (4 Weeks)										
5.	Ethics in Engineering Practice (8 Weeks)										
Item 17	To review and recommend the <i>Scheme structure & Syllabi</i> of PG Programme (M.E./M.Tech./MCA/MBA) along with their Course Outcomes (COs) <i>Not Applicable</i>										
Item 18	To review and recommend the <i>Scheme structure and Syllabus</i> of Ph.D. Course Work (specific to Doctoral Research Scholars, if any) <i>Not Applicable</i>										
Item 19	To review the CO attainments, to identify gaps and to suggest corrective measures for the improvement in the CO attainment levels for all the courses taught during July-Dec 2023 session. The CO attainment levels of various courses, taught during July-Dec 2023 session, were reviewed, along with the Gap identification and necessary action taken for not attained CO levels. The same is annexed as Annexure-XI.										
Item 20	To review the PO attainments levels and suggest the actions to be taken for improvement in PO attainment <i>Not Applicable</i>										
Item 21	To review and finalize the CO-PO mapping matrix for all the courses to be taught in July-Dec 2024. The CO-PO mapping matrix for all the courses to be taught in July-Dec 2024 in Artificial Intelligence and Robotics/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning, was presented, reviewed and discussed during the meeting. The same is annexed as Annexure-XII.										
Item 22	To review curricula feedback from various stakeholders, its analysis and impact. The curricula feedback from various stakeholders for B. Tech. II/IV/V Semesters [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning] during July-Dec. 2023, were reviewed and discussed. The same is annexed in Annexure-XIII.										
Item 23	Any other matter As a rectification to the scheme of B. Tech. VIII Semester (Information Technology (Artificial Intelligence and Robotics)), batch admitted 2020-21, two courses under Open Category-3, namely "Foundation of Cloud IoT Edge ML" and "Affective Computing", were additionally offered. The same was confirmed and approved.										

Suggestions by the external experts/members:

[Handwritten signatures and initials in blue ink, including 'Saini', 'Vijay', 'A.P.', 'M.S.P.', and 'R.R.']



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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It was suggested to reframe the Skill based Mini Projects of Database Management System course to incorporate more industry oriented concepts. Also, it was suggested to check and include all the GATE courses of Data Science and Artificial Intelligence. The same was checked and confirmed.


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

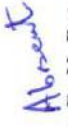
				
Dr. Tej Singh	Dr. Pawan Dubey	Dr. Bhagat S. Raghuvanshi	Dr. Vibha Tiwari	Mr. Arun Kumar
				
Dr. Kritika Bansal	Ms. Shubha Mishra	Dr. Sunil Kumar Shukla	Dr. Mir Shahnawaz Ahmad	


 Present Online
Dr. Jitendra Agrawal
Director and Associate Professor,
School of Information Technology,
RGPV Bhopal.

 Present Online
Mr. Girdhari Lal Gupta
Associate at Goldman Sachs,
Gwalior.

 Present Online
Dr. Dilip Singh Sisodia
Associate Professor and HoD,
Department of Computer Science,
NIT Raipur.

 Absent
Mr. Aditya Marathe
Founder and CEO,
Nugenix Robotics,
Ichalkaranji, Maharashtra.

 Absent
Dr. R. K. Pateriya
Professor,
Department of CSE,
MANIT Bhopal


Dr. Rajni Ranjan Singh
Coordinator, Center for Artificial
Intelligence [Chairman, BoS]