



Madhav Institute of Technology & Science Gwalior (M.P.)

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

NAAC Accredited with A++ Grade

Centre for Artificial Intelligence

Date: 13.12.2023

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 02 Dec., 2023 at 11:00 AM in offline/online mode (though video conferencing). During the meeting following were present:

1.	Dr. R. R. Singh	Chairman
2.	Dr. Jitendra Agrawal <i>Director and Associate Professor, School of Information Technology, RGPV Bhopal.</i>	External Member (Academics) (Nominee of Hon'ble Vice Chancellor RGPV Bhopal)
3.	Mr. Giridhari Lal Gupta <i>Associate at Goldman Sachs, Gwalior.</i>	External Member (Alumnus)
4.	Mr. Aditya Marathe <i>Founder and CEO, Nugenix Robotics, Ichalkaranji, Maharashtra.</i>	External Member (Corporate Sector)
5.	Dr. Tej Singh	Member
6.	Dr. Pawan Dubey	Member
7.	Dr. Bhagat S. Raghuwanshi	Member
8.	Dr. Kritika Bansal	Member
9.	Ms. Shubha Mishra	Member
10.	Dr. Sunil Kumar Shukla	Member
11.	Dr. Vibha Tiwari	Member
12.	Mr. Mir Shahnawaz Ahmad	Member

The following external members could not attend the meeting:

1.	Dr. Dilip Singh Sisodia <i>Associate Professor and HoD, Department of Computer Science, NIT Raipur</i>	External Member (Academics)
2.	Dr. R. K. Pateriya <i>Professor, Department of CSE, MANIT Bhopal</i>	External Member (Academics)



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The following deliberation took place in the meeting:

Item 1	<p>To confirm the minutes of the previous BoS meeting held in the month of May-June 2023.</p> <p>The minutes of the previous BoS meeting held on 02-June, 2023 were presented, discussed and confirmed.</p>				
Item 2	<p>The examination committees constituted vide Dean Academics Notice no 1332 dated 20/4/2021 need to be reconstituted this year.</p> <p>The examination committee has been reconstructed and includes the following members:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;"> <p>Dr. R. R. Singh Dr. Vibha Tiwari Ms. Shubha Mishra Mr. Mir Shahnawaz Ahmad Director Nominee</p> </td> </tr> </table> <p>The same was also confirmed by all the BoS members.</p>	<p>Dr. R. R. Singh Dr. Vibha Tiwari Ms. Shubha Mishra Mr. Mir Shahnawaz Ahmad Director Nominee</p>			
<p>Dr. R. R. Singh Dr. Vibha Tiwari Ms. Shubha Mishra Mr. Mir Shahnawaz Ahmad Director Nominee</p>					
Item 3	<p>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).</p> <p>The scheme structure of B. Tech. VIII Semester [Information Technology (Artificial Intelligence and Robotics)], batch admitted in academic session 2020 – 21 (under the flexible curriculum) , was discussed and recommended. Also, it was confirmed that the total credits from I-VIII semester are equal to 160 for this batch. The scheme is annexed as Annexure-I.</p>				
Item 4	<p>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).</p> <p>The list of Departmental Elective (DE-5 & OC-3) courses to be offered from SWAYAM/NPTEL/MOOC based learning platform (in online mode) for B. Tech VIII Semester [Information Technology (Artificial Intelligence and Robotics)], batch admitted in academic year 2020-21, were discussed and finalized, as per the following details:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; width: 80%;"> <thead> <tr> <th style="width: 50%; text-align: center;">DE-5</th> <th style="width: 50%; text-align: center;">OC-3</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ● Reinforcement Learning ● Blockchain and its Applications ● Natural Language Processing ● Embedded System Design with ARM </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ● Data Analytics with Python ● Deep Learning - IIT Ropar ● Natural Language Processing </td> </tr> </tbody> </table>	DE-5	OC-3	<ul style="list-style-type: none"> ● Reinforcement Learning ● Blockchain and its Applications ● Natural Language Processing ● Embedded System Design with ARM 	<ul style="list-style-type: none"> ● Data Analytics with Python ● Deep Learning - IIT Ropar ● Natural Language Processing
DE-5	OC-3				
<ul style="list-style-type: none"> ● Reinforcement Learning ● Blockchain and its Applications ● Natural Language Processing ● Embedded System Design with ARM 	<ul style="list-style-type: none"> ● Data Analytics with Python ● Deep Learning - IIT Ropar ● Natural Language Processing 				
Item 5	<p>To propose the list of “Additional Courses” which can be opted for getting an</p> <p>(i) Honours (for students of the host department)</p> <p>(ii) Minor Specialization (for students of other departments)</p> <p>[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)]</p>				



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The courses available on SWAYAM/NPTEL/MOOC based learning platforms for Honours Specialization for the B.Tech. VIII semester students [Information Technology (Artificial Intelligence and Robotics) (for the batch admitted in 2020-21)] were discussed and identified. Following track-wise list of honours courses were selected:

Foundations of Cyber Physical Systems
Computer Vision and Image Processing-Fundamentals and Applications
Experimental Robotics
Edge Computing
The Joy of Computing using Python
Artificial Intelligence: Knowledge Representation And Reasoning
GPU Architectures And Programming
Advanced Computer Architecture

Also, the courses available on SWAYAM/NPTEL/MOOC based learning platforms for Honours Specialization for the B.Tech. VI semester students [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], for the batch admitted in 2021-22, were discussed and identified. Following track-wise list of honours courses were selected:

Track 1: Information Security	Track 2: IoT
Secure Computation: Part I	Sensors and actuators
Information Security- 5 - Secure Systems Engineering	Microprocessors and Microcontrollers
-	Introduction to Internet of Things
Track 3: High Performance Computing	
Parallel Computer Architecture	
GPU Architectures and Programming	

Item 6	To review and finalize the scheme structure of B.Tech VI Semester under the flexible curriculum (Batch admitted in 2021-22)
Item 6	The scheme structure of B. Tech. VI Semester [Information Technology (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) , was discussed and recommended. The scheme is annexed as Annexure-II.
Item 7	To review & finalize the syllabi for all Departmental Core Courses (DC) and Mandatory Course (MC) of B. Tech VI Semester (for batch admitted in 2021-22) under the flexible curriculum along with their COs.
Item 7	The syllabi (along with course outcomes) of B. Tech. VI Semester [Information Technology (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) , were discussed and recommended. The scheme is annexed as Annexure-III.
Item 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.



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	<p>The list of Departmental Elective (DE-1) courses to be offered from SWAYAM/NPTEL/MOOC based learning platform (in online mode) for B. Tech VI Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning] were discussed and finalized, as per the following details:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">DE-1 (Information Technology (Artificial Intelligence and Robotics))</th> <th style="width: 33%;">DE-1 (Artificial Intelligence (AI) and Data Science)</th> <th style="width: 33%;">DE-1 (Artificial Intelligence (AI) and Machine Learning)</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> ● Embedded System Design with ARM ● Robotics: Basics and Selected Advanced Concepts ● Blockchain and its Applications ● Compiler Design </td> <td> <ul style="list-style-type: none"> ● Data Science for Engineers ● Business Intelligence & Analytics ● Blockchain and its Applications ● Compiler Design </td> <td> <ul style="list-style-type: none"> ● Data Analytics with Python ● Artificial Intelligence: Knowledge Representation and Reasoning ● Blockchain and its Applications ● Compiler Design </td> </tr> </tbody> </table>	DE-1 (Information Technology (Artificial Intelligence and Robotics))	DE-1 (Artificial Intelligence (AI) and Data Science)	DE-1 (Artificial Intelligence (AI) and Machine Learning)	<ul style="list-style-type: none"> ● Embedded System Design with ARM ● Robotics: Basics and Selected Advanced Concepts ● Blockchain and its Applications ● Compiler Design 	<ul style="list-style-type: none"> ● Data Science for Engineers ● Business Intelligence & Analytics ● Blockchain and its Applications ● Compiler Design 	<ul style="list-style-type: none"> ● Data Analytics with Python ● Artificial Intelligence: Knowledge Representation and Reasoning ● Blockchain and its Applications ● Compiler Design
DE-1 (Information Technology (Artificial Intelligence and Robotics))	DE-1 (Artificial Intelligence (AI) and Data Science)	DE-1 (Artificial Intelligence (AI) and Machine Learning)					
<ul style="list-style-type: none"> ● Embedded System Design with ARM ● Robotics: Basics and Selected Advanced Concepts ● Blockchain and its Applications ● Compiler Design 	<ul style="list-style-type: none"> ● Data Science for Engineers ● Business Intelligence & Analytics ● Blockchain and its Applications ● Compiler Design 	<ul style="list-style-type: none"> ● Data Analytics with Python ● Artificial Intelligence: Knowledge Representation and Reasoning ● Blockchain and its Applications ● Compiler Design 					
<p>Item 9</p>	<p>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.</p> <p>The syllabi (along with course outcomes) of Open Category (OC) Courses (in traditional mode) for VI semester students of other departments, batch admitted in academic session 2021 – 22 (under the flexible curriculum) , were discussed and finalized. The scheme is annexed as Annexure-IV.</p>						
<p>Item 10</p>	<p>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).</p> <p>The Experiment list/ Lab manual for all the Laboratory Courses of B. Tech. VI Semester [Information Technology (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) , were discussed and finalized. The scheme is annexed as Annexure-V.</p>						
<p>Item 11</p>	<p>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).</p> <p>The suggestive list of projects which can be offered under the ‘Skill based mini-project’ category in various laboratory components based courses of B. Tech. VI Semester [Information Technology (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) , were discussed and finalized. The scheme is annexed as Annexure-V.</p>						
<p>Item 12</p>	<p>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.</p> <p>The scheme and syllabi (along with course outcomes) of B. Tech. IV Semester [Information Technology (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</p>						



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	<p>flexible curriculum), were reviewed and finalized. The scheme and syllabi are annexed as Annexure-VI.</p>
Item 13	<p>To review and finalize the Experiment list/ Lab manual for all the Laboratory Courses to be offered in Batch IV semester (for batch admitted in 2022-23)</p> <p>The Experiment list/ Lab manual for all the Laboratory Courses of B. Tech. IV Semester [Information Technology (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) , were discussed and finalized. The scheme is annexed as Annexure-VII.</p>
Item 14	<p>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).</p> <p>The suggestive list of projects which can be offered under the ‘Skill based mini-project’ category in various laboratory components based courses of B. Tech. IV Semester [Information Technology (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) , were discussed and finalized. The scheme is annexed as Annexure-VII.</p>
Item 15	<p>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.</p> <p>The scheme and syllabi (along with course outcomes) of B. Tech. II Semester [Information Technology (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), were reviewed and finalized. The scheme and syllabi are annexed as Annexure-VIII.</p>
Item 16	<p>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)</p> <p>The Experiment list/ Lab manual for all the Laboratory Courses of B. Tech. II Semester [Information Technology (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), were discussed and finalized. The scheme is annexed as Annexure-IX.</p>
Item 17	<p>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).</p> <p>The suggestive list of projects which can be offered under the ‘Skill based mini-project’ category in various laboratory components based courses of B. Tech. II Semester [Information Technology (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), were discussed and finalized. The scheme is annexed as Annexure-IX.</p>
Item 18	<p>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.</p> <p>The CO attainment levels of various courses were reviewed, along with the Gap identification and necessary action taken for not attained CO levels. The same is annexed as Annexure-X.</p>
Item 19	<p>To review the PO attainment, CO-PO mapping matrix and action to be taken to improve PO attainment level.</p>



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	<p>Note: Currently, the senior batches of Information Technology (Artificial Intelligence and Robotics), Artificial Intelligence (AI) and Data Science and Artificial Intelligence (AI) and Machine Learning are in VII, V and V semesters respectively, and no batch has yet completed the degrees in these programs. So, the PO attainment will not be prepared in this semester.</p>
Item 20	<p>To review curricula feedback from various stakeholders, its analysis and impact.</p> <p>The curricula feedback from various stakeholders for B. Tech. II/IV/VI Semesters [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning] during Jan-June2023, were reviewed and discussed. The same is annexed in Annexure-XI</p>
Item 21	<p>To discuss and recommend the scheme structure & syllabi of PG Programme (M.E./M.Tech./MCA/MBA) along with their Course Outcomes (COs)</p> <p>Note: Currently, the Centre for Artificial Intelligence is not offering any PG Programme.</p>
Item 22	<p>To recommend the scheme structure and Syllabus of Ph.D. Course Work (specific to Doctoral Research Scholars, if any)</p> <p>Note: Currently, the Centre for Artificial Intelligence is not offering any Ph.D. Programme.</p>
Item 23	<p>Any other matter.</p> <p>The Syllabus, List of Experiments and Skill based mini Projects for Problem Solving and Programming (3240122/ 3270122/ 3280122) as a rectification to Computer Programming in the First Semester (batch admitted in academic session 2023 – 24) was discussed and finalized. The syllabus (along with List of Experiments and skill based mini projects) is annexed as Annexure-XII.</p>

Suggestions by the external experts/members:

The external experts suggested that Robot Economics and Robot Esthetics and Design be included in the curriculum of the Artificial Intelligence and Robotics branch. It was also discussed in the meeting that seminars and skill based mini projects can suffice for this requirement.

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

Dr. Tej Singh

Dr. Pawan Dubey

Dr. Bhagat S. Raghuwanshi

Dr. Vibha Tiwari

Dr. Kritika Bansal

Ms. Shubha Mishra

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*Director and Associate Professor,
School of Information Technology,
RGPV Bhopal.*

Dr. Dilip Singh Sisodia

*Associate Professor and HoD,
Department of Computer Science,
NIT Raipur*

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*Professor,
Department of CSE,
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Mr. Giridhari Lal Gupta

*Associate at Goldman Sachs,
Gwalior.*

Mr. Aditya Marathe

*Founder and CEO,
Nugenix Robotics,
Ichalkaranji, Maharashtra.*

Dr. R. R. Singh

*Coordinator, Center for Artificial
Intelligence [Chairman, BoS]*



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Scheme of Evaluation

B. Tech. VIII Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2020 – 21)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam
				Theory Slot				Practical Slot			MOOCs			L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
				End Sem. Exam.	§Proficiency in subject /course	Mid Sem. Exam.	Quiz/Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	DE	DE	Departmental Elective* (DE-5)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
2.	OC	OC	Open Category* (OC-3)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
3.	240801	DLC	Internship/ Research Project/ Innovation & Start-up***	-	-	-	-	250	150	-	-	-	400	-	-	18	9	Offline	SO
4.	240802	-	Professional Development#	-	-	-	-	50	-	-	-	-	50	-	-	4	2	Interactive	SO
Total				-	-	-	-	300	150	-	50	150	650	6	-	22	17	-	-
Additional Course for Honours or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization															

§Proficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral

Mode of Teaching					Mode of Examination				Total Credits
Theory			Lab	PDC	Theory			Lab	
Offline	Online	Blended	Offline	Interactive	PP	AO	MCQ	SO	
-	6	-	9	2	-	-	6	11	17
-	35.29	-	52.94	11.76	-	-	35.29	64.71	Credits %



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B. Tech. VIII Semester (*Information Technology (Artificial Intelligence and Robotics)*)

DE -5*		
S. No.	Subject Code	Subject Name
2	240861	Reinforcement Learning
3	240862	Blockchain and its Applications
4	240863	Natural Language Processing
5	240864	Embedded System Design with ARM

OC-3*		
S. No.	Subject Code	Subject Name
1		Data Analytics with Python
2		Deep Learning - IIT Ropar
3		Natural Language Processing

List of courses to be opted for Honours in VIII Semester

Honours* (to be opted by students of Parent Department)	
Course Code	Course Name
HAI08241	Foundations of Cyber Physical Systems
HAI08242	Computer Vision and Image Processing-Fundamentals and Applications
HAI08243	Edge Computing
HAI06234	The Joy of Computing using Python
HAI06231	Artificial Intelligence: Knowledge Representation And Reasoning
HAI06232	GPU Architectures And Programming
HAI06233	Advanced Computer Architecture

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

Note: In each semester (starting from V to VIII semester), it is required to opt for new subjects towards Honours Degree/ Minor Specialization.



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Scheme of Evaluation

B. Tech. VI Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2021 – 22)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot			MOOCs			L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
				End Sem. Exam.	Proficiency in subject /course	Mid Sem. Exam	Quiz/ Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	240601	DC	AI for Robotics	50	10	20	20	-	-	-	-	-	100	3	1	-	4	Blended	PP
2.	240602	DC	Image Processing	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
3.	240603	DC	Artificial Intelligence & Machine Learning	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
4.	DE	DE	Departmental Elective* (DE-1)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
5.	OC	OC	Open Category (OC-1)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	PP
6.	240604	DLC	Minor Project-II**	-	-	-	-	60	40	-	-	-	100	-	-	4	2	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	-	-	50	-	-	2	1	Interactive	SO
Total				200	40	80	80	230	80	40	25	75	850	15	1	10	21	-	-
8.	1000007	MAC	Intellectual Property Rights (IPR)	50	10	20	20	-	-	-	-	-	100	2	-	-	GRADE	Online	MCQ

Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester

Additional Course for Honours or minor Specialization

Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization

Proficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

MCQ: Multiple Choice Question

AO: Assignment + Oral

PP: Pen Paper

SO: Submission + Oral

Mode of Teaching					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	AO	MCQ	SO	SO	
-	3	13	4	1	13	-	3	4	1	21
-	14.29	61.9	19.05	4.76	61.9	-	14.29	19.05	4.76	Credits %



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B. Tech. VI Semester (*Information Technology (Artificial Intelligence and Robotics)*)

DE -1*		
S. No.	Subject Code	Subject Name
1	240661	Embedded System Design With ARM
2	240662	Robotics: Basics and Selected Advanced Concepts
3	240663	Blockchain and its Applications
4	240664	Compiler Design

OC-1		
S. No.	Subject Code	Subject Name
1		Information Security
2		Data Mining & Warehousing

List of courses to be opted for Honours in VI Semester

Honours*

(to be opted by students of Parent Department)

Course Code	Course Name	Course Code	Course Name
Track 1: Information Security		Track 2: Internet of Things	
HAI06241	Secure Computation: Part I	HAI06243	Sensors and actuators
HAI06242	Information Security- 5 - Secure Systems Engineering	HAI06244	Microprocessors and Microcontrollers
		HAI05233	Introduction To Internet Of Things
Track 3: High Performance Computing			
HAI06245	Parallel Computer Architecture		
HAI06246	GPU Architectures and Programming		

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

Note: In each semester (starting from V to VIII semester), it is required to opt for new subjects towards Honours Degree/ Minor Specialization.



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Scheme of Evaluation

B. Tech. VI Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2021 – 22)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot			MOOCs			L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
				End Sem. Exam.	Proficiency in subject/course	Mid Sem. Exam.	Quiz/Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	270601	DC	Data Mining & Warehousing	50	10	20	20	60	20	20	-	-	200	2	1	2	4	Blended	PP
2.	270602	DC	Image Processing	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
3.	270603	DC	Deep Learning	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
4.	DE	DE	Departmental Elective* (DE-1)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
5.	OC	OC	Open Category (OC-1)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	PP
6.	270604	DLC	Minor Project-II**	-	-	-	-	60	40	-	-	-	100	-	-	4	2	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	-	-	50	-	-	2	1	Interactive	SO
Total				200	40	80	80	290	100	60	25	75	950	14	1	12	21	-	-
8.	1000007	MAC	Intellectual Property Rights (IPR)	50	10	20	20	-	-	-	-	-	100	2	-	-	GRADE	Online	MCQ
Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester																			
Additional Course for Honours or minor Specialization				Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization															

***Proficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject**

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Mode of Teaching					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	AO	MCQ	SO	SO	
-	3	12	5	1	12	-	3	5	1	21
-	14.29	57.14	23.81	4.76	57.14	-	14.29	23.81	4.76	Credits %



Madhav Institute of Technology & Science Gwalior (M.P.)

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Centre for Artificial Intelligence

B. Tech. VI Semester (*Artificial Intelligence (AI) and Data Science*)

DE -1*		
S. No.	Subject Code	Subject Name
1	270661	Data Science for Engineers
2	270662	Business Intelligence & Analytics
3	270663	Blockchain and its Applications
4	270664	Compiler Design

OC-1		
S. No.	Subject Code	Subject Name
1		Information Security
2		Data Mining & Warehousing

List of courses to be opted for Honours or Minor specialization in VI Semester

Honours*

(to be opted by students of Parent Department)

Course Code	Course Name	Course Code	Course Name
Track 1: Information Security		Track 2: Internet of Things	
HAI06241	Secure Computation: Part I	HAI06243	Sensors and actuators
HAI06242	Information Security- 5 - Secure Systems Engineering	HAI06244	Microprocessors and Microcontrollers
		HAI05233	Introduction To Internet Of Things
Track 3: High Performance Computing			
HAI06245	Parallel Computer Architecture		
HAI06246	GPU Architectures and Programming		

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

Note: In each semester (starting from V to VIII semester), it is required to opt for new subjects towards Honours Degree/ Minor Specialization.



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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. VI Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2021 – 22)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted									Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot			MOOCs			L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation		Assignment	Exam							
				End Sem. Exam.	Proficiency in subject /course	Mid Sem. Exam.	Quiz/ Assignment		Lab work & Sessional	Skill Based Mini Project									
1.	280601	DC	Data Mining & Warehousing	50	10	20	20	60	20	20	-	-	100	2	1	2	4	Blended	PP
2.	280602	DC	Image Processing	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
3.	280603	DC	Deep Learning	50	10	20	20	60	20	20	-	-	200	3	-	2	4	Blended	PP
4.	DE	DE	Departmental Elective* (DE-1)	-	-	-	-	-	-	-	25	75	100	3	-	-	3	Online	MCQ
5.	OC	OC	Open Category (OC-1)	50	10	20	20	-	-	-	-	-	100	3	-	-	3	Blended	PP
6.	280604	DLC	Minor Project-II**	-	-	-	-	60	40	-	-	-	100	-	-	4	2	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	-	-	50	-	-	2	1	Interactive	SO
Total				200	40	80	80	290	100	60	25	75	950	14	1	12	21	-	-
8.	1000007	MAC	Intellectual Property Rights (IPR)	50	10	20	20	-	-	-	-	-	100	2	-	-	GRADE	Online	MCQ

Summer Internship-III (On Job Training) for Four weeks duration: Evaluation in VII Semester

Additional Course for Honours or minor Specialization

Permitted to opt for maximum two additional courses for the award of Honours or Minor specialization

^SProficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Mode of Teaching					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	AO	MCQ	SO	SO	
-	3	12	5	1	12	-	3	5	1	21
-	14.29	57.14	23.81	4.76	57.14	-	14.29	23.81	4.76	Credits %



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Centre for Artificial Intelligence

B. Tech. VI Semester (*Artificial Intelligence (AI) and Machine Learning*)

DE -1*		
S. No.	Subject Code	Subject Name
1	280661	Data Analytics with Python
2	280662	Artificial Intelligence: Knowledge Representation And Reasoning
3	280663	Blockchain and its Applications
4	280664	Compiler Design

OC-1		
S. No.	Subject Code	Subject Name
1		Information Security
2		Data Mining & Warehousing

List of courses to be opted for Honours or Minor specialization in VI Semester

Honours*			
(to be opted by students of Parent Department)			
Course Code	Course Name	Course Code	Course Name
Track 1: Information Security		Track 2: Internet of Things	
HAI06241	Secure Computation: Part I	HAI06243	Sensors and actuators
HAI06242	Information Security- 5 - Secure Systems Engineering	HAI06244	Microprocessors and Microcontrollers
		HAI05233	Introduction To Internet Of Things
Track 3: High Performance Computing			
HAI06245	Parallel Computer Architecture		
HAI06246	GPU Architectures and Programming		

* Course run through SWAYAM/NPTEL/ MOOC Learning Based Platform

Note: In each semester (starting from V to VIII semester), it is required to opt for new subjects towards Honours Degree/ Minor Specialization.



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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. IV Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2022 – 23)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot				L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation								
				End Sem. Exam.	^s Proficiency in subject /course	Mid Sem. Exam	Quiz/ Assignment		Lab Work & Sessional	Skill Based Mini Project							
1.	2240421	DC	Calculus and Optimization Techniques	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP
2.	2240422	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP
3.	2240423	DC	Control Systems	50	10	20	20	-	-	-	100	3	-	-	3	Blended	PP
4.	2240424	DC	Robot Kinematics	50	10	20	20	60	20	20	200	3	-	2	4	Blended	PP
5.	2240425	DC	Information Security	50	10	20	20	-	-	-	100	3	-	-	3	Blended	PP
6.	2240426	DLC	Java Programming Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
Total				250	50	100	100	170	40	40	750	15	02	06	20	-	-
8.	1000001	MAC	Indian Constitution and Traditional Knowledge	50	10	20	20	-	-	-	100	2	-	-	GRADE	Blended	MCQ
9.	3000004	Natural Sciences & Skills	Language	50	10	20	20	-	-	-	100	2	-	-	GRADE	Blended	MCQ

Summer Internship Project-II (Soft skills Based) for two weeks duration: Evaluation in V Semester

^s proficiency in course/subject-includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.

Natural Sciences & Skills: Engineering Physics/ Engineering Chemistry/ Environmental Engineering/ Language.

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Teaching Mode					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	A+O	MCQ	SO	SO	
4	-	13	2	1	17	-	-	2	1	20
20	-	65	10	5	85	-	-	10	5	Credits %



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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. IV Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2022 – 23)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot				L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam	Continuous Evaluation								
				End Sem. Exam.	^s Proficiency in subject /course	Mid Sem. Exam	Quiz/ Assignment		Lab Work & Sessional	Skill Based Mini Project							
1.	2270421	DC	Calculus and Optimization Techniques	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP
2.	2270422	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP
3.	2270423	DC	Software Engineering	50	10	20	20	-	-	-	100	3	-	-	3	Blended	MCQ
4.	2270424	DC	Cloud Computing and Virtualization	50	10	20	20	60	20	20	200	3	-	2	4	Blended	PP
5.	2270425	DC	Information Security	50	10	20	20	-	-	-	100	3	-	-	3	Blended	PP
6.	2270426	DLC	Java Programming Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
Total				250	50	100	100	170	40	40	750	15	02	06	20	-	-
8.	1000001	MAC	Indian Constitution and Traditional Knowledge	50	10	20	20	-	-	-	100	2	-	-	GRADE	Online	MCQ
9.	3000004	Natural Sciences & Skills	Language	50	10	20	20	-	-	-	100	2	-	-	GRADE	Blended	MCQ

Summer Internship Project-II (Soft skills Based) for two weeks duration: Evaluation in V Semester

^s proficiency in course/subject-includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.

Natural Sciences & Skills: Engineering Physics/ Engineering Chemistry/ Environmental Engineering/ Language.

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Theory					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	A+O	MCQ	SO	SO	
3	-	13	3	1	13	-	3	3	1	
20	-	65	10	5	70	-	15	10	5	
										Credits %



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Scheme of Evaluation

B. Tech. IV Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2022 – 23)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.
				Theory Slot				Practical Slot				L	T	P			
				End Term Evaluation		Continuous Evaluation		End Sem. Exam	Continuous Evaluation								
				End Sem. Exam	^s Proficiency in subject/course	Mid Sem. Exam	Quiz/Assignment		Lab Work & Sessional	Skill Based Mini Project							
1.	2280421	DC	Calculus and Optimization Techniques	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP
2.	2280422	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP
3.	2280423	DC	Software Engineering	50	10	20	20	-	-	-	100	3	-	-	3	Blended	MCQ
4.	2280424	DC	Cloud Computing and Virtualization	50	10	20	20	60	20	20	200	3	-	2	4	Blended	PP
5.	2280425	DC	Information Security	50	10	20	20	-	-	-	100	3	-	-	3	Blended	PP
6.	2280426	DLC	Java Programming Lab	-	-	-	-	60	20	20	100	-	-	2	1	Offline	SO
7.	200XXX	CLC	Novel Engaging Course (Informal Learning)	-	-	-	-	50	-	-	50	-	-	2	1	Interactive	SO
Total				250	50	100	100	170	40	40	750	15	02	06	20	-	-
8.	1000001	MAC	Indian Constitution and Traditional Knowledge	50	10	20	20	-	-	-	100	2	-	-	GRADE	Online	MCQ
9.	3000004	Natural Sciences & Skills	Language	50	10	20	20	-	-	-	100	2	-	-	GRADE	Blended	MCQ
Summer Internship Project-II (Soft skills Based) for two weeks duration: Evaluation in V Semester																	

^s proficiency in course/subject-includes the weightage towards ability/skill/competence/knowledge level/ expertise attained etc. in that particular course/subject.

Natural Sciences & Skills: Engineering Physics/ Engineering Chemistry/ Environmental Engineering/ Language.

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

					Mode of Examination					Total Credits
Theory			Lab	NEC	Theory			Lab	NEC	
Offline	Online	Blended	Offline	Interactive	PP	A+O	MCQ	SO	SO	
3	-	13	3	1	13	-	3	3	1	20
20	-	65	10	5	70	-	15	10	5	Credits %



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Scheme of Evaluation

B. Tech. II Semester (*Information Technology (Artificial Intelligence and Robotics)*)

(for batch admitted in academic session 2023 – 24)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.	Duration of Exam.
				Theory Slot				Practical Slot				L	T	P				
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation									
				End Sem. Exam	^s Proficiency in subject /course	Mid Sem. Exam.	Quiz/ Assignment		Lab Work & Sessional	Skill Based Mini Project								
1.	3240221	DC	Discrete structures	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP	2 Hrs
2.	3240222	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP	2 Hrs
3.	3240223	DC	Object Oriented Programming	50	10	20	20	40	30	30	200	2	1	2	4	Blended	AO	2 Hrs
4.	3240224	DC	Data Structures	50	10	20	20	40	30	30	200	2	1	2	4	Blended	PP	2 Hrs
5.	3240225	DC	Electronic Devices and Circuits	50	10	20	20	-	-	-	100	2	1	-	3	Blended	PP	2 Hrs
Total				250	50	100	100	80	60	60	700	12	05	04	19	-	-	-
6.	3000002	Natural Sciences & Skills	Engineering Chemistry	50	10	20	20	30	10	10	150	1	-	2	GRADE	Blended	MCQ	1.5 Hrs

^sProficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

Natural Sciences & Skills: Engineering Physics / Engineering Chemistry / Environmental Engineering / Language

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question **AO:** Assignment + Oral **PP:** Pen Paper **SO:** Submission + Oral

Mode of Teaching				Mode of Examination				Total Credits
Theory			Lab	Theory			Lab	
Offline	Online	Blended	Offline	PP	AO	MCQ	SO	
4	-	13	2	14	3	-	2	19
21.05	-	68.42	10.53	73.68	15.79	-	10.53	Credits %



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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. II Semester (*Artificial Intelligence (AI) and Data Science*)

(for batch admitted in academic session 2023 – 24)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam.	Duration of Exam.
				Theory Slot				Practical Slot				L	T	P				
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation									
				End Sem. Exam	Proficiency in subject /course	Mid Sem. Exam.	Quiz/Assignment		Lab Work & Sessional	Skill Based Mini Project								
1.	3270221	DC	Discrete Structures	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP	2 Hrs
2.	3270222	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP	2 Hrs
3.	3270223	DC	Object Oriented Programming	50	10	20	20	40	30	30	200	2	1	2	4	Blended	AO	2 Hrs
4.	3270224	DC	Data Structures	50	10	20	20	40	30	30	200	2	1	2	4	Blended	PP	2 Hrs
5.	3270225	DC	Operating Systems	50	10	20	20	-	-	-	100	2	1	-	3	Blended	PP	2 Hrs
Total				250	50	100	100	80	60	60	700	12	05	04	19	-	-	-
6.	3000002	Natural Sciences & Skills	Engineering Chemistry	50	10	20	20	30	10	10	150	1	-	2	GRADE	Blended	MCQ	1.5 Hrs

Proficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

Natural Sciences & Skills: Engineering Physics / Engineering Chemistry / Environmental Engineering / Language

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question

AO: Assignment + Oral

PP: Pen Paper

SO: Submission + Oral

Mode of Teaching				Mode of Examination				Total Credits
Theory			Lab	Theory			Lab	
Offline	Online	Blended	Offline	PP	AO	MCQ	SO	
4	-	13	2	14	3	-	2	19
21.05	-	68.42	10.53	73.68	15.79	-	10.53	Credits %



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Centre for Artificial Intelligence

Scheme of Evaluation

B. Tech. II Semester (*Artificial Intelligence (AI) and Machine Learning*)

(for batch admitted in academic session 2023 – 24)

S. No.	Subject Code	Category Code	Subject Name	Maximum Marks Allotted							Total Marks	Contact Hours per week			Total Credits	Mode of Teaching	Mode of Exam	Duration of Exam.
				Theory Slot				Practical Slot				L	T	P				
				End Term Evaluation		Continuous Evaluation		End Sem. Exam.	Continuous Evaluation									
				End Sem. Exam	Proficiency in subject /course	Mid Sem. Exam.	Quiz/ Assignment		Lab Work & Sessional	Skill Based Mini Project								
1.	3280221	DC	Discrete Structures	50	10	20	20	-	-	-	100	3	1	-	4	Offline	PP	2 Hrs
2.	3280222	DC	Modern Computer Architecture	50	10	20	20	-	-	-	100	3	1	-	4	Blended	PP	2 Hrs
3.	3280223	DC	Object Oriented Programming	50	10	20	20	40	30	30	200	2	1	2	4	Blended	AO	2 Hrs
4.	3280224	DC	Data Structures	50	10	20	20	40	30	30	200	2	1	2	4	Blended	PP	2 Hrs
5.	3280225	DC	Operating Systems	50	10	20	20	-	-	-	100	2	1	-	3	Blended	PP	2 Hrs
Total				250	50	100	100	80	60	60	700	12	05	04	19	-	-	-
6.	3000002	Natural Sciences & Skills	Engineering Chemistry	50	10	20	20	30	10	10	150	1	-	2	GRADE	Blended	MCQ	1.5 Hrs

Proficiency in course/subject – includes the weightage towards ability/ skill/ competency /knowledge level /expertise attained etc. in that particular course/subject

Natural Sciences & Skills: Engineering Physics / Engineering Chemistry / Environmental Engineering / Language

Credits of Natural Sciences & Skills will be added in the VI Semester

MCQ: Multiple Choice Question AO: Assignment + Oral PP: Pen Paper SO: Submission + Oral

Mode of Teaching				Mode of Examination				Total Credits
Theory			Lab	Theory			Lab	
Offline	Online	Blended	Offline	PP	AO	MCQ	SO	
4	-	13	2	14	3	-	2	19
21.05	-	68.42	10.53	73.68	15.79	-	10.53	Credits %