

DEPARTMENT OF INFORMATION TECHNOLOGY
Course Articulation matrix
B-Tech.

3rd Semester C205 IT28008 Data Structures

Statement	CO's	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Describe various linear and non-linear data structures	CO1	3	2	1	-	-	-	-	-	-	-	-	1	3	2	2
Analyze running time complexity of algorithms using asymptotic analysis (big-O notation)	CO2	3	3	1	2	2	-	-	-	-	-	-	1	-	1	1
Solve problems involving graph and tree.	CO3	3	3	2	2	-	-	-	-	-	-	-	1	1	2	1
Apply sorting and searching algorithms to the small and large data sets	CO4	3	2	2	-	-	-	-	-	-	-	-	1	3	1	1
Describe the hash function and concepts of collision and its resolution methods	CO5	3	2	2	-	-	-	-	-	-	-	-	1	2	1	1
Choose appropriate data structures to solve real	CO6	3	3	3	3	1	1	-	-	-	-	-	1	3	3	1

world problems efficiently.																	
Avg	3	2.5	1.8	2.3	1.5	1							1	2.4	1.6	1.1	

4th Semester C210 IT28503 Software Engineering

Statement		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Explain various process used in SDLC and project management.	CO 1	3	2	1	-	-	1	-	-	-	-	1	1	2	-	1
Analyze all fact related to measurement of development of software. Estimate time, cost, efforts, team size, size of software etc.	CO 2	3	3	1	2	2	-	-	-	2	-	-	1	1	-	1
Determine appropriate modelling approach for software development.	CO 3	3	3	2	2	1	1	-	-	2	-	-	1	1	2	1
Design software as per the requirement of the end users.	CO 4	3	2	3	1	1	-	-	-	2	-	1	1	2	2	1
Apply standard software testing principles along with writing manual test cases.	CO 5	3	2	2	1	2	-	-	-	1	-	-	1	1	1	-
Describe Software Quality	CO 6	3	1	2	1	-	1	-	-	-	-	-	1	1	-	-

Assurance and its approaches																
	Avg	3	2.16	1.83	1.4	1.5	1			1.75		1	1	1.33	1.66	1

5th Semester C301 IT38001 Computer Networks

Statement		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
1. Describe computer networks and concepts of layered approach.	CO1	3	2	-	-	-	-	-	-	-	-	-	-	2	-	-
2. Explain the functionality and protocols of data link layer.	CO2	3	2	3	1	-	-	-	-	-	-	-	-	1	-	-
3. Describe the functionality and protocols of network layer .	CO3	3	2	3	1	-	-	-	-	-	-	-	-	1	-	-
4. Describe transport layer protocols.	CO4	3	3	-	1	-	-	-	-	-	-	-	-	2	-	-
5. Relate application layer protocols in real world.	CO5	3	2	-	-	-	2	1	-	-	-	-	-	2	-	-
6. Implement socket programming.	CO6	3	3	3	3	2	-	-	-	2	1	-	3	2	3	2
	Avg	3	2.3	3	1.5	2	2	1		2	1		3	1.66	3	2

5th Semester C302 IT38002 Theory of Computation

Statement		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Differentiate among kind of languages, grammars and automata.	CO1	3	1	1										2	1	1
Design grammars and automata for different language classes and problems.	CO2	3	3	3										3	2	1
Determine the class of the language for a given language or grammar	CO3	3	2											1	1	1
Prove properties of languages, grammars and automata with formal mathematical methods.	CO4	3	2											1	1	3
Construct equivalent alternative representations for languages, grammars and automata.	CO5	3	2		1									2	2	1
Describe computability, non-computability, Decidability, undecidability, and classes of problems.	CO6	3	2											1	2	3
	Avg	3	2	2	1									1.6	1.5	1.6

6th Semester C311 IT38506 Compiler Design

Statement		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Apply the knowledge of the structure of compiler and lexical analysis phase.	CO 1	3	3	3		3								3	3	2
Design parsers for a given parser specification manually or using tools.	CO 2	3	3	3		3								3	3	2
Apply the concept of syntax directed translation (SDT) in various situations.	CO 3	3	2	3										3	3	2
Explain the concept of runtime environment and different optimization techniques.	CO 4	3	2	2										3	3	2
Produce different forms of intermediate codes for given source code.	CO 5	3	3	3										3	3	2
Apply analysis methods and apply different optimizations on given code.	CO 6	3	3	2										3	3	2
	Avg	3	3	2.66		3								3	3	2

6th Semester C310 IT38504 Web Engineering

Statement		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1. Understand the role of Internet, Internet protocols, HTML5, Java Script and CSS for web application development.	CO1	2	2	2	1	3	-	-	3	2	-	-	2	2	2	1
2. Create dynamic pages using CGI technology.	CO2	1	2	3	2	3	-	-	3	2	-	-	3	3	3	1
3. Design web applications using JSP, Servlet.	CO3	1	2	3	2	3	-	-	3	3	1	1	3	3	3	2
4. Explain XML based technologies including web services.	CO4	1	1	1	2	2	-	-	-	-	-	-	2	2	3	2
5. Explain the search engine and associated technology.	CO5	2	2	2	2	2	-	-	-	-	-	-	1	2	2	2
6. Identify the requirements of secure web application development.	CO6	1	2	2	2	2	-	-	-	-	-	-	1	3	3	2
		1.33	1.83	2.16	1.83	2.5			3	2.3 3	1	1	2	2.5	2.66	1.66
	Avg	1	2	2	2	3	-	-	3	2	1	1	2	3	3	2

7th Semester C404 IT48330 Cloud Computing

Statement		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO8	PO9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
1. Explain the core concepts of Cloud Computing.	CO1	3	3	2	3	3	-	-	3	2	-	-	2	2	2	2
2. Illustrate the requirements for shifting from a traditional computing to Cloud computing.	CO2	3	3	3	2	3	-	-	3	2	1	3	3	3	3	2
3. Discover about the fundamental technologies that underpins cloud computing.	CO3	3	3	3	2	3	-	-	3	3	1	1	3	3	3	3
4. Associate the Virtualization Technology with cloud.	CO4	3	3	3	2	2	-	-	-	-	-	-	2	2	3	2
5. Explain the security aspects of cloud computing and importance of disaster management.	CO5	3	3	3	2	2	-	-	-	-	-	-	1	2	2	2
6. Choose the appropriate service provider for cloud services.	CO6	3	3	3	2	2	-	-	-	-	-	-	1	3	3	2
	avg	3	3	2.8 3	2.1 6	2.5			3	2.33	1	2	2	2.5	2.66	2.16

7th Semester C405 IT48052 Information Security

		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1. Define security needs and mechanisms.	CO1	1	3	-	2	-	-	-	-	-	-	-	3	-	-	-
2. Compare classical encryption techniques.	CO2	3	3	-	2	-	-	-	-	-	-	-	3	-	-	-
3. Describe public key encryption and key management.	CO3	3	3	-	1	-	-	-	-	-	-	-	3	-	-	2
4. Classify types of hacking techniques.	CO4	1	2	2	-	-	-	-	-	-	-	-	2	-	-	2
5. Describe security protocols.	CO5	2	-	2	-	-	-	-	-	-	-	-	3	-	-	2
6. Illustrate vulnerabilities of operating system and language.	CO6	2	2	2	1	-	-	-	-	-	-	-	3	-	-	2

8th Semester C409 IT48710 Machine Learning

Statement		PO 1	PO 2	PO 3	PO 4	PO5	PO 6	PO 7	PO8	PO9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
1. Develop an appreciation for what is the complexity in learning from data.	CO1	3	2	1	-	-	-	-	-	-	-	-	1	3	2	2
2. Explain wide range of learning algorithms.	CO2	3	3	1	2	2	-	-	-	-	-	-	1	-	1	1
3. select appropriate learning algorithms according to data.	CO3	3	3	2	2	-	-	-	-	-	-	-	1	1	2	1
4. Recognize how to execute and evaluate learning algorithms and model selection.	CO4	3	2	2	-	-	-	-	-	-	-	-	1	3	1	1
5. Apply statistical approach in variety of learning algorithms .	CO5	3	2	2	-	-	-	-	-	-	-	-	1	2	1	1
6. Design machine learning model for real world problem.	CO6	3	3	3	3	1	1	-	-	-	-	-	1	3	3	1
		3	2.5	1.8 3	2.3 3	1.5	1						1	2.4	1.66	1.16

8th Semester C411 IT48999 Project Phase-II

Statement		PO 1	PO 2	PO 3	PO 4	PO5	PO 6	PO 7	PO8	PO9	PO 10	PO 11	PO1 2	PSO 1	PSO 2	PSO 3
1: Plan, analyze and design a software project or gather knowledge over the field of research and design or plan about the proposed work.	CO1	2	2	1	1	3	1	1	2	3	2	2	2	2	2	3
2: Develop a solution according to the Software Development Life Cycle.	CO2	1	2	3	2	3	1	1	2	3	2	2	3	3	3	3
3: Demonstrate the ability to use technical information from multiple sources.	CO3	1	2	3	2	3	1	1	2	3	2	2	3	3	3	3
4: Demonstrate the ability to communicate effectively in speech and writing.	CO4	1	1	1	2	3	1	1	2	3	2	2	3	2	3	3
5: Learn to work as a team and to focus on getting a working project done on time	CO5	2	2	2	2	3	1	1	2	3	2	2	3	2	3	3

6: Conform to a designated quality standard & Employ industry best practices and tools.	CO6	1	2	2	2	3	1	1	2	3	2	2	3	3	3	3
	Avg	1.3	1.83	2	1.83	3	1	1	2	3	2	2	2.83	2.5	2.83	3