COURSE OUTCOMES FOR M.TECH-CSE R22 FOR THE YEAR 2020-22

Course Outcome	Year/Semester I Sem	Subject Name (Subject Code) Mathematical Foundations of Computer Science (M22CS01)	No. of Hours L:3 T:0 P:0	Credits: 3
On successful completion of this course, students will be able to:				
1	Ability to understand and construct precise mathematical proofs.			
2	Ability to use logic and set theory to formulate precise statements.			
3	Ability to analyze and solve counting problems on finite and discrete structures			
4	Ability to describe and manipulate sequences.			
5	Ability to apply graph theory in solving computing problems.			
Course Outcome	**Year /Semester I Sem**	**Subject Name (Subject Code)** Advanced Data Structures(M22CS02)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
On successful completion of this course, students are able to:				
1	Ability to select the data structures that efficiently model the information in a problem			
2	Ability to understand how the choice of data structures impact the performance of programs			
3	Design programs using a variety of data structures, including hash tables, search structures and digital search structures			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** 1. Database Programming with PL/SQL (M22CS03)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Understand importance of PL/SQL basics			
2	. Implement functions and procedures using PL/SQL			
3	Understand the importance of triggers in database			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** 2. Deep Learning(M22CS04)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
1	Implement deep learning algorithms, understand neural networks and traverse the layers of data			
2	Learn topics such as convolutional neural networks, recurrent neural networks, training deep networks and high-level interfaces			
3	Understand applications of Deep Learning to Computer Vision			
4	. Understand and analyze Applications of Deep Learning to NLP			

Course Outcome	Year/Semester I Sem	Subject Name (Subject Code) 3. Python Programming (M22CS05)	No. of Hours L:3 T:0 P:0	Credits: 3
On successful completion of this course, students will be able to:				

1	Defining the fundamentals of writing Python scripts.			
2	Expressing the Core Python scripting elements such as variables and flow control structures.			
3	Apply Python functions to facilitate code reuse.			
4	Extending how to work with lists and sequence data.			
5	Implement file operations such as read and write			
6	Implementing and adapting the code robust by handling errors and exceptions properly.			
Course Outcome	**Year /SemesterI Sem**	**Subject Name (Subject Code)** 1. Applied Cryptography (M22CS06)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
On successful completion of this course, students are able to:				
1	Understand the various cryptographic protocols			
2	Analyze key length and algorithm types and modes			
3	Illustrate different public key algorithms in cryptosystems			
4	Understand special algorithms for protocols and usage in the real world			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** 2. Software Quality Engineering (M22CS07)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Understand software quality and its perspectives			
2	Analyze defect prevention and defect reduction in software quality assurance			
3	Illustrate software quality engineering activities and its process			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** 3. Artificial Intelligence(M22CS08)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
1	Remember various AI concepts like the AI technique, level of models, there underlying Assumptions etc			
2	Understand the concepts of AI search techniques			
3	Apply knowledge Representation techniques			
4	Analyse different structures of representation			
5	Evaluate AI search techniques			
6	Understand the concepts of Natural Language Processing.problems.			
Course Outcome	**Year/Semester I Sem**	**Subject Name (Subject Code)** Advanced Data Structures Lab (M22CS09)	**No. of Hours L:0 T:0 P:4**	**Credits: 2**
On successful completion of this course, students will be able to:				
1	Ability to select the data structures that efficiently model the information in a problem.			
2	Ability to assess efficiency trade-offs among different data structure implementations or combinations.			
3	Implement and know the application of algorithms for sorting and pattern matching			
4	Design programs using a variety of data structures, including hash tables, binary and general tree			

	structures, search trees, tries, heaps, graphs, and B-trees.			
Course Outcome	**Year /Semester I Sem**	**Subject Name (Subject Code)** Database Programming with PL/SQL Lab (M22CS10)	**No. of Hours L:0 T:0 P:4**	**Credits:2**
On successful completion of this course, students are able to:				
1	Understand importance of PL/SQL basics			
2	Implement functions and procedures using PL/SQL			
3	Understand the importance of triggers in database			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** Deep Learning Lab(M22CS11)	**No. of Hours L:0 T:0 P:4**	**Credits:2**
After the completion of this course, the students should be able to				
1	Upon the Successful Completion of the Course, the Students would be able to:			
2	Learn The Fundamental Principles Of Deep Learning.			
3	Identify The Deep Learning Algorithms For Various Types of Learning Tasks in various domains			
4	Implement Deep Learning Algorithms And Solve Real-world problems.			
Course Outcome	**Year / semester I Sem**	**Subject Name (Subject Code)** Python Programming Lab (M22CS12)	**No. of Hours L:0 T:0 P:4**	**Credits:2**
1	Expressing the Core Python scripting elements such as variables and flow control structures.			
2	Apply Python functions to facilitate code reuse			
3	Extending how to work with lists and sequence data.			
4	Implement file operations such as read and write and Adapting the code robust by handling errors and exceptions properly.			

Course Outcome	**Year/Semester I Sem**	**Subject Name (Subject Code)** Research Methodology & IPR(M22MC01)	**No. of Hours L:2 T:0 P:0**	**Credits: 2**
On successful completion of this course, students will be able to:				
1	Understand research problem formulation.			
2	Analyze research related information			
3	Follow research ethics			
4	Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.			
5	Understanding that when IPR would take such important place in growth of individuals & nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general & engineering in particular.			
6	Understand that IPR protection provides an incentive to inventors for further research work and investment in R & D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.			

Course Outcome	Year /Semester I Sem	Subject Name (Subject Code) Audit Course- I (M22AC01)	No. of Hours L:2 T:0 P:0	Credits:0
On successful completion of this course, students are able to:				
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Course Outcome	**Year / semester II Sem**	**Subject Name (Subject Code)** Advanced Algorithms (M22CS13)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Analyze the complexity/performance of different algorithms.			
2	Determine the appropriate data structure for solving a particular set of problems.			
3	Categorize the different problems in various classes according to their complexity.			
Course Outcome	**Year / semester II Sem**	**Subject Name (Subject Code)** Advanced Computer Architecture (M22CS14)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
1	Computational models and Computer Architectures			
2	Concepts of parallel computer models			
3	Scalable Architectures, Pipelining, Superscalar processors			
Course Outcome	**Year/Semester II Sem**	**Subject Name (Subject Code)** 1. Enterprise Cloud Concepts (M22CS15)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
On successful completion of this course, students will be able to:				
1	Understand importance of cloud architecture			
2	Illustrating the fundamental concepts of cloud security			
3	Analyze various cloud computing mechanisms			
4	Understanding the architecture and working of cloud computing.			
Course Outcome	**Year /Semester II Sem**	**Subject Name (Subject Code)** 2. Advanced Computer Networks (M22CS16)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
On successful completion of this course, students are able to:				
1	Understanding of holistic approach to computer networking			
2	Ability to understand the computer network protocols and their applications			
3	Ability to design simulation concepts related to packet forwarding in networks.			
Course Outcome	**Year / semester II Sem**	**Subject Name (Subject Code)** 3. Edge Analytics (M22CS17)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
After the completion of this course, the students should be able to				
1	Understand the concepts of Edge Analytics, both in theory and in practical application.			

2	Demonstrate a comprehensive understanding of different tools used at edge analytics			
3	Formulate, Design and Implement the solutions for real world edge analytics .			
Course Outcome	**Year / semester II Sem**	**Subject Name (Subject Code)** 1. Bio informatics (M22CS18)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
1	Understand the Central Dogma & XML (Bio XML) for Bioinformatics			
2	Analyze Perl (Bioperl) for Bioinformatics			
3	Illustrate Databases technology, architecture and its interfaces			
4	Understand Sequence Alignment Algorithms, Phylogenetic Analysis			
Course Outcome	**Year/Semester II Sem**	**Subject Name (Subject Code)** 2. Block Chain Technology(M22CS19)	**No. of Hours L:3 T:0 P:0**	**Credits: 3**
On successful completion of this course, students will be able to:				
1	Able to work in the field of block chain technologies.			
Course Outcome	**Year /Semester II Sem**	**Subject Name (Subject Code)** 3. Robotic Process Automation (M22CS20)	**No. of Hours L:3 T:0 P:0**	**Credits:3**
On successful completion of this course, students are able to:				
1	Describe RPA, where it can be applied and how it's implemented.			
2	Identify and understand Web Control Room and Client Introduction			
3	Understand how to handle various devices and the workload			
4	Understand Bot creators, Web recorders and task editors			
Course Outcome	**Year / semester II Sem**	**Subject Name (Subject Code)** Advanced Algorithms Lab (M22CS21)	**No. of Hours L:0 T:0 P:4**	**Credits:2**
After the completion of this course, the students should be able to				
1	The student can able to analyze the performance of algorithms			
Course Outcome	**Year / semester I I Sem**	**Subject Name (Subject Code)** Enterprise Cloud Concepts Lab(M22CS22)	**No. of Hours L:0 T:0 P:4**	**Credits: 2**
1	Understand importance of cloud architecture			
2	Illustrating the fundamental concepts of cloud security			
3	Analyze various cloud computing mechanisms			
4	Understanding the architecture and working of cloud computing.			
Course Outcome	**Year / semester I I Sem**	**Subject Name (Subject Code)** Advanced Computer Networks Lab (M22CS23)	**No. of Hours L:0 T:0 P:4**	**Credits: 2**
1	Ability of acquiring the practical exposure to existing protocols			

Course Outcome	Year / semester I I Sem	Subject Name (Subject Code) Edge Analytics Lab (M22CS24)	No. of Hours L:0 T:0 P:4	Credits: 2
1	Identify the benefits of edge computing			
2	Develop the micro services in iofog			
3	Develop user defined services in the edge			
4	Create use cases in IOT with edge computing			
5	Develop services in MEC			
6	Implement use cases in MEC			

Course Outcome	Year / semester I I Sem	Subject Name (Subject Code) Mini Project with Seminar (M22CS25)	No. of Hours L:0 T:0 P:4	Credits: 2
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Course Outcome	Year / semester I I Sem	Subject Name (Subject Code) Audit Course- II (M22AC02)	No. of Hours L:2 T:0 P:0	Credits: 0
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III-SEMESTER

Course Outcome	Year/Semester II Sem	Subject Name (Subject Code) 1. Digital Forensics(M22CS26)	No. of Hours L:3 T:0 P:0	Credits: 3
On successful completion of this course, students will be able to:				
1	Understand relevant legislation and codes of ethics.			
2	Computer forensics and digital detective and various processes, policies and procedures.			
3	E-discovery, guidelines and standards, E-evidence, tools and environment.			
4	Email and web forensics and network forensics.			
Course Outcome	Year /Semester III Sem	Subject Name (Subject Code) 2. High Performance Computing (M22CS27)	No. of Hours L:3 T:0 P:0	Credits: 3
On successful completion of this course, students are able to:				
1	Understanding the concepts in grid computing			
2	Ability to set up cluster and run parallel applications			
3	Ability to understand the cluster projects and cluster OS			
4	Understanding the concepts of pervasive computing & quantum computing			
Course Outcome	Year /Semester III Sem	Subject Name (Subject Code) 3. Quantum Computing (M22CS28)	No. of Hours L:3 T:0 P:0	Credits: 3
After the completion of this course, the students should be able to				
1	Understand basics of quantum computing			
2	Understand physical implementation of Qubit			
3	Understand Quantum algorithms and their implementation			
4	Understand The Impact of Quantum Computing on Cryptography			
Course Outcome	Year /Semester III Sem	Subject Name (Subject Code) Dissertation Work Review - II (M22CS29)	No. of Hours L:0 T:0 P:12	Credits: 6
On successful completion of this course, students will be able to:				
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Course Outcome	Year /Semester III Sem	Subject Name (Subject Code) Dissertation Work Review - III (M22CS30)	No. of Hours L:0 T:0 P:12	Credits: 6

On successful completion of this course, students are able to:				
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Course Outcome	**Year /Semester IV Sem**	**Subject Name (Subject Code)** Dissertation Work Review – III (M22CS30)	**No. of Hours L:0 T:0 P:12**	**Credits: 6**
After the completion of this course, the students should be able to				
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Course Outcome	**Year /Semester IV Sem**	**Subject Name (Subject Code)** Dissertation Viva-Voce (M22CS31)	**No. of Hours L:0 T:0 P:28**	**Credits: 14**
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IV-SEMESTER

Course Outcome	**Year/Semester I Sem**	**Subject Name (Subject Code)** Dissertation Phase-II (M20CS30)	**No. of Hours L:0 T:0 P:32**	**Credits: 16**
On successful completion of this course, students will be able to:				

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